MONGOLIA

FLOOD RESILIENCE IN ULAANBAATAR GER AREAS (FRUGA)

FINAL EVALUATION

September 2024

This evaluation was undertaken by an external consultant: Mr. Bharat Dahiya. The findings were shared, discussed and endorsed by the Evaluation Reference Group, which was established to maximize relevance, credibility, quality and usefulness of the report. The findings and conclusions remain those of the external consultant and do not necessarily reflect the official position of UN-Habitat. The opinions expressed are those of the Evaluation team and do not necessarily reflect those of UN-Habitat. Responsibility for the opinions expressed in this report rests solely with the authors. Also, the designations employed and the presentation of the materials do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers of boundaries. Excerpts may be reproduced without authorization, on the condition that the source is indicated.

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LIST OF ABBREVIATIONS AND ACRONYMS

AF	Adaptation Fund
AFB	Adaptation Fund Board
CAP	Community Action Planning
CDC	Community Development Council
CEFD	City Engineering Facilities Division
CGWC	Company of Geodesy and Water Construction
CIA	Community Implementation Agreement
DSWG	District Sub-Working Group
Duureg	District
GCRP	Ger Community Resilience Project
EE	Executing Entity
INGO	International Non-Governmental Organization
Khoroo	Sub District
KI	Key Informant
KII	Key Informant's Interview
LNGO	Local Non-Governmental Organization
Logframe	Project Logical Framework
M&E	Monitoring and Evaluation
MIE	Multilateral Implementing Entity
MUB	Municipality of Ulaanbaatar City
MoET	Ministry of Environment and Tourism
NUA	New Urban Agenda
NGO	Non-Governmental Organization
PIU	Project Implementing Unit
PEU	Project Executing Unit
PWG	Project Working Group
ROAP	Regional Office for Asia and the Pacific (UN-Habitat)
SDGs	Sustainable Development Goals
ToC	Theory of Change
ToR	Terms of Reference
UN-Habitat	United Nations Human Settlement Programme
UNOPS	United Nations Office for Project Services
USD	United States Dollars
WASH	Water, Sanitation and Hygiene
WVIM	World Vision International Mongolia

EXECUTIVE SUMMARY

1. Final Evaluation of FRUGA Project

This Final Evaluation of Flood Resilience in Ulaanbaatar Ger Areas (FRUGA) Project has been conducted as mandated by the Adaptation Fund (AF) and UN-Habitat, following the AF "Guidelines for Project/Programme Final Evaluations" (Adaptation Fund, 2011).

Objectives of the Final Evaluation. Following the AF Guidelines for Project Final Evaluation, the scope of the Final Evaluation includes:

- Achievement of project/programme outcomes, including ratings, and with particular consideration of achievements related to the proposed concrete adaptation measures, if applicable.
- Evaluation of risks to sustainability of project/programme outcomes at project completion and progress towards impacts, including ratings.
- Evaluation of processes influencing achievement of project/programme results, including preparation and readiness, country ownership, stakeholder involvement, financial management, NIE/MIE supervision and backstopping, and project / programme start-up and implementation delays.
- Evaluation of contribution of project/programme achievements to the Adaptation Fund targets, objectives, impact, and goal, including report on AF standard/core indicators.
- Evaluation of the M&E systems.

In addition, the Final Evaluation report includes the following:

- Conclusions, lessons and recommendations.
- An official response from the project/programme management team regarding the evaluation conclusions and recommendations. [Annex 1: To be prepared by UN-Habitat Project Team.]
- Terms of reference for conducting the final evaluation.
- Other information such as timing and duration of the evaluation, places visited, people involved, key questions, methodology, and references used.

The UN-Habitat Independent Evaluation Unit has had the **overall responsibility** to ensure contractual requirements were met and approve(d) all deliverables (i.e., Inception Report with work plan, draft, and final Evaluation Report). The UN-Habitat Independent Evaluation Unit provided guidance and assured the quality of the Final Evaluation (see Annex 2 for the details this End-term Evaluation ToRs).

A "Reference Group" was established by UN-Habitat, including representatives from UN-Habitat Independent Evaluation Unit, ROAP-Fukuoka, the Mongolia Country Programme Office, and relevant partners and stakeholders, with the main task of reviewing the Final Evaluation deliverables.

The Final Evaluation was conducted in four phases, as follows:

(i) *Inception phase*, including kick-off meeting, desk review, and preparation of the Inception Report.
(ii) *Data collection phase*, including an evaluation mission to Ulaanbaatar, Mongolia, in the second fortnight of May 2024.
(iii) *Analysis and synthesis phase*, including the analysis, findings, synthesis, conclusions, overall lessons learned, recommendations, and the preparation of the Draft Evaluation Report during June-July, and its submission in early August 2024.
(iv) *Evaluation finalization phase*, including the preparation and submission of the Final Evaluation Report during August-September 2024.

2. FRUGA Project Objective, Design and Implementation

2.1. A Well-designed and Implemented Project

The FRUGA project was **a well-designed and implemented project**. The **objective** of the FRUGA project was "to enhance the climate change resilience of the seven (later administratively sub-divided into 10) most vulnerable Ger khoroo settlements focusing on flooding in Ulaanbaatar City," world's coldest capital city. To achieve this objective, the project included four outcomes focused on enhancing resilience of most vulnerable community exposed to climate induced flooding and building adaptive capacity at community and city levels.

With a total approved **grant funding of US$4,495,235 from Adaptation Fund**, the project was **implemented over a period of four years and 10 months**, from 28 February 2019 to 31 December 2023 (Table ES.1).

Table ES.1. Project financing per component/output

	Description	Original Budget (USD)	Revised Budget (USD)
	Component 1: Producing hazard and risk information / evidence at city level		
1.1	One (1) Ulaanbaatar northern Ger-Area Territorial Land Use Plan	91,790	100,485.85
1.2	Simulation Model	60,000	57,640.23
1.3	Seven (7) Detailed Ger-khoroo level Land Use Plans	250,000	143,914.92
	Component 1 Sub-total	*401,790*	*302,041.00*
	Component 2: Khoroo/Community level Participative planning and capacity development for flood resilience in Ger-areas		
2.1	Seven (7) Khoroo-level floods resilience action plans	195,390	20,441.90
2.2	Khoroo community level interventions operation & maintenance and awareness	212,956	182,319.00
2.3	Technical studies – Engineering and hydrological	50,000	38,432.39
	Component 2 Sub-total	*458,346*	*241,193.29*
	Component 3: Enhance resilience of community level flood protection assets		
3.1	Physical assets developed in response to climate change related flood impacts	2,225,904	2,529,554.54
3.2	Management & operations; design & supervision of assets / physical infrastructure	418,780	372,999.10
	Component 3 Sub-total	*2,644,684*	*2,902,553.64*
	Component 4: Awareness raising, knowledge management and communication		
4.1	Lessons learned and best practices generated, captured and distributed	116,012	114,835.73
4.2	Workshops and trainings	128,670	128,670.46
4.3	Bringing Global Knowledge on best practices to in country Implementing Partners and communities, customized widely used appropriate tools on adaptation building local capacity		49,009.57
	Component 4 Sub-total	*244,682*	*292,515.76*
	Total Components	3,749,501	3,738,303.69
	Project/Programme Execution cost	393,593	387,455.27
	Total Project/Programme Cost	4,143,094	4,125,758.96
	Project/Programme Cycle Management Fee charged by the Implementing Entity	352,141	350,982.60
	Total Grant Funding	**4,495,235**	**4,476,741.56**

2.2. Theory of Change and FRUGA Project Outcomes

This 'Final Evaluation' developed a **'Theory of Change'** that identified the problem to be addressed under FRUGA project as: **Poor climate change resilience flooding in the seven most vulnerable**

Ger khoroo settlements in Ulaanbaatar City. The problem is caused by climate change induced warm summer days and nights in Central Mongolia, including Ulaanbaatar city. This increasingly frequent flood events affect the unplanned Ger settlements, especially because people have built their houses in high-risk areas, such as next, or even in, gullies and riverbed. Ger area residents rely on pit latrines which overflow due to floods, which results in contaminated water and soil resulting in health problems and water scarcity. Therefore, the objective of the FRUGA project was: To enhance the climate change resilience of the seven most vulnerable Ger khoroo settlements focusing on flooding in Ulaanbaatar City.

The FRUGA project aimed to create a fourfold **outcomes**: (i) Increased resilience at city level relating to relevant threat, hazard information, evidence and recommendations (on land use and zoning; (ii) Awareness raised in target community on resilience building and climate risk reduction processes and have ownership over proposed interventions at the District, Khoroo and community level; (iii) Increased adaptive capacity within prioritized community assets; and (iv) Institutional capacity strengthened to develop and replicate this approach, as shown in Figure 1.

This 'Final Evaluation' has analysed and found that these project outcomes have been attained by the FRUGA project's 10 concrete outputs. For the realisation of the 10 outputs, a series of 22 project activities or interventions were effectively and efficiently implemented.

2.3. Impact of COVID-19 Pandemic on Project Implementation

Like elsewhere in the world, the FRUGA project was impacted by the COVID-19 pandemic and related lockdowns imposed by the Government of Mongolia. The lockdown restrictions included bans on community gatherings and meetings that were essential for the project implementation. Citywide and partial lockdowns in Ulaanbaatar further complicated implementation progress, necessitating remote work for project staff.

The project implementation was further affected by the closure of Mongolia's southern border with China. This international border remained closed from January 2020 to January 2023. China is a major source of building material for Mongolia. The closure of international border affected the import of building material. Moreover, there were no international flights between Mongolia and China during 2021-2022.

Despite the obstacles posed by the COVID-19 pandemic related lockdowns, the FRUGA project team swiftly adapted by implementing a "**Business Continuity Plan**" to manage project implementation activities online while adhering to the various health guidelines. The **remote management of project activities** was an effective improvement over a total halt in project implementation. However, the challenge of COVID-19 lockdowns affected in-person interactions and management of project activities.

Due to the delays caused by the COVID-19 pandemic and the related lockdowns, the FRUGA project required one extension of 10 months, from the original completion date of 28 February 2023 to 31 December 2023.

3. Findings from Final Evaluation

3.1. Relevance, Effectiveness and Efficiency

3.1.1. Relevance

Consistency with AF Goal, Objective and Strategic Priorities. The project objective and outcomes were consistent with AF's goal, objective, and strategic priorities (Box ES.1).

Alignment of Project Outcomes with National and Local Priorities. The FRUGA project was aligned closely with Mongolia's strategic frameworks, including (a) the National Development Strategy, (b) the Nationally Determined Contributions, (c) the National Action Programme on Climate Change, (d) the Green Development Policy 2014-2030, and (e) the 2010 National Programme on Water. At the city level, the FRUGA project's outcomes were consistent with the (a) the Ulaanbaatar Master Plan and Development Approach for 2030, and (b) the "Flood Risk Assessment and Management Strategy of Ulaanbaatar City."

Box ES.1. Adaptation Fund's Goal, Objective, and Strategic Foci (Priorities)

Goal: Assist developing-country *Parties to the Kyoto Protocol* that are particularly vulnerable to the adverse effects of climate change in meeting the costs of concrete adaptation projects and programmes, in order to implement climate-resilient measures.

Objective: Reduce vulnerability and increase adaptive capacity to respond to the impacts of climate change, including variability at local and national levels.

Source: Adaptation Fund (2010).

Strategic Priorities: Strategic priorities include supporting adaptation priorities determined by and within developing countries; consistency with relevant national development, poverty reduction, and climate change strategies; taking into account existing scientific and political guidance; and special attention to the particular needs of the most vulnerable communities (Operations Policy and Guidance).

Source: Adaptation Fund (2011, p.8).

3.1.2. Effectiveness

Actual and Expected Achievement of Results at Final Evaluation. This evaluation found that the actual outcomes of FRUGA project were commensurate with the original project objective. The FRUGA project **effectively achieved all its stated outcomes** which were relevant to the national and local priorities in Mongolia and Ulaanbaatar respectively, and to the AF goal, objective and strategies priorities. It enhanced resilience of most vulnerable communities, with focus on women, children, elderly, and persons with disability. The project built adaptive capacities at community and city level, with the involvement of various stakeholders including national and local government, NGOs, community groups, and private sector entities, in the design, implementation, and evaluation of project activities. The project activities featured high levels (over 50 percent) of participation of women throughout the implementation process.

***Outcome 1: Relevant threat, hazard information, evidence and recommendations (on land use and zoning) generated for increasing resilience at the city level*.** Under this outcome, the following were the actual achievements:

a) Development of one "Territorial Land Use Plan" for Ulaanbaatar City with the identification of flood risks, along with the organization of two information dissemination workshops. Women participation in the planning process was 54.2 percent.
b) Preparation of the first-ever "Flood Simulation Model for Ulaanbaatar city", which required collaboration among government institutions and an NGO (CCNS), with support from IE (UN-Habitat).
c) Development of 10 "Land Use Plans" for 10 Khoroos with consideration of flood risks, along with the organization of two information dissemination workshops. Women participation in the planning process was 54.2 percent.

***Outcome 2: Target inhabitants are aware of resilience building and climate risk reduction processes and have ownership over proposed interventions at the District, Khoroo and community level*.** Under this outcome, the following were the actual achievements:

a) A majority (56 percent) of target inhabitants was informed and made aware about flood risks and appropriate response and adaptation measures through their participation in workshops, training sessions, and physical involvement in the design and implementation of improved flood-resilient toilets and the planning and implementation and monitoring of flood control facilities. Women participation in the workshops and training sessions was 50.3 percent.
b) Ten Khoroo-level annual Community Action Plans (CAPs) were developed and updated annually during the FRUGA project implementation. The IE conducted 27 Community Action Planning exercises that were attended by 643 community members, of which 73.3 percent were women.
c) The majority of "Primary Group" membership (53.9 percent) and of the "Community Development Councils" (64.7 percent) was that of women; 278 CDC members were women. Further, 49.1 percent of community leaders in the organized groups were women.
d) During the FRUGA project implementation, IE organized a total of 863 training sessions, workshops, and consultation meetings that were attended by 12,984 community members, of which 67.2 percent were women.
e) The hydrology study (under the project) proposed six flood control facilities in the three target khoroos, and the design firm prepared detailed designs accordingly. The design company proposed 15 interventions in three project districts.

***Outcome 3: Increased adaptive capacity within prioritized community assets*.** Under this outcome, the following were the actual achievements:

a) Five flood protection and drainage facilities were constructed in Khoroo number 9 of Bayanzurkh District, and Khoroo number 40 of Songinokhairkhan District. As a result, 221.9 hectares of land is now protected from flood risks, benefitting 3491 vulnerable households along with their 1719 residential plots.
b) The FRUGA project accomplished additional work in the form of a 197-metre-long flood retention dike in 24th Khoroo of Songinokhairkhan District. This additional accomplishment, in the form of a 197-metre-long flood retention dike, provided flood control benefit to additional 197 vulnerable households in 24th Khoroo of Songinokhairkhan District.
c) With the support of FRUGA project, the organized communities constructed 1133 improved flood resilient toilets, and all (100%) of them were adapted to the specific needs of the vulnerable communities in the target Khoroo settlements.

***Outcome 4: Institutional capacity strengthened to develop and replicate this approach*.** Under this outcome, the following were the actual achievements. The project strengthened institutional capacity through the organization of 82 training sessions that were attended by 1,422 representatives from 21 national and local government entities, research institutions, and community organizations. These institutions included the Ministry of Environment and Tourism, two municipal organizations, three district governors' offices, 10 target khoroo governors' offices, the Mongolian University for Science and Technology, and five Community Development Councils (as target community organizations). Women constituted 58.3 percent of all attendees in the institutional capacity development sessions.

Effective Application of UN-Habitat's People's Process in FRUGA Project. In the FRUGA project implementation, the IE and EE made effective application of UN-Habitat's People's Process of Community Mobilisation, Organization, and Community Action Planning. The People's Process has been developed through and for the involvement of grassroots communities in the implementation of various international development projects and programmes in the Asia-Pacific region (UN-Habitat, 2011). The application of People's Process was useful in mobilizing grassroots communities in the 10 target Ger Khoroo settlements, organizing them in 'Primary

Groups', establishing a 'Community Development Council' in each of the three districts, i.e., Bayanzurkh, Songinokhairkhan, and Sukhbaatar Districts. A total of 144 Primary Groups have been established representing 1827 households and 7508 population. The application of UN-Habitat's People's Process contributed to the FRUGA project effectiveness in six ways:

a) Participatory identification of climate induced flooding problems and preparation of "Flood Exposure Maps".
b) Participatory identification of beneficiaries (including the elderly and persons with disabilities) for flood resilient toilets.
c) Successful community engagement in the construction of flood protection infrastructure (channels, pipes and dyke).
d) Successful participatory monitoring of the construction of flood protection infrastructure (channels, pipes and dyke) and the installation of flood resilient toilets to neediest beneficiaries.
e) Strengthened community capacities for the replication and scaling-up of project activities.
f) Avoidance of land resettlement during the construction of flood control structures due to the successful and effective utilization of community engagement for participatory needs assessment, participatory Community Action Planning, and participatory monitoring during project implementation.

Effective Use of Adaptive Management. By the application of 'Adaptive Management,' the FRUGA project team utilized the M&E system to adapt to changing needs throughout the project. On five occasions during project implementation, the project team identified challenges and addressed them in a timely manner: (i0 Selection of the main EE for the implementation of FRUGA project; (ii) Changes in the FRUGA project organogram; (iii) Inclusion of Output 4.3: Bringing Global Knowledge on best practices to in-country Implementing Partners and communities, customized widely used appropriate tools on adaptation building local capacity; (iv) 'Business Continuity Plan' during COVID-19 pandemic and related lockdowns; and (v) Re-alignment of flood protection/drainage infrastructure.

3.1.3. Efficiency

Consideration of Alternatives. The project considered three alternatives for the construction of flood prevention structures: (i) open and lined flood protection channels; (ii) underground flood protection channel (pipe); and (iii) flood prevention (retention) dykes. After careful consideration of the three alternatives, the project built three types of flood protection and prevention structures suited the target area and in response to the flooding problem.

In order to support the residents of Ger Khoroo settlements, the project came up with several alternatives for flood resilient toilets that were designed and built based on the specific needs of the beneficiaries. In total, the project supported the installation of 1,133 flood resilient toilets that were of five types: (i) Complete toilets, (ii) Complete toilets with wastewater tanks, (iii) Portable toilets; (iv) Dry toilets, and (v) Toilet tanks.

Cost Dimension of Efficiency. The FRUGA project had the highest cost efficiency compared to similar projects implemented in Ulaanbaatar city in 2021. A comparison of similar projects (implemented by ADB and MUB) shows that the FRUGA project accomplished the construction of flood protection channels with the lowest unit cost. [Details can be added if needed.]

Time Dimension of Efficiency. The FRUGA project implementation was completed within the time duration approved by AF. This was possible due to the extended preparation process that preceded the project approval by AF, and the efficient application and utilization of UN-Habitat's People's Process, including high levels of community engagement. The time related efficiency also contributed directly to saving project costs as well as indirectly by the timely construction of flood control channels and the installation of flood resilient toilets. The only delay experienced in

FRUGA project implementation was the unprecedented and unanticipated delay caused by the COVID-19 pandemic and the related lockdowns, which affected the whole world.

3.2. Sustainability and Progress towards Impacts

3.2.1. Financial and Economic Risks

***(a) Flood Protection Infrastructure*.** The Company of Geodesy and Water Construction (CGWC) is responsible for the O&M of the flood protection infrastructure built under the FRUGA project. During the project evaluation mission in Ulaanbaatar, the Company's representative expressed satisfaction with the way in which flood protection infrastructure (channels, pipes and dyke) were designed and constructed under the FRUGA project. In 2023, due to the increasing number of disaster risks, including those induced by climate change such as floods, MUB increased the Company's O&M budget allocation to MNT 5 billion (or US$1,465,845). This budget allocation includes MNT 1 billion (or US$293,169) for post-disaster cleaning services. This increased O&M budget allocation may not be sufficient, particularly given the vast geographical spread of Ger Khoroo settlements. However, it is likely to be increased in the future given the increasingly felt impacts of climate change in the form of flooding in Ulaanbaatar city.

***(b) Flood Resilient Toilets*:** The FRUGA project provided 1,133 improved flood resilient toilets to the neediest households in the target Ger Khoroo settlements. There is often a risk that such toilets are either not properly used or maintained by the beneficiary households, especially those who fall in low-income category. Under the final evaluation, discussions with beneficiary households revealed that they highly value the flood resilient toilets provided under the FRUGA project in the target Ger Khoroo settlements. The flood resilient toilets have improved the quality of life for local communities, including women, young girls and boys, elderly, and persons with disability. There is strong ownership of toilets provided under the FRUGA project. Hence, it is likely that financial and economic resources will be made available by the beneficiaries for the O&M of flood resilient toilets and, thus, their sustainability.

3.2.2. Socio-Political Risks

***(a) Social Risks*.** There are no social risks anticipated with regard to the sustainability of project outcomes. No social risks or issues related to human rights, ethnic strife or social tension were reported during the semi-structured interviews with the representatives of MOET, the Municipality of Ulaanbaatar city, District and Khoroo Governors' Offices, IE, EEs, construction companies, and the local community leaders, conducted by the Evaluation Consultant.

***(b) Political Risks*.** There are no political risks that may jeopardize sustainability of project outcomes.

3.2.3. Institutional Framework and Governance

***(a) Legal Frameworks*.** For the sustainability of FRUGA project benefits, one legal framework that applies directly is the post-construction role of companies that built flood protection structures (three channels, one pipeline, and one flood protection dyke). The construction companies are legally responsible for a period of three years to ensure smooth operation and conduct repair, as required. Accordingly, the 3-year period became effective once the flood protection infrastructure was handed over to the Municipality of Ulaanbaatar city. In line with this regulation, the construction companies involved in FRUGA project have been responsible to ensure smooth operation and conduct repair (as required) for three years. This regulation has made sure that the

flood protection infrastructure was tested over a period of three years with relevant repairs conducted by the construction companies.

***(b) Policies*.** In cities, one of the important policies is the master plan that guides the process of urban development with a long-term perspective. Regarding the sustainability of project benefits, it is important to note that the 'Flood Risk Map' generated under the AF funded FRUGA project has been shared with the Municipality of Ulaanbaatar city for its integration into the 'Master Plan of Ulaanbaatar City for 2040', which is under preparation. There are guidelines for the preparation of Master Plan of Ulaanbaatar city, which includes the preparation of the 'Spatial Development Plan' and the 'Land Use Plan'. According to the guidelines, an Engineering Plan is attached to the Master Plan. The 'Flood Risk Map' (prepared under the FRUGA project) should be integrated into the 'Spatial Development Plan' and the 'Land Use Plan' that are being prepared under the Master Plan for 2040.

***(c) Governance Structure*.** There are plans to reorganize the governance structure and processes within the Municipality of Ulaanbaatar city, but this reorganization may not affect the sustainability of FRUGA project benefits. However, this reorganization of governance structure may not affect the process of O&M of flood protection infrastructure built under the FRUGA project.

***(d) Governance Processes*.** There is minor risk to the sustainability of FRUGA project benefits in terms of the process of governance. Such risks may arise if the local government and/or private sector initiate and start implementing urban development projects (infrastructure and services) in the Ger Khoroo settlements without taking into account the existing flood protection infrastructure (built under FRUGA project) and the climate induced flood risks.

3.2.4. Environmental Risks and Assumptions

***Climate Change Projections and their Impacts*.** Under FRUGA project, the "Flood simulation model development and climate change impact assessment for Ulaanbaatar city" study (UN-Habitat, 2020a) was conducted by an EE (Climate Change on Nature and Society or CCNS). Based on the based on future GHG emissions and the related Representative Concentration Pathway (RCP) scenarios as presented in the then latest IPCC report, "Climate Change 2013: The Physical Science Basis" (IPCC, 2013), the study made projections for Ulaanbaatar city regarding changes in air temperature and precipitation for the 'near future' (2016-2035), 'mid future' (2046-2065) and 'far future' (2081-2100).

The Mongolia National Agency for Meteorology and Environmental Monitoring (NEMHEM) should include a section on the urban context in its periodic climate change and impact assessment processes. Building on the first-ever Flood Simulation Model developed for Ulaanbaatar city, NEMHEM should work with MOET, the Ministry of Construction and Urban Development, MUB and other national and local stakeholders, to periodically update the flood simulation model and climate change impact assessment for Ulaanbaatar city.

3.2.5. Uncertainties on Climate Change Impacts—Baselines

***(a) Flood Simulation Model for Ulaanbaatar city*.** For the first time in Ulaanbaatar city, FRUGA project accomplished the following. (i) The preparation of "Flood simulation model development and climate change impact assessment for Ulaanbaatar city" study (UN-Habitat, 2020a). (ii) Preparation of the "Current Land Use Review for Northern Ger Areas and 10 target khoroos of Ulaanbaatar city" (UN-Habitat, 2020b). This study resulted in the development of "Land Use Plans" for 10 target khoroos with consideration of flood risks, along with the organization of two information dissemination workshops. (iii) Development of one "Territorial Land Use Plan" for Ulaanbaatar City with the identification of flood risks, along with the organization of two

information dissemination workshops. These documents prepared under the AF funded FRUGA project constitute the latest analysis and assessments in this regard.

***(b) Flood Exposure Mapping*.** The FRUGA project conducted "Flood Exposure Mapping" in consultation with the grassroots communities in the Ger khoroo settlements. Communities prepared maps showing areas that started to get flooded in the recent years due to the (climate induced) increased intensity of rainfall and the lack of flood protection/control infrastructure. These "Flood Exposure Maps" included the flood protection/control facilities that existed prior to the implementation of FRUGA project.

***(c) Mobile Application (App) for Sharing Flood Risk Maps*.** The FRUGA project developed a mobile application (App) to share with general public the flood risk maps prepared under the AF funded project. It organized workshops to disseminate this information and validate findings.

These initiatives under FRUGA project have started to establish baselines against which future climate change impacts may be measured.

3.3. Processes Influencing Achievement of Project Results

3.3.1. Preparation and Readiness

The FRUGA project's objectives and components were clear, practical, and feasible within its time frame. Four EEs were selected during the project implementation through open competitive selection process, based on their qualification, capacity and experience, and following the United Nations' Financial and Procurement Rules and Regulations.

***Inputs to FRUGA project preparation*.** The FRUGA project design incorporated the findings, lessons learned and recommendations of the various projects and programmes. During the FRUGA project preparation exercise, IE (UN-Habitat) consulted with the Municipality of Ulaanbaatar city. The city government advised the selection of most vulnerable areas based on (i) "Flood Risk Assessment and Management Strategy of Ulaanbaatar City"; (ii) The record of emergency calls on the incidents of flooding in Ulaanbaatar city and its Ger khoroo settlements; and (iii) The assessment by the District Offices' professional staff on the most vulnerable Ger khoroo settlements. Moreover, the project made used of "Flood Exposure Mapping" conducted in consultation with the grassroots communities in the Ger khoroo settlements.

3.3.2. Country Ownership

The FRUGA project concept was line with the national sectoral and development priorities and plans of Mongolia. The project's outcomes contributed to the national development priorities and plans.

The representatives of the government and civil society were actively involved throughout the design and implementation of FRUGA project. They included those from (i) MUB; (ii) Governor's Offices of Songinokhairkhan, Bayanzurkh, and Sukhbaatar Districts; (iii) Ger-area Communities in 10 Target Khoroos (subdistricts); and (iv) four international and national NGOs: World Vision International Mongolia (WVIM), Climate Change on Nature and Society (CCNS), Mongolia Taiwanese Technology Transfer Center (MTTTC), and Urban Development Resource Center (UDRC).

The local communities played a central role in the design and implementation of FRUGA project. The IE and EE (WVIM) made effective application of UN-Habitat's People's Process, which included community mobilisation, organization, and Community Action Planning (as discussed under sub-section 3.1.2 above).

3.3.3. Stakeholder Involvement

The evaluation found that FRUGA project involved the relevant stakeholders through information sharing and consultation and by seeking their participation in project design, implementation, and M&E. The project consulted with and made use of the skills, experience and knowledge of government entities (MOET and MUB), NGOs (WVIM, CCNS, MTTTC, and UDRC), community groups, private sector entities (infrastructure design and construction companies), and city-level and sub-city level local governments in the design, implementation, and evaluation of project activities. Moreover, while taking decisions, the FRUGA project took into account the perspectives of those who would be affected by project decisions, those who could affect the outcomes, and those who could contribute information or other resources to the process.

The FRUGA project involved the relevant vulnerable groups (including women, children, elderly, persons with disability, poor) and powerful supporters (MUB, its Agencies, and District and Khoroo Governors' Offices) and opponents of the various process. The powerful opponents of project were those households whose residential plots were located in and/or along the alignment of the flood protection infrastructure to be built. Through consultation and negotiation, the Primary Groups helped to integrate these households' concerns in project implementation. Thus, IE and EE (WVIM) were able to involve successfully the powerful opponents of FRUGA project.

Gender Approach under FRUGA Project. In compliance with AF Gender Policy & Action Plan, the FRUGA project's "Gender Approach" recognized women as "agent of change" in building community resilience. Accordingly, the project adopted the following approaches for achieving gender balance, equality, equity, mainstreaming, responsiveness and sensitivity: (i) Setting gender objectives of FRUGA project; (ii) Designating the National Project Manager as the Project's Gender Focal Point; and (iii) Including a Capacity Building Strategy for women. During the FRUGA project implementation, IE and EE (WVIM) organized a total of 863 training sessions, workshops, and consultation meetings. A total of 12,984 community members, of which 67.2 percent were women, attended, benefitted from, and contributed to these training sessions, workshops, and consultation meetings.

Equal participation of women in community mobilisation, organization and representation. Under the People's Process, local communities were mobilized and organized into a total of 144 Primary Groups representing 1827 households and 7508 population. A total of 985 women members represented their households in the target Ger area communities. The majority of "Primary Group" membership (53.9 percent) and of the "Community Development Councils" (64.7 percent) was that of women; 278 CDC members were women. Further, 212 women (49.4%) held leadership positions in Primary Groups. Thus, the project ensured equal participation of women in community mobilisation, organization and representation.

3.3.4. Financial Management

The project **made efficient use of AF financial support** that was expended to achieve project objective and outcomes by following the United Nations Financial and Procurement Rules and Regulation without any discrepancies.

WVIM, the main EE, followed the World Vision financial and procurement rules and regulations, and had due diligence for the implementation of various project activities for which it was responsible. It also conducted three internal financial audits of their part in FRUGA project implementation. Two EEs, CCNS and MTTTC, had one internal audit each for their part of FRUGA project implementation.

3.3.5. Implementing Entity Supervision and Backstopping

The evaluation found that the IE staff identified the various challenges in a timely fashion and accurately estimated their significance. Moreover, the IE staff responded to and addressed these challenges in a timely manner by making effective use of adaptive management, as discussed below. The IE staff provided quality support and advice to the FRUGA project, approved modifications in time, and restructured certain project activities when it was in the interest of the project objective.

3.3.6. Delays in Project Start-up and Implementation

The COVID-19 pandemic and related lockdowns were the main reason behind the delay in the implementation and completion of FRUGA project. However, this delay was of 10 months. The original completion date of FRUGA project was 27 February 2023. Due to the COVID-19 pandemic and related lockdowns, the AF Board approved an extension of 10 months. Therefore, FRUGA project implementation was completed by the extended date of 31 December 2023 by which time project activities under all four components were completed.

3.4. Contribution of Project Achievements to the Adaptation Fund Targets, Objectives, Impact, and Goal

3.4.1. Contributions towards AF Goal. The FRUGA project was designed and implemented in and by a developing-country *Party to the Kyoto Protocol*. The FRUGA project directly addressed the problem of climate adaptation with the objective "to enhance the climate change resilience of the seven (later administratively sub-divided into 10) most vulnerable Ger khoroo settlements focusing on flooding in Ulaanbaatar City." Through FRUGA project, Mongolia would be able to achieve concrete adaptation measures and increase its resiliency. The project has been able to make significant contribution at both city and sub-city levels (as discussed under sub-section 3.1.2 above).

3.4.2. Contributions towards AF Impact. The FRUGA project's results increased resilience at the community and city levels to climate variability and change. Moving forward, the project's results could also contribute potentially to enhancing urban resilience at the national level to climate variability and change.

3.4.3. Contributions towards AF Objective. The AF funded FRUGA project has reduced vulnerability to climate change impacts. This was done mainly at two levels.

***(a) Reduced Vulnerability at Community Level*.** The FRUGA project reduced vulnerability to climate change impacts at community level, as discussed below.

1) *Reduced Vulnerability through Flood Protection Infrastructure*. The AF funded FRUGA project built five flood protection structures with a total length of 4,517 metres (or 4.517 km), including two drainage channels and one underground drainage pipeline in 40th Khoroo of Songinokhairkhan District, and one drainage channel and one flood prevention (retention) dyke in 9th Khoroo of Bayanzurkh District. As a result of these adaptation measures, the vulnerability of 221 hectares of land in Ger khoroo settlements is now reduced to climate change induced flooding. The flood protection structures were tested and proven effective during the heavy flooding that occurred in the summer of 2023 in Ulaanbaatar city.
2) *Reduced Vulnerability through Improved Flood Resilient Toilets*. The FRUGA project built 1,133 flood resilient toilets to most vulnerable households in the 10 target Ger khoroo settlements in Bayanzurkh, Songinokhairkhan and Sukhbaatar districts. Thus, the vulnerability of 8,707 most vulnerable people living in these Ger khoroo settlements has been reduced to climate change induced flooding. The provision of climate-resilient and

gender-responsive sanitation facilities (i.e., improved flood resilient toilets) has reduced vulnerability of particularly those households whose family members include elderly and persons with disability.

(b) Reduced Vulnerability at City Level. The FRUGA project reduced vulnerability to climate change impacts at city level. The flood protection infrastructure has been handed over to MUB. The Company of Geodesy and Water Construction (CGWC) under MUB is responsible for O&M of flood protection infrastructure. This evaluation found that the flood protection structures, built under the AF funded project, were tested and proven effective during the heavy flooding that occurred in the summer of 2023 in Ulaanbaatar city. Discussion with the representative of CGWC revealed that there were no emergency calls for help from local communities in target Ger khoroo settlements during the 2023 flooding events.

3.5. Evaluation of M&E Systems

3.5.1. M&E Systems

3.5.1.1. M&E System Design. The FRUGA project had a detailed M&E Plan which scheduled various activities: (i) Inception Workshop and Report; (ii) Periodic status/ progress reports; (iii) Mid-term Evaluation; (iv) Final Evaluation; (v) Project Terminal Report; (vi) Audits; (vii) Community consultations / workshops / training; and (viii) Visits to field sites. The M&E Plan was based on the project RBM Framework. The M&E Plan assigned 'Responsible Parties' with a 'Time Frame' and the type of 'Reporting'. The M&E Plan provided a timetable for the implementation of various M&E activities.

3.5.1.1. M&E System Implementation. The FRUGA project had a well-functioning M&E system, which facilitated timely tracking of progress towards project objective and outcomes. It collected information on the chosen indicators (including AF standard/core indicators) continually throughout the project implementation period. The IE collected and compiled information on project implementation progress from the four EEs. The IE prepared quarterly and annual progress reports and submitted them to AF and relevant national and local government partners.

The project utilized M&E system to improve project performance through: (i) Women involvement in project implementation; (ii) Youth involvement in project implementation; and (iii) Grievance Redressal System. It also made effective use of 'adaptive management'.

Challenge of Post-Project M&E Systems. Post-project continuation of an M&E system created by a project is often a difficult challenge in developing countries. In case of the Municipality of Ulaanbaatar city (MUB), there is an 'Complaint Redressal System' that receives complaints online and via phone calls. However, like many other developing countries, such systems are not fool proof in their functioning.

Participatory M&E System. In view of this problem and to supplement MUB's M&E system and response mechanism, the FRUGA project developed a "Participatory M&E System" by building the capacity of the target communities mobilized and organized in CDCs and Primary Groups through the People's Process.

3.5.1.3. Budgeting and funding for M&E activities. A project should have 5-10 percent of its budget allocated for M&E (Frankel and Gage, 2016). The FRUGA project budgeted for M&E just over US$134,000, which was 2.98 percent of the total project budget of US$4,495,235. This budget allocation was on the lower side of what M&E budget is expected to be. According to the AF requirements, the IE's Project Execution Cost must be at or below 9.5 percent of the total project budget. The actual FRUGA Project Execution Cost was US$393,593. Following this, US$134,000 allocated for M&E under the FRUAGA project accounted for 34 percent of the UN-Habitat's or IE's Project Execution Cost. While the project team managed to conduct M&E activities within the allocated budget, it could have done better with regard to the documentation and dissemination

of project results from monitoring and reporting implementation if there were adequate resources and no constraints such as Covid-19 pandemic. This would have allowed the FRUGA project lessons learned, and good practices identified to be shared with the wider community of adaptation planners and practitioners at all levels and around the world.

3.5.2. M&E Indicators

The project made use of various quantitative and qualitative indicators. It used narrative tools such as (i) 'Quarterly Narrative Reports' submitted by the EE; (ii) video documentation; (iii) preparation of brochures on the project; and (iv) project stories published online using the websites and Facebook pages of the FRUGA project and partner organisations including the Ministry of Environment and Tourism, Mayor's Office, UN in Mongolia; (v) two workshops for experience sharing; (vi) two information sessions with media and the National Emergency Committee. The project could have done much better in terms of documenting and disseminating the project results and lessons learned.

The FRUGA project included and made use of AF standard/core indicators.

- *Number of Beneficiaries (AF Core Indicator)*. The project had a total of 148,982 beneficiaries (of which 52.02 percent were women). Direct beneficiaries 56,400, including 54 percent women, and indirect beneficiaries 92,582, including 50.03 percent women. On average, the proportion of youth beneficiaries stood at five percent.
- *Assets produced, developed, improved or strengthened (AF Core Indicator)*. The project focused on "Disaster Risk Reduction" and "Water & Sanitation" sectors. Five physical assets were produced for "Disaster Risk Reduction" and 1,133 flood resilient household sanitation facilities constructed under "Water & Sanitation" sector. Al these assets were "newly constructed."

3.5.3. Project Baselines

To draw baselines, the project made effective use of participatory approach, using cost-effective and available information. During July to December 2017, the IE conducted a series of "Community Consultations" in Khoroo 7, 9, 12, 13, 16, 24, 25 – the identified high-risk settlements for floods in Ger areas in north of Ulaanbaatar city. The three rounds of community consultations focused on: (i) rapid risk and vulnerability assessment, (ii) prioritization, and (iii) vulnerable group consultations to identify specific issues and needs. During these community consultation, the IE's Social Mobilizers provided an introduction to the global climate change challenges and how these challenges impact Mongolia. They took the voluntary participants through a series of consultations via the UN-Habitat's People's Process. The outcome of these consultations was: (i) Identification of issues relevant to climate change; (ii) Discussion and prioritization of key issues in community groups; (iii) Identification of possible priority projects to address key issues; and (iv) Depiction of issues on maps and presentation to the community groups. The project baselines as well as the targets were included in the Project Results Framework.

3.5.4. Alignment of Project M&E Frameworks to National M&E Frameworks

At the time of FRUGA project completion (31 December 2023), the Mongolia's National Adaptation Plan was under review and renewal. A new National Adaptation Plan was approved in March 2024. The NDC will be updated in 2025. During FRUGA project implementation, the team found out the National Adaptation Plan did not focus on adaptation in cities and towns. Therefore, the new AF funded Ger Community Resilience Project (GCRP) includes two project outputs to prominently feature urban adaptation in Mongolia' National Adaptation Plan and 2025 NDC update and mainstreamed into local government policy and planning in the target areas (see Adaptation Fund, 2023b, p. 49).

- GCRP Output 1.4. Integration workshops held to ensure that urban adaptation is prominently featured in Mongolia's NAP and 2025 NDC update, and climate change adaptation considerations are mainstreamed into future urban- related policies and plans.
- GCRP Output 1.5. Urban adaptation mainstreamed into local government policy and planning in the target areas.

Once the urban adaptation is reflected in the NAP and NDC at the national level, and mainstreamed into local government policy at the city level, then national monitoring system as well as local monitoring system in Ulaanbaatar city should be developed with the consideration of adaptation indicators.

Documentation and Dissemination of Lessons Learned and Best Practices. Within the budgetary constraints and the restrictions caused by the COVID-19 pandemic, the project made concerted efforts to document and disseminate lessons learned and best practices in the form of videos, brochures, guidelines and impact stories, published using UN agencies and UN Mongolia websites and AFB website. The FRUGA project created a Facebook page and used it for reaching out to the target communities, partners, and the general public for information dissemination and sharing good experiences and lessons learned. Efforts were made by the project team to make Facebook posts every month. The project team also shared information through the Facebook pages of MoET, Ulaanbaatar City Mayor's Office, UN Mongolia, the target Khoroo Offices for building public awareness about the project and its good practices and lessons learned.

The UN-Habitat in Mongolia Office organises 'Annual Community Workshops' as a platform for local communities to share the lessons learned and best practices under UN-Habitat implemented projects. Such 'Annual Community Workshops' are organised at the end of calendar year. During the lifespan of FRUGA project, the organisation of four 'Annual Community Workshops' was planned. The project organised two 'Annual Community Workshops' on 23 December 2019 and 8 December 2023. Similar workshops to reach more communities were planned in 2020, 2021 and 2022, but they could not organise due to COVID-19 pandemic related restrictions.

In the 'Annual Community Workshop' held in 2019, the beneficiary communities under UN-Habitat's past projects shared their experiences and lessons learned in Ger area upgrading that could be useful for the target communities under the FRUGA project. This Annual Community Workshop in December 2019 was attended by 190 residents (of whom 70.5 percent were female) from 10 khoroos in Ulaanbaatar ger areas. The second 'Annual Community Workshop' was conducted in 2023 as a 'Final Workshop' for sharing of FRUGA experiences and good practices, especially to highlight the role of community-led organisations (Primary Groups and Community Development Councils) in project implementation and the sustainability of project outputs and outcomes. This workshop was attended by 130 (of whom 76 percent were female) residents and community members from Ger areas in Sukhbaatar, Songinokhairkhan and Bayanzurkh Districts and officials from the departments of MUB, and target districts and khoroos.

The 'Annual Community Workshops' contribute towards (i) disseminating lessons learned and best practices from a project; (ii) informing government officials and partners about the new ways of implementing project activities and the role of local communities in participatory needs assessment, project design, implementation, and monitoring; and (iii) sharing of experiences by the local communities themselves. This also helps local government representatives and officials understand the challenges and possible solutions towards achieving development outputs and outcomes locally.

Moreover, two information sessions with journalists from popular media and at the National Emergency Committee were conducted and the FRUGA project's good practices and lessons learned were shared. A smartphone Application (App) for Sharing Flood Risk Maps prepared

under the project was the FRUGA project's initiative to improve public awareness of the flood risks facing Ulaanbaatar city and its Ger areas.

The evaluation found that the FRUGA project could do even more for the proper documentation of lessons learned, good practices, and project-led/related innovations if there were adequate resources and no constraints due to Covid-19 pandemic. The dissemination of such knowledge products could be done at national and international levels through presentation and publication at the various forums and conferences, and through social media, such as LinkedIn, etc.

4. Best Practices

The project featured a number of **best practices** that added value to the project implementation and helped achieve the project outcomes. The best practices included: (i) People's Process of community mobilisation, organization, and community action planning. (ii) Participatory identification of climate change-induced flooding problems. (iii) High levels of women participation throughout project implementation. (iv) Participatory identification of resilient toilet beneficiaries, including the elderly and persons with disabilities. (v) Strengthened community capacities for replication and scaling-up of project activities. (vi) Multiplier effect of training of trainers on disaster risk reduction and resilience building. (vii) Effective use of 'Adaptive Management.' (viii) Inclusion of FRUGA project indicators in the Mongolia "United Nations Sustainable Development Cooperation Framework 2023-2027" (UNSDCF) 2023-2027.

5. Evaluation Ratings

Aspect of Final Evaluation	Rating
Evaluation of Project Outcomes: Criteria for Assessing Achievement of Outcomes and Ratings	**Satisfactory**
Relevance	Highly Satisfactory
Effectiveness	Satisfactory
Efficiency	Satisfactory
Risks to Sustainability and Progress towards Impacts	**Moderately Likely**
Financial and Economic Risks	Moderately Likely
Socio-political Risks	Likely
Institutional Framework and Governance	Likely
Environmental Risks and Assumptions	Likely
Uncertainties on Climate Change Impacts—Baselines	Likely
Evaluation of Contribution of Project Achievements to the Adaptation Fund Targets, Objectives, Impact, and Goal (see footnote)[1]	**Highly Satisfactory**
Contributions towards AF Goal	Highly Satisfactory
Contributions towards AF Impact	Highly Satisfactory
Contributions towards AF Objective	Highly Satisfactory
Evaluation of M&E Systems	**Satisfactory**
Design	Highly Satisfactory
Implementation	Highly Satisfactory
Indicators	Highly Satisfactory

[1] Ratings for Risks to Sustainability and Progress towards Impacts: **Likely (L):** There are no or negligible risks that affect this dimension of sustainability / linkages. **Moderately likely (ML):** There are moderate risks that affect this dimension of sustainability / linkages. **Moderately unlikely (MU):** There are significant risks that affect this dimension of sustainability / linkages. **Unlikely (U):** There are severe risks that affect this dimension of sustainability / linkages.

Project Baselines	Highly Satisfactory
Alignment of Project M&E Frameworks to National M&E Frameworks	Satisfactory

6. Recommendations

6.1. Financial and Economic Sustainability

1) Climate change and disaster risk preparedness related important aspects, such as Climate induced flood risks, should be included in the "Emergency Preparedness Plan" of Ulaanbaatar city. This is because flooding events affect not only physical infrastructure but the social infrastructure as well.
2) The AF funded Ger Community Resilience Project (GCRP) should initiate policy dialogue with the Municipality of Ulaanbaatar city for the inclusion of climate induced flood risks in the "Emergency Preparedness Plan". This will go a long way in addressing the O&M issues related to the FRUGA project outcomes.

Flood Protection Infrastructure:

3) Efforts should be made for raising the budgetary allocation for O&M to the Company of Geodesy and Water Construction (CGWC) under the Municipality of Ulaanbaatar city.
4) The AF funded Ger Community Resilience Project (GCRP) should initiate policy dialogue with the Municipality of Ulaanbaatar city for increasing the budgetary allocation for O&M to CGWC in order to address any O&M problems arising in the future, and in turn to enhance sustainability of the flood protection infrastructure built under the FRUGA project.
5) Regular meetings of the Primary Groups and CDCs, which were created and functioned under the FRUGA project, should be held in order for them to remain as a sustainable resource for tackling local development problems related to urban (including flood protection) infrastructure and services.
6) Periodic (quarterly) meetings between Primary Group Leaders and CDC Leaders should be held at Khoroo and District levels not only for the sustainability of these community-led organizations but also for tackling the local development issues, including the O&M of the flood protection structures (including channels, pipes and dyke) built under the FRUGA project.

Flood Resilient Toilets:

7) This final evaluation recommends that regular meetings of the Primary Groups and CDCs, which were created and functioned under the FRUGA project, should be held in order for them to remain as a sustainable resource for tackling any problems related to O&M of flood resilient toilets and, thus, their sustainability.

Governance Processes:

8) It is recommended, therefore, that proper technical assessment should be conducted before undertaking any new urban infrastructure projects in the Ger Khoroo settlements where flood protection structures have been constructed under FRUGA project. Among other things, this will require taking in account the 'Flood Risk Map' (prepared under FRUGA project) and close coordination with the Company of Geodesy and Water Construction (CGWC) that is in-charge of O&M of urban infrastructure (including flood protection facilities) in Ulaanbaatar city and its Ger Khoroo settlements.
9) Periodic updating of/study on the "Flood simulation model development and climate change impact assessment for Ulaanbaatar city" should be conducted every five years. This will require the involvement of the Government of Mongolia, the Municipality of Ulaanbaatar city, and NGOs like Climate Change on Nature and Society (CCNS). The IE of GCRP (UN-Habitat) should explore the possibilities of resource mobilization for the second edition of the abovementioned study.
10) The Government of Mongolia and the Municipality of Ulaanbaatar city should take in account the results from the study conducted by Suzuki et al (2020). Based on these

findings, the seismic hazard map of Ulaanbaatar city-region should be revised and updated. Moreover, a new disaster risk prevention strategy of Ulaanbaatar city should be developed to improve public safety in the capital city-region. Further investigations should be conducted to identify if there are any other faults in the Ulaanbaatar city-region.

11) Periodic updating of/study on the "Flood simulation model development and climate change impact assessment for Ulaanbaatar city" should be conducted every five years.
12) The study on "Current Land Use Review for Northern Ger Areas and 10 target khoroos of Ulaanbaatar city" should be expanded to all districts and khoroos of Ulaanbaatar city.
13) The dissemination of information in the form of flood risk maps through the smartphone application (App) prepared under the FRUGA project should be continued by the relevant public authorities.

6.2. Processes Influencing Achievement of Project Results

14) In future AF funded projects, more funds should be allocated for implementation of a project's 'Comprehensive Knowledge Management Strategy', that includes the (i) documentation of project implementation process, (ii) production and publication (online and offline) of knowledge products, and (iii) their dissemination.

6.3. M&E Systems

15) In the AF projects, the M&E budget allocation should be higher, i.e., ranging between 5 and 10 percent of the total project budget. In line with the Adaptation Fund's "Strategic Pillar 3: Learning and Sharing" (Adaptation Fund, 2023a), the AFB may consider higher allowance for Project Execution Cost that includes M&E budget allocation. The M&E budget allocation should be higher so that more funds are available for the documentation and dissemination of project achievements, lessons learned and best practices. This recommendation cannot be emphasized enough.
16) Develop a strategy for the documentation and dissemination of lessons learned, good practices, and project-led/related innovations (in line with Recommendation 14 under Section 5.2 above).
17) AFB to allocate a larger budget for Project Execution Cost––which includes M&E budget, for the documentation and dissemination of lessons learned, good practices, and project-led/related innovations.

1. PROJECT GENERAL INFORMATION

Adaptation Fund Project ID:	MNG/MIE/DRR/2017/1
Project/Programme category:	Climate Change Adaptation through Community-Driven Small-Scale Protective and Basic-Services Interventions
Country/ies:	Mongolia
Title of project/programme	**Flood Resilience in Ulaanbaatar Ger Areas**
Sector(s)	Disaster Risk Reduction
Type of implementing entity (MIE, NIE or RIE):	Multilateral Implementing Entity (MIE)
Implementing Entity:	United Nations Human Settlements Programme (UN-Habitat)
Executing Entity/ies:	• Ministry of Environment and Tourism (MoET), Government of Mongolia • Municipality of Ulaanbaatar (MUB), and the Governor's Offices and District Governors of Songinokhairkhan, Bayanzurkh, and Sukhbaatar Districts • Ger-Communities in the Target Khoroos (subdistricts) within Songinokhairkhan, Bayanzurkh, and Sukhbaatar Districts • World Vision International Mongolia (WVIM) • Urban Development Resource Center (UDRC) • Climate Change on Nature and Society (CCNS) • Mongolia Taiwanese Technology Transfer Center (MTTTC)
Amount of financing requested and approved (in U.S. Dollars):	USD 4,495,235

2. PROJECT TIMETABLE, COMPONENTS AND FINANCING

2.1. Project Timetable

Project Timetable	Expected Date	Actual Date
Start of Project Implementation	22 Oct 2018 - 22 May 2019[2]	28 February 2019
Mid-Term Review	1 March – 30 September 2021	30 June 2021
Project Closing	27 February 2023	31 December 2023
Final Evaluation	1 January - 30 September 2024	30 September 2024

2.2. Project Components

Project Components	Expected Concrete Outputs	Expected Concrete Outcomes	Amount (US$)
Component 1 National/City Level Producing hazard and risk information / evidence for increasing resilience and developing land use plans to increase this resilience at UB City level.	**Output 1.1** **One (1) Ulaanbaatar northern Ger-Area* Territorial Land Use Plan,** with legal framework recommendations and a specific focus on flood risk reduction - building on 1.2 **(includes the three (3) high risk target districts covering the seven (7) most vulnerable khoroos)*	**Outcome 1.1** Relevant threat, hazard information, evidence and recommendations (on land use and zoning) generated for increasing resilience at the city level (In line with AF outcome 1: reduced exposure at national level (which is also city level in Mongolia) to climate-related hazards and threats).	91,790
	Output 1.2. **Simulation model** for forecasting future impacts of climate change flooding **in UB city & Ger-areas** established.		60,000
	Output 1.3 **Seven (7) Detailed Ger-khoroo level Land Use Plans** with specific focus on flood risk reduction and building resilience of the most vulnerable areas and people		250,000
		Total	**401,790**
Component 2 Khoroo/Community level Participative planning and capacity development for flood resilience in Ger-areas at the district / khoroo and community level (including activities to operate and maintain - and mitigate any	**Output 2.1** **Seven (7) Khoroo-level floods resilience action plans** to implement the interventions identified under component 3**;** A series of District, Khoroo and community level consultations / workshops (50 percent women where possible) introducing the People's Process and Community Based Disaster Risk Reduction approach, focused on building social cohesion and consensus on community level implementation of interventions under component 3.	**Outcome 2.1.** Target community members are aware of resilience building and climate risk reduction processes and have ownership over proposed interventions at the District, Khoroo and community level (In line with AF outcome 3:	195,390

[2] The AFB has set a target of six (6) months from the first cash transfer to project/programme start. For concrete adaptation projects/programmes the Board decided to consider the start date the first day of the project/programme's inception workshop (Decision B.18/29). The submission of the inception workshop report by the entity to the secretariat will be considered the notification of project/programme start to the Board.)

potential risks related to - the interventions under component 3).	**Output 2.2** **Khoroo community level interventions operation & maintenance* and awareness** campaigns and trainings (50 percent women where possible) to support the sustainable implementation of interventions under component 3. An Estimated 20.nos. of trainings **(Awareness will also cover potential risks mitigation)*	strengthened awareness and ownership of adaptation and climate risk reduction processes at local level).	212,956
	Output 2.3 **Technical studies – Engineering and hydrological** - required to implement the interventions under component 3.		50.000
		Total	**458,346**
Component 3 Enhance resilience of community level flood protection assets (NB April 2020, there is no change in the nature of the Component, Output or Outcome, only the locations of the infrastructure to be built)	**Output 3.1.** **Physical assets developed in response to climate change related flood impacts** as prioritized by Khoroo communities the core concrete interventions are flood protection and drainage infrastructure and resilient sanitation to reduce floods impacts – implemented through community contracting.	**Outcome 3.1** Increased adaptive capacity within prioritized community assets (In line with AF outcome 4: increased adaptive capacity within relevant development and natural resource sectors).	2,225,904
	Output 3.2 **Management & operations; design & supervision of assets / physical infrastructure** to comply with national and local regulations and processes – procured as consulting services		418,780
		Total	**2,644,684**
Component 4 Awareness raising, knowledge management and communication	**Output 4.1.** **Lessons learned and best practices regarding flood-resilient urban community development are generated, captured and distributed to other Districts and khoroo communities,** civil society, and policy-makers in government appropriate mechanisms. **Output 4.2** **Workshops and trainings** will be organised targeting city- and district government officials (50 percent women where possible) with a focus on replication of processes, land use plans and interventions and to discuss how lessons can be integrated into existing strategies and plans.	Outcome 4.1. Institutional capacity strengthened to develop and replicate this approach (In line with AF outcome 2: Strengthened institutional capacity to reduce risks associated with climate-induced socioeconomic and environmental losses).	244,682
		Total	**244.682**
5. Total components			3,749,501
6. Project/Programme Execution cost			393,593
7. Total Project/Programme Cost			4,143,094
8. Project/Programme Cycle Management Fee charged by the IE			352,141
Amount of Financing Requested			4,495,235

2.3. Project Financing

Project Financing	Approved	Actual	Exchange rate gain	To be returned
Amount of Financing Requested	4,495,235	4,476,741.56	12.91	18,506.35

3. EVALUATION GENERAL INFORMATION

3.1. Purpose, Scope and Objectives of the Evaluation

3.1.1. Purpose and Scope

This end-term evaluation is mandated by the Adaptation Fund (the donor) and UN-Habitat and was included in the Project Document (Adaptation Fund, 2018b) submitted by the latter to and approved by the donor. It was conducted during the period of April to July 2024 by Mr. Bharat Dahiya who was contracted for the purpose by the Independent Evaluation Unit, UN-Habitat Headquarters, Nairobi.

This end-term evaluation of the FRUGA project serves three key purposes: (i) accountability, (ii) learning, and (iii) decision making.

(i) **Accountability:** The evaluation is intended to strengthen accountability by providing the Adaptation Fund (the donor), UN-Habitat management, National partner (Ministry of Environment and Tourism), the main beneficiaries – the Municipality of Ulaanbaatar, other implementing partners and other key stakeholders with independent and credible evidence on the performance of the FRUGA project and what it achieved in terms of the planned results with the resources used.

(ii) **Learning**: Aligned with UN-Habitat's commitment to helping programmes and projects learn and improve, the end-term evaluation will serve the purpose of contributing to enhanced learning to understand what worked well, what did not, and operational experience, opportunities, and challenges. This will be done by generating insights, lessons learned and recommendations. to inform management decision-making for future programming and funding, and implementation modalities. More specifically,

(iii) **Decision making**: The findings of this end-term evaluation will inform the Adaptation Fund (the donor), UN-Habitat, and the international, national and local implementing partners and other stakeholders on what worked well and why and/or what did not work well and feed into the decision-making processes for the development of the future portfolio, with specific attention to identifying opportunities and areas of future action that will strengthen the results and contribute further to building and strengthening urban climate change resilience in Mongolia and to leverage strategies, opportunities for scaling-up and replicating the implementation approach used in the FRUGA project.

This end-term evaluation covers the period from the start of FRUGA project in February 2019 up to completion on 31 December 2023. The project was originally planned for 4 years to start in September 2018 and be completed in September 2022. However, due to the long negotiation with UNOPS for the main EE engagement, the project started in February 2019. Also, the breakout of the COVID-19 pandemic and related restrictions to prevent its spread, the FRUGA project implementation experienced some delays and was extended by the donor until 31 December 2023.

3.1.2. Objectives of the Evaluation

The specific objectives of this end-term evaluation are:

a) To assess the performance of the project in terms of achievement of the results at objective, expected accomplishment (outcome) and output levels.
b) To assess the relevance, efficiency, effectiveness, sustainability, impact and coherence of the project in improving conditions of the target communities in terms of flood resilience building.
c) To assess project management modalities, appropriateness of partnerships, working arrangements, adequacy of resources and how these may have impacted on the effectiveness of the project.
d) Assess the how the Covid-19 affected the performance of the project.

e) To assess how cross-cutting issues such as gender equality, youth and human rights were integrated in the project.
f) To identify lessons learned and make strategic, programmatic and management recommendations on what further needs to be done to effectively promote and improve flood resilience in Ulaanbaatar city.

3.2. Management and Conduct of the Evaluation

The UN-Habitat Independent Evaluation Unit will have the **overall responsibility** to ensure contractual requirements are met and approve(d) all deliverables (i.e., Inception Report with work plan, draft, and final Evaluation Report). The UN-Habitat Independent Evaluation Unit will provide guidance and assure the quality of the end-term evaluation products (see Annex 2 for the details this End-term Evaluation ToRs).

The end-term evaluation of the FRUGA project is **managed** by the UN-Habitat Independent Evaluation Unit (Nairobi) in close collaboration with the Regional Office for Asia and the Pacific (ROAP-Fukuoka) and the UN-Habitat Mongolia Programme Office (Ulaanbaatar).

A **Reference Group** was established by UN-Habitat, including representatives from UN-Habitat Independent Evaluation Unit, ROAP-Fukuoka, the Mongolia Country Programme Office, and relevant partners and stakeholders, with the main task of reviewing the evaluation deliverables.

The UN-Habitat Independent Evaluation Unit provided support for the **travel clearance** of the evaluation mission scheduled in the second fortnight of May 2024.

The UN-Habitat ROAP-Fukuoka and Mongolia Country Programme Office provided **logistical support**, submitted all necessary reference documents, and facilitated semi-structured interviews with stakeholders and responded to all the evaluator's queries.

The evaluation consultant, Bharat Dahiya, was/is responsible for ensuring that the evaluation is conducted and delivered as specified in the TOR and elaborated and approved in the Inception Report. The evaluation consultant **commenced the assignment** on 2nd May 2024, with a kick-off meeting organized by the UN-Habitat Independent Evaluation Unit, ROAP-Fukuoka, and the Mongolia Programme Office to discuss the objectives, scope, and results of the evaluation.

The Inception Report was issued as a draft on 15 May 2024. The Draft Evaluation Report was submitted on 8 August 2024. The Final Evaluation Report was submitted on 18 September 2024.

3.3. Evaluation Approach and Methodology

3.3.1. Evaluation Approach

The approach to the end-tern evaluation of the FRUGA project followed the United Nations Evaluation Group's (UNEG) Norms and Standards for Evaluation (UNEG, 2016). The evaluation used the six UNEG evaluation criteria: relevance, efficiency, effectiveness, coherence, impact, and sustainability. These UNEG evaluation criteria mainstreamed into UN-Habitat Evaluation Policy and related guidelines as follows:

- UN-Habitat Evaluation Policy (UN-Habitat, 2013).
- UN-Habitat Evaluation Manual (2018).

The Final Evaluation was conducted in four phases, as follows:

(i) *Inception phase*, including kick-off meeting, desk review, and preparation of the Inception Report.
(ii) *Data collection phase*, including an evaluation mission to Ulaanbaatar, Mongolia, in the second fortnight of May 2024.

(iii) *Analysis and synthesis phase*, including the analysis, findings, synthesis, conclusions, overall lessons learned, recommendations, and the preparation and submission of the Draft Evaluation Report.
(iv) *Evaluation finalization phase*, including the preparation and submission of the Final Evaluation Report.

3.3.2. Theory of Change

UN-Habitat Evaluation Manual (UN-Habitat, 2018) has emphasized the application of the Theory of Change approach and the Logical Framework (logframe) as part of the analytical framework with regard to conducting evaluations.

The FRUGA project document did not include a Theory of Change. Further, in place of a logframe, the project document included as "project proposal results framework". Hence, this Consultant has developed a Theory of Change for the FRUGA project, as shown in Figure 1.

The Theory of Change has identified the problem to be addressed as: Poor climate change resilience flooding in the seven most vulnerable Ger khoroo settlements in Ulaanbaatar City. The problem is caused by climate change induced warm summer days and nights in Central Mongolia, including Ulaanbaatar city. This increasingly frequent flood events affect the unplanned Ger settlements, especially because people have built their houses in high-risk areas, such as next, or even in, gullies and riverbed. Ger area residents rely on pit latrines which overflow due to floods, which results in contaminated water and soil resulting in health problems and water scarcity.

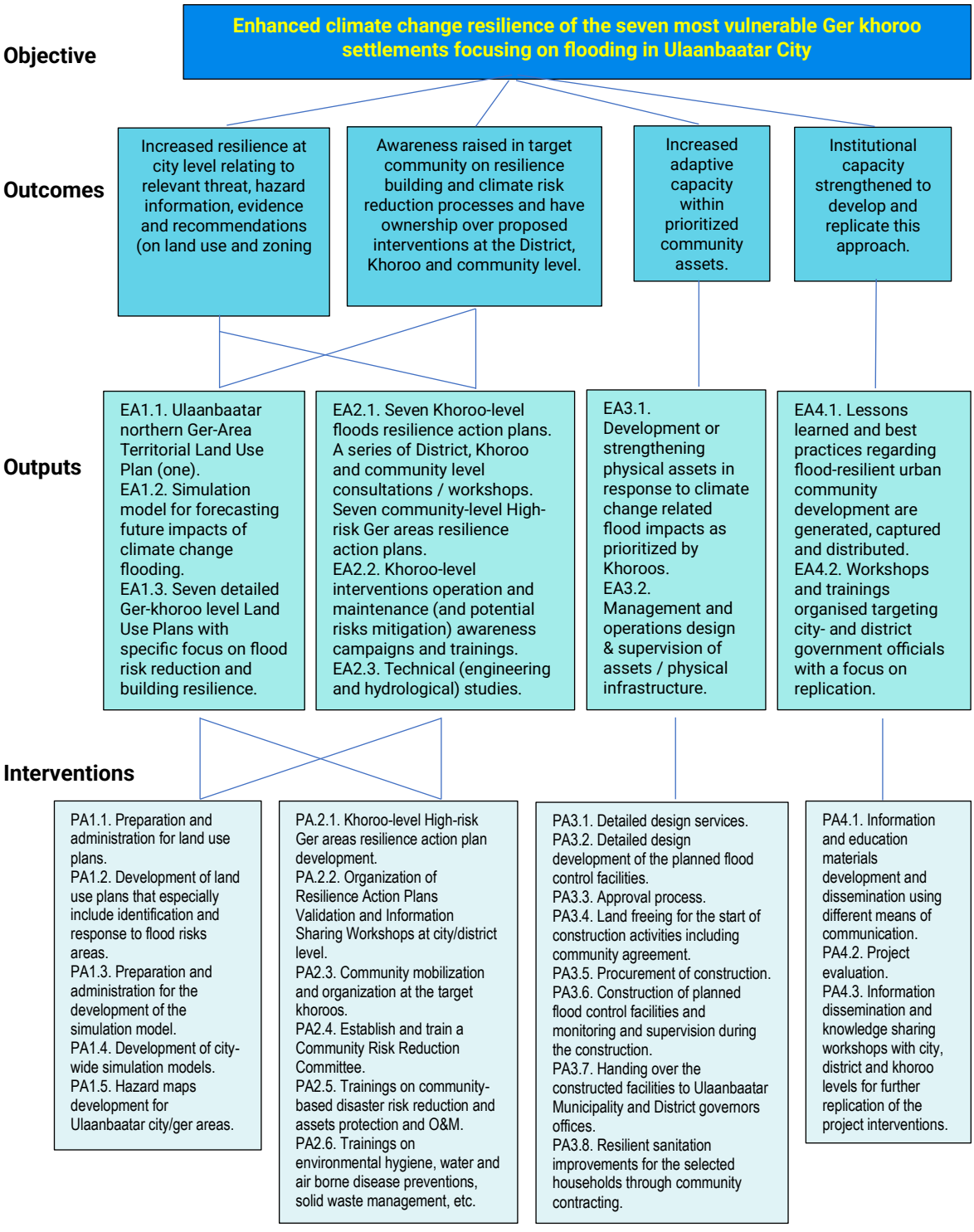
Therefore, the **objective** of the FRUGA project is: To enhance the climate change resilience of the seven most vulnerable Ger khoroo settlements focusing on flooding in Ulaanbaatar City.

The FRUGA project aimed to create a fourfold **outcomes**: (i) Increased resilience at city level relating to relevant threat, hazard information, evidence and recommendations (on land use and zoning; (ii) Awareness raised in target community on resilience building and climate risk reduction processes and have ownership over proposed interventions at the District, Khoroo and community level; (iii) Increased adaptive capacity within prioritized community assets; and (iv) Institutional capacity strengthened to develop and replicate this approach, as shown in Figure 1.

The project outcomes, in turn, would be attained by the project's 10 concrete **outputs**. For the realisation of the 10 outputs, a series of 22 **project activities** or **interventions** were to be implemented.

The FRUGA project document included a 'Project Results Framework' (as shown in Annex 3).

Figure 1: Theory of Change for the FRUGA Project



3.3.3. Methodology

The methodology for the FRUGA project's end-term evaluation includes, desk review, data collection (including the online meetings, survey of/field visit to project sites, semi-structured interviews, community meetings with project beneficiaries, and focus group discussions), data analysis and synthesis, and the preparation of the evaluation report.

3.3.3.1 Desk Review for Secondary Data Collection

The desk review is based on the study of a number of important documents (see References), which included:

- *Main working documents*, including Project Document, Project Performance Reports (PPR), Mid-Term Evaluation, partner agreements/Agreements of Cooperation, and financial and other relevant reports.
- *Technical documents*, including the designs of resilient infrastructure, land use plans, city-wide simulation models, hazard maps for Ulaanbaatar city/ger areas, etc.
- *Official outputs* of the FRUGA project, including workshops and related reports, training sessions, guidelines/guidance developed under the project, etc.
- *Strategic documents*, including the 2030 Agenda for Sustainable Development, Sustainable Development Goals (SDGs), New Urban Agenda, and Adaptation Fund Mid-Term Strategy 2018-2022.
- *Evaluation guidance*, including UN-Habitat Evaluation Policy (UN-Habitat, 2013); Revised UN-Habitat Evaluation Framework (UN-Habitat, 2016); UN-Habitat Evaluation Manual (2018).
- Mid-term evaluation on the project.

3.3.3.2 Methods for Primary Data Collection

These included semi-structured interviews, focus group discussions, and field visits to project sites.

- *Semi-structured Interviews*. The Evaluation Consultant conducted 30 semi-structured interviews were conducted with the relevant stakeholders, including representatives of IE, EEs, government partners, and experts, who were involved in the design, development, implementation, monitoring and reporting of the FRUGA project. The 30 semi-structured interviews included four with representatives of IE (UN-Habitat ROAP-Fukuoka, and UN-Habitat Mongoila Office), eight with government partners (Ministry of Environment and Tourism, the Mayor's Office of Ulaanbaatar City, and the District Governors' and Khoroo Governors' Offices in Songinokhairkhan, Bayanzurkh and Sukhbaatar Districts), five with representatives of EEs (World Vision International Mongolia, and Climate Change on Nature and Society), five with project beneficiaries cum local community leaders, three with project beneficiaries of flood resilient toilets, and five with other stakeholders such as the United Nations Resident Coordinator's Office, the private sector, and the academia. Annex 4 provides a list of the semi-structured interviews conducted for this 'Final Evaluation'. The 'Semi-structured Interview Guidance and Questionnaires' are shown in Annex 5.
- *Focus Group Discussions*. Two focus group discussions were conducted with 'Social Mobilisers' who supported in the 'People's Process' of community mobilization and organization in the selected project areas.
- *Field Visits to Project Sites*. The Evaluation Consultant conducted four field visits to the various project sites in the target khoroos located in Bayanzurkh, Songinokhairkhan and Sukhbaatar Districts, where climate resilient infrastructure and flood resilient toilets were built under the FRUGA project.

3.3.4. Evaluation Criteria and Key Evaluation Questions

The end-term evaluation ToR included a set of evaluation criteria with regard to relevance, efficiency, effectiveness, sustainability, impact and coherence, and the cross-cutting issues of gender equality, youth and human rights.

Based on the UNEG (2016) evaluation criteria and the study of other end-term evaluations conducted by UN-Habitat, the evaluation questions and indicators have been elaborated, as shown in Table 1.

Table 1. Evaluation Matrix

	Evaluation Questions	Indicator
	RELEVANCE	
1.	To what extent is the project consistent with beneficiaries' requirement, country needs, national development goals, and partners' and donors' policies and UN-Habitat and contributes to low carbon development?	Degree of interventions' alignment with national and local development plans and donor policies.
2.	Was the implementation strategy in line with and responsive to Sustainable Development Goal (SDG) 11 and New Urban Agenda (NUA)?	Degree to which interventions are responsive to SDG targets and the NUA.
		Integration of SDGs and NUA in the knowledge products and events.
3.	Was the implementation strategy in line with and responsive to the Adaptation Fund Mid-Term Strategy 2018-2022?	Degree to which interventions are responsive to the Adaptation Fund Mid-Term Strategy 2018-2022.
4.	To what extent was the FRUGA project and its objectives relevant to the needs and priorities of the participating country and city and responded to their urban development plans?	Degree to which intervention accords with agreed country and city development needs.
5.	To what extent did the identification, design and implementation process of activities and pilot initiatives involve beneficiaries?	Extent of beneficiary involvement in design and implementation.
	EFFICIENCY	
6.	How well were economic resources/inputs (funds, expertise, time, etc.) efficiently utilized to achieve the expected outcomes?	Key project developers' perception of the efficiency.
7.	Did UN-Habitat demonstrate to have adequate capacity to design and implement the project?	Key project developers' assessment on UN-Habitat's capacity.
8.	Were institutional arrangements adequate for implementing the project and for delivery of expected outputs and outcomes?	Timely conduct of project activities and delivery of outputs.
9.	How did the Covid-19 pandemic and related lockdowns affect the FRUGA project implementation?	Level of impact from Covid-19.
10.	To what extent have monitoring and reporting on the implementation of the project been timely, meaningful, and adequate?	Activities undertaken timely – considering the COVID-19 pandemic.
	EFFECTIVENESS	
11.	To what extent has the FRUGA project been effective in achieving its objectives and outcomes? What results have been achieved and which ones have not been achieved?	Quality of outputs and stakeholders' attitude to the project.
12.	How effective was the FRUGA project in engaging with countries and cities to achieve its	Extent of engagement and with other countries and cities and its added value.

	desired outcomes, considering the UN engagement principles in Mongolia?	
13.	What types of products and services did the project provide to beneficiaries that contributed to achieving the results and objectives of the project.	Quality of outputs and stakeholders' attitude to the project.
14.	Did UN-Habitat and other implementing partners credibly monitor the implementation of the FRUGA project, using the indicators of achievements on outcomes to provide evidence on performance and flag any necessary adjustments to improve delivery of the project?	Degree of monitoring project activities and results.
15.	Did the partner organizations work together effectively? Were partnership structures effective in achieving the desired results?	Level of participation in implementing the project activities and results.
16.	What are the levels of awareness amongst beneficiaries regarding the contribution of the funding partner, visibility materials in the field and other communication material?	Examples of visibility of project activities and results.
	COHERENCE	
17.	To what extent was the project coherent with other interventions of similar nature funded by the Adaptation Fund in the Mongolia?	Relevant Adaptation Fund projects and level of complementarity.
18.	To what extent did the FRUGA project have connections with other interventions of the UN-Habitat relating to building urban resilience and/or Ger area upgrading?	Relevant UN-Habitat projects and level of complementarity.
	SUSTAINABILITY	
19.	To what extent was capacity developed and what mechanisms were put in place, including capacity and ownership of stakeholders, to ensure sustainability of the results and benefits achieved?	Degree of participation by beneficiary and stakeholders in developing and implementing the project.
20.	To what extent did project activities, including the flood protection and drainage infrastructure and resilient sanitation projects, engage beneficiaries in design, implementation and building ownership of the beneficiaries?	Degree of participation of beneficiary in managing the flood protection and drainage infrastructure and resilient sanitation.
21.	To what extent will the projects supported by the donor be replicated or scaled up?	Positive results and use of resources from the project itself.
22.	How the access to financing for further developments (i) is secured already, (ii) is being secured, and/or (iii) will be secured?	
	IMPACT OUTLOOK	
23.	To what extent did the FRUGA project attain its objective and anticipated impact on partners and targeted beneficiaries, whether stakeholders, Ulaanbaatar city or its District Offices?	Expected physical improvements by the Municipality of Ulaanbaatar and the Governor's Office, and the Officers of District Governors.
24.	What positive and/or transformative changes have occurred because of the FRUGA project?	Beneficiaries' expectations for flood protection and drainage infrastructure and resilient sanitation.
	CROSS-CUTTING ISSUES	
25.	To what extent are the social inclusion issues of gender equality, youth, and human rights as well as social and environmental safeguards considerations integrated in the project design,	Appropriate inclusion of the crosscutting issues in the design and delivery of the project, with specific examples highlighted.

	implementation, monitoring and reporting of the project? Are there any outstanding examples of how these issues were successfully applied in the project?	

3.3.5. Limitations to the Evaluation

In general, no big hurdles are anticipated in the conduct of this end-term evaluation. However, the kick-off meeting conducted online on 2nd May 2024 revealed that Mongolia's national elections will be held at the end of June 2024.

3.3.5.1. Potential Risks

The schedule of national elections in Mongolia poses two potential risks to the end-term evaluation, especially data collection during the evaluation mission.

Risk 1: Meetings with Government partners and Officials: National elections in many countries require officials to be seconded to election-related duties. This could act as a risk and affect the availability of the representatives of the FRUGA project's partners, including the Ministry of Environment and Tourism, Mayor's Office of Ulaanbaatar City, and the Governors' Offices of Songinokhairkhan, Bayanzurkh and Sukhbaatar Districts of Ulaanbaatar city.

Risk 2: Potential replacement of Government officials after the National Election: After the national election scheduled at the end of June 2024, if a new administration comes into office, it is likely to replace the current Government officials – as per the common experience in Mongolia.

3.3.5.2. Risk Mitigation Strategy

To mitigate these risks, it was decided in the kick-off meeting that the evaluation mission to Ulaanbaatar must be completed by the end of May 2024.

Therefore, during the evaluation mission, every effort will be made to complete all semi-structured interviews with Government partners and officials by the end of May 2024.

3.3.6. Work Plan

The end-term evaluation was conducted in four phases, as shown in Table 2.

Table 2: Task schedule with timing

Phase	Period (Dates)
Inception phase (including kick-off meeting, desk review, and preparation of the Inception Report)	2nd May to 15th May 2024
Data collection phase (including an evaluation mission to Ulaanbaatar, Mongolia, in the second fortnight of May 2024)	16th May to 20th June 2024
Analysis and synthesis phase (including the analysis, findings, synthesis, conclusions, overall lessons learned, recommendations, and the preparation and submission of the Draft Evaluation Report)	1st July to 6th August 2024
Evaluation finalization phase (including the preparation and submission of the Final Evaluation Report)	9th August to 18th September 2024

There will be a ‘Dissemination phase’ for the purpose of circulating and disseminating the Final Evaluation Report by the UN-Habitat Independent Evaluation Unit. It is understood that this phase will commence after the submission of the Final Evaluation Report by the Consultant.

4. Overview of the FRUGA Project

4.1. Background and Context

The "Flood Resilience in Ulaanbaatar Ger-Areas (FRUGA) – Climate Change Adaptation through Community-Driven Small-scale Protective and Basic Services Interventions" was a 4-year and 10 months (2/2019 to 12/2023) project funded by the Adaptation Fund. The main objective of the FRUGA project was to enhance the climate change resilience focusing on flooding seven most vulnerable Ger khoroo (informal) settlements in Ulaanbaatar, capital city of Mongolia.

4.1.1. Political and Economic Context

Mongolia is a democratic republic. Since early-1990's, it has undergone political and economic transition from an erstwhile socialist country to a parliamentary democracy. The current Constitution of Mongolia as adopted in January 1992. Independent elections are regularly held across the country.

Mongolia is a land locked developing country. The country experienced high level of growth in 2011 due to its vast and rich natural re-sources, with the highest recorded growth figures of 17.5 percent globally, before the economic growth slowed down in 2012-2013. At the time of the FRUGA project's preparation, the latest data (2016) showed that Mongolia had only 0.1 percent growth in GDP. The economic growth has picked up in the recent years and was recorded at 5.0 percent in 2022.

Mongolia's economy is not very diversified and driven by two main sectors: Mineral industry and agriculture. While the country's economic base was fundamentally agricultural, its mining industry contributes to around 20.3 percent to the country's GDP, and accounts for more than 80 percent of its export and 40 percent of government revenues[3]. The agriculture sector, on the other hand, is failing to realize its growth potential due to fallen commodity prices and the impacts of climate change.[4]

Ulaanbaatar city produces over 60 per cent of the national GDP. Most of Mongolia's skilled human capital and financial resources are also located here. Therefore, it acts as an important centre of economy in the country. However, Ulaanbaatar also experiences very high inequality with 22 percent of the city residents below the poverty line and living on US $2 a day, with these based primarily in the Ger settlements.

4.1.2. Environmental Context

Ulaanbaatar, surrounded by high mountains, is the coldest capital city in the world. It is home to a half of country's population. The population of Ulaanbaatar has been growing rapidly due to the rapid rural-to-urban migration. About 20 per cent of Mongolia's population has migrated to Ulaanbaatar over the past three decades. People migrate to the capital city due to the push factor of extreme cold weather patterns called *Dzud*. Believed to occur in five-yearly cycles, *Dzud* is an ultra-cold-weather phenomenon (with temperatures down to minus 50 degrees Celsius), but has been increasing in frequency, especially in the Gobi Desert region of Mongolia. In 2009, nearly eight million animals were wiped out in one of Mongolia's worst ever winters, destroying the herds many families. In 2017, one million animals died due to the deep freeze, often buried neck-deep in snowdrifts. Due to the lack of social support systems, farmers and herders have on other choice but to move to Ulaanbaatar in search of livelihoods.

[3] UN-Habitat – Mongolia Country Profile.
[4] IMF Country Report No. 03/277 (p.2), as referred to in the Project Document.

4.1.3. Socio-cultural and Urban Context

High rural-urban in-migration to Ulaanbaatar city has increased the number of urban poor, who mostly reside in informal Ger settlements. Ger is a traditional tent used by nomads. In 2018, while the FRUGA project was prepared, the Ger area population was estimated at 800,000, representing 60 percent of Ulaanbaatar. Approximately 40,000 people migrate to the city per year, of which most end up in Ger areas.

The demographic growth in Ger areas in turn has resulted in increased pressure on public services and the environment. During winter, these Ger areas suffer from the highest levels of air pollution in the world caused by the burning of coal used to keep warm in the Gers and to run the cities power plants.

In addition, as a consequence of increased warm summer days and nights in Central Mongolia, Ulaanbaatar has seen more frequent flooding, which affects the unplanned Ger areas. Increasing climate change related flood events especially affect these unplanned Ger areas because people reside in high-risk areas such as next, or even in, gullies and riverbed. Moreover, floods cause the overflow of latrines, resulting in contaminated water and soil, which in turn lead to health problems and water scarcity.

Despite their size, Ger areas have until recently been considered temporary settlements. However, their official integration in the 2013 City Master Plan provides the necessary provision to plan the redevelopment of the Ger areas into a formal peri-urban area.

Gender context:

In Mongolia, female-headed households were recorded at 28.5 percent in 2020. They are particularly vulnerable to flooding, suffering from land grabbing and lower levels of disaster assistance. In Ulaanbaatar, nearly 20 percent households were female-headed households in 2020-2021.

4.1.4. Genesis of the FRUGA Project

The Government of Mongolia has made concerted efforts to create appropriate policy and planning framework to address climate change issues. However, the resources to prepare and plan for climate change impacts are limited and, therefore, the Government requires support.

In this context, the FRUGA project was proposed by UN-Habitat and funded by the Adaption Fund. It was intended to promote and improve collaboration, particularly by facilitating engagement between the Ministry of Environment and Tourism, and the Ulaanbaatar Municipal authorities at all levels, and through the National Emergency Management Agency (NEMA), to harness existing capacities by strengthening institutional capacities and sharing information to enhance the climate change resilience of the seven most vulnerable Ger Khoroo settlements and people, focusing on flooding in Ulaanbaatar city.

In September 2018, UN-Habitat signed an agreement with the Adaptation Fund to implement the FRUGA project in the seven most vulnerable and high-risk Ger areas of Ulaanbaatar.

The total project budget is US$4,495,235. It was funded as part of the US$23.8 million approved by Adaption Fund Board, for funding of projects and programmes for developing countries to build resilience and capacity to adapt to climate change, during the implementation of the five-year Adaption Fund Strategy for 2018-2022.

4.2. Objectives of the Project

The overall objective of the FRUGA project was to enhance the climate change resilience of the seven most vulnerable Ger khoroo settlements focusing on flooding in Ulaanbaatar City, Mongolia. The overall objective was to be achieved through four objectives:

(i) Improving the knowledge on flood hazard and risk exposure and vulnerability of the targeted areas.
(ii) Improving the resilience and adaptive capacity of the Ger settlements through a Community-Based and gender-responsive approach (i.e., building social cohesion per Khoroo).
(iii) Increasing resilience ger area physical infrastructure and services, supported by enhanced capacities of responsible district level and khoroo authorities.
(iv) Strengthening institutional capacity to reduce risks and capture and replicate lessons and good practices.

4.3. Expected Accomplishments of the Project

The four objectives of the project were translated into four components with each having a set of expected accomplishments (EA). The expected outcomes of the FRUGA project are shown in Table 3.

Component 1: Producing hazard and risk information / evidence for increasing resilience and developing land use plans to increase this resilience at the city, District and Khoroo level.

- EA1.1. Developing one (1) Ulaanbaatar northern Ger-Area* Territorial Land Use Plan, with zoning, legal framework recommendations and a specific focus on flood risk reduction – building on EA1.2. **(includes the three (3) high risk target districts covering the seven (7) most vulnerable khoroos)*.
- EA1.2. Developing a simulation model for forecasting future impacts of climate change flooding in Ulaanbaatar city and Ger-areas.
- EA1.3. Developing seven (7) Detailed Ger-khoroo level Land Use Plans with specific focus on flood risk reduction and building resilience of the most vulnerable areas and people

Component 2: Participative planning and capacity development for flood resilience in Ger- areas at the district / khoroo and community level (including activities to operate and maintain – and mitigate any potential risks related to – the interventions under component 3).

- EA2.1. Developing seven (7) Khoroo-level floods resilience action plans to implement the interventions under component 3; a series of District, Khoroo and community level consultations / workshops introducing the People's Process and Community Based Disaster Risk Reduction approach, focused on building social cohesion and consensus on community level implementation of interventions under component 3. Developing seven (7) community-level High-risk Ger areas resilience action plans.
- EA2.2. Khoroo-level interventions operation and maintenance (and potential risks mitigation) awareness campaigns and trainings to support the sustainable implementation of interventions under component 3. An estimated twenty (20) number of trainings will be conducted.
- EA2.3. Technical studies – Engineering and hydrological - required to implement the interventions under component 3.

Table 3. Expected Outcomes of the FRUGA Project

Expected Outcomes under Project Components
Component 1. Relevant threat, hazard information, evidence and recommendations (on land use and zoning) generated for increasing resilience at the city level.

(In line with AF outcome 1: reduced exposure at national level (which is also city level in Mongolia) to climate-related hazards and threats).
Component 2. Target community members are aware of resilience building and climate risk reduction processes and have ownership over proposed interventions at the District, Khoroo and community level. *(In line with AF out- come 3: strengthened awareness and ownership of adaptation and climate risk reduction processes at local level).*
Component 3. Increased adaptive capacity within prioritized community assets. *(In line with AF outcome 4: increased adaptive capacity within relevant development and natural resource sectors).*
Component 4. Institutional capacity strengthened to develop and replicate this approach. *(In line with AF outcome 2: Strengthened institutional capacity to reduce risks associated with climate-induced socioeconomic and environmental losses).*

Component 3: Enhance resilience of community level flood protection assets.

- EA3.1. Developing or strengthening physical assets in response to climate change related flood impacts as prioritized by Khoroos.
- EA3.2. Management and operations design & supervision of assets / physical infrastructure – procured as consulting services.

Component 4: Awareness raising, knowledge management and communications.

- EA4.1. Lessons learned and best practices regarding flood-resilient urban community development are generated, captured and distributed to other Districts and khoroo communities, civil society, and policymakers in government through appropriate mechanisms.
- EA4.2. Workshops and trainings will be organised targeting city- and district government officials with a focus on replication of processes, land use plans and interventions and to discuss how lessons can be integrated into existing strategies and plans.

Target Beneficiaries

The target beneficiaries of the FRUGA project were the seven selected Ger communities in Ulaanbaatar, which were characterized by a high exposure to multiple climate hazards ranging from wind and dust storms, air pollution, and particularly by floods. The details of the target Ger Khoroo communities are shown in Table 4. It ought to be noted that after the division of Khoroo numbers 7, 24 and 25 in Songinokhairkhan District in July 2019, the number of target Ger khoroos has increased to ten (10). The main activities of the FRUGA project are shown in Table 5.

Table 4. Target Areas, Local Climate Change Impacts, and Effects on Communities (January 2020 data)

Khoroo No.	Population / Beneficiaries	Main climate change impacts / Hazards	Effects on Communities
Songinokhairkhan District			
7	Total Population: 20,128 Households: 5,510 (3.7 per house) Women: 10.259 >65: 775 <18: 6241 Persons with disability: 254	- Floods from Khoroo 24 and 25 - Flash floods - Stagnant water - Harsh winter and air pollution	1. Flood leading to damaged / destroyed assets and toilet overflow and water / soil pollution 2. Diarrhoea and other infectious disease are caused by water / soil contamination 3. Muddy area in summer resulting in cars, ambulances, etc. not able to enter
24	Total Population: 13,689 Households: 4,040 (3.4 per house) Women: 7145 >65: 706	- Floods - Flash floods - Strong wind and storm	1. Floods causing high risk to informal settlers along the riverbank. 2. Flood leading to damaged / destroyed assets and toilet overflow and water pollution

	<18: 2736 Persons with disability: 45	- Harsh winter and air pollution	3. Diarrhoea and other infectious disease are caused by water / soil contamination
25	Total Population: 13,680 Households: 3,488 (3.9 per house) Women: 7082 >65: 1536 <18: 4801 Persons with disability: 290	- Floods - Flash floods - Strong wind and storm - Harsh winter and air pollution	1. Flood leading to damaged / destroyed assets and toilet overflow and water pollution 2. Diarrhoea and other infectious disease are caused by water / soil contamination
Sukhbaatar District			
12	Total Population: 7,162 Households: 2,182 (3.3 per house) Women: 3585 >65: 416 <18: 2446 Persons with disability: 213	- Floods - Flash floods - Stagnant water - Harsh winter and air pollution	1. Flood leading to damaged / destroyed assets and toilet overflow and water /soil pollution 2. Diarrhoea and other infectious disease are caused by water / soil contamination 3. Muddy area in summer resulting in cars, ambulances, etc. not able to enter
13	Total Population: 9,136 Households: 2,522 (3.6 per house) Women: 4617 >65: 281 <18: 2879 Persons with disability: 239		
16	Total Population: 11,945 Households: 3,127 (3.8 per house) Women: 6,128 >65: 466 <18: 4329 Persons with disability: 288	- Flood from the main river - Flash floods - Harsh winter and air pollution	
Bayanzurkh District			
9	Total Population: 13,701 Households: 3,785 (3.6 per house) Women: 6994 >65: 239 <18: 4980 Persons with disability: 537	- Floods - Flash floods - Heavy air pollution in winter	1. Flood leading to damaged / destroyed assets and toilet overflow and water / soil pollution 2. Diarrhoea and other infectious disease are caused by water / soil contamination

Table 5. Main Activities of the FRUGA Project

Component 1: Producing hazard and risk information / evidence at city level	
PA1.1	Preparation and administration for land use plans.
PA1.2	Development of land use plans that especially include identification and response to flood risks areas.
PA1.3	Preparation and administration for the development of the simulation model.
PA1.4	Development of city-wide simulation models.
PA1.5	Hazard maps development for Ulaanbaatar city/ger areas.
Component 2: Khoroo/Community level Participative planning and capacity development for flood resilience in Ger-areas	
PA.2.1	Khoroo-level High-risk Ger areas resilience action plan development.
PA.2.2	Organization of Resilience Action Plans Validation and Information Sharing Workshops at city/district level.
PA2.3	Community mobilization and organization at the target khoroos.
PA2.4	Establish and train a Community Risk Reduction Committee.
PA2.5	Trainings on community-based disaster risk reduction and assets protection and O&M.

PA2.6	Trainings on environmental hygiene, water and air borne disease preventions, solid waste management, etc.
Component 3: Enhance resilience of community level flood protection assets	
PA3.1	Detailed design services.
PA3.2	Detailed design development of the planned flood control facilities.
PA3.3	Approval process.
PA3.4	Land freeing for the start of construction activities including community agreement.
PA3.5	Procurement of construction.
PA3.6	Construction of planned flood control facilities and monitoring and supervision during the construction.
PA3.7	Handing over the constructed facilities to Ulaanbaatar Municipality and District governors offices.
PA3.8	Resilient sanitation improvements for the selected households through community contracting.
Component 4: Awareness raising, knowledge management and communication	
PA4.1	Information and education materials development and dissemination using different means of communication.
PA4.2	Project evaluation.
PA4.3	Information dissemination and knowledge sharing workshops with city, district and khoroo levels for further replication of the project interventions.

4.4. Organizational Setting

The FRUGA project was funded by the Adaptation Fund (AF) grant, with a total budget of US $4,495,235. The AF decided 'Multilateral Implementing Entity' as the type of implementing entity.

This Adaptation Fund grant supported project was implemented by the 'Multilateral Implementing Entity' (MIE), that is UN-Habitat's Regional Office for Asia and the Pacific, Fukuoka (ROAP-Fukuoka) and Mongolia Country Programme Office.

National partners included the Ministry of Environment and Tourism (MOET), Mayor's Office of Ulaanbaatar City, and the Governors' Offices of Songinokhairkhan, Bayanzurkh and Sukhbaatar Districts of Ulaanbaatar city. The details of FRUGA project's organizational set-up and key target beneficiaries are shown in Table 6.

The project's 'Executing Entities' (EE) included: (i) World Vision International Mongolia (WVIM), (ii) Urban Development Resource Centre (UDRC), (iii) Climate Change on Nature and Society (CCNS), and Mongolian Taiwanese Technology Transfer Centre (MTTTC).

Table 6. Project's organizational set-up and key target beneficiaries

Organization	Location
Funder	Adaptation Fund Board, Washington DC
Implementing Agency	UN-Habitat Regional Office for Asia and the Pacific (ROAP-Fukuoka) UN-Habitat Mongolia Office
Executing Agencies	World Vision International Mongolia (WVIM)
	Urban Development Resource Centre (UDRC)
	Climate Change on Nature and Society (CCNS)
	Mongolian Taiwanese Technology Transfer Centre (MTTTC)
	Communities within the target 10 Khoroo in Songinokhairkhan, Bayanzurkh, and Sukhbaatar Districts (CDC)
	Ministry of Environment and Tourism (MoET)

National Partners	Mayor's Office of Ulaanbaatar City	
	Governors' Offices of Songinokhairkhan, Bayanzurkh and Sukhbaatar Districts of Ulaanbaatar city	
Main Beneficiaries	Direct	Communities within 10 target khoroos in Songino-khairkhan, Bayanzurkh, and Sukhbaatar Districts
		Target 10 khoroo (sub-district) Offices in Ulaanbaatar ger areas
		Governors Offices of Songinokhairkhan, Bayanzurkh and Sukhbaatar Districts
	Indirect	Municipality of Ulaanbaatar (MUB)
		Residents in Ulaanbaatar city

4.5. Project Financing in Detail

The FRUGA project received a budget of US $4,495,235 from the Adaptation Fund. Financing was divided among four project components (see Table 7).

Table 7. Project financing per component/output

	Description	Original Budget (USD)	Revised Budget (USD)
	Component 1: Producing hazard and risk information / evidence at city level		
1.1	One (1) Ulaanbaatar northern Ger-Area Territorial Land Use Plan	91,790	100,485.85
1.2	Simulation Model	60,000	57,640.23
1.3	Seven (7) Detailed Ger-khoroo level Land Use Plans	250,000	143,914.92
	Component 1 Sub-total	*401,790*	*302,041.00*
	Component 2: Khoroo/Community level Participative planning and capacity development for flood resilience in Ger-areas		
2.1	Seven (7) Khoroo-level floods resilience action plans	195,390	20,441.90
2.2	Khoroo community level interventions operation & maintenance and awareness	212,956	182,319.00
2.3	Technical studies – Engineering and hydrological	50,000	38,432.39
	Component 2 Sub-total	*458,346*	*241,193.29*
	Component 3: Enhance resilience of community level flood protection assets		
3.1	Physical assets developed in response to climate change related flood impacts	2,225,904	2,529,554.54
3.2	Management & operations; design & supervision of assets / physical infrastructure	418,780	372,999.10
	Component 3 Sub-total	*2,644,684*	*2,902,553.64*
	Component 4: Awareness raising, knowledge management and communication		
4.1	Lessons learned and best practices generated, captured and distributed	116,012	114,835.73
4.2	Workshops and trainings	128,670	128,670.46
4.3	Bringing Global Knowledge on best practices to in country Implementing Partners and communities, customized widely used appropriate tools on adaptation building local capacity		49,009.57
	Component 4 Sub-total	*244,682*	*292,515.76*
	Total Components	3,749,501	3,738,303.69
	Project/Programme Execution cost	393,593	387,455.27
	Total Project/Programme Cost	4,143,094	4,125,758.96
	Project/Programme Cycle Management Fee charged by the Implementing Entity	352,141	350,982.60
	Total Grant Funding	**4,495,235**	**4,476,741.56**

5. EVALUATION RESULTS

5.1. Evaluation of Project Outcomes: Criteria for Assessing Achievement of Outcomes and Ratings

5.1.1. Relevance: Discussion and Rating

5.1.1.1. Consistency of FRUGA Project's Outcomes with the Adaptation Fund's Goal, Objective, and Strategic Priorities

The four outcomes of FRUGA project were consistent with the Adaptation Fund's goal, objectives, and strategic foci or priorities. This is supported by the following facts.

Consistency of FRUGA Project's Outcomes with AF Goal: The objective of the FRUGA project, i.e., "to enhance the climate change resilience of the seven (later administratively sub-divided into 10) most vulnerable Ger khoroo settlements focusing on flooding in Ulaanbaatar City," was consistent with AF's goal and objective (Box 1). The FRUGA project was particularly aimed at assisting Ger Khoroo (urban informal) settlements in Ulaanbaatar, Mongolia's capital city, which is particularly vulnerable to the adverse effects of climate change in meeting the costs of concrete adaptation projects and programmes, in order to implement climate-resilient measures.

Box 1. Adaptation Fund's Goal, Objective, and Strategic Foci (Priorities)

Goal: Assist developing-country *Parties to the Kyoto Protocol* that are particularly vulnerable to the adverse effects of climate change in meeting the costs of concrete adaptation projects and programmes, in order to implement climate-resilient measures.

Objective: Reduce vulnerability and increase adaptive capacity to respond to the impacts of climate change, including variability at local and national levels.

Source: Adaptation Fund (2010).

Strategic Priorities: Strategic priorities include supporting adaptation priorities determined by and within developing countries; consistency with relevant national development, poverty reduction, and climate change strategies; taking into account existing scientific and political guidance; and special attention to the particular needs of the most vulnerable communities (Operations Policy and Guidance).

Source: Adaptation Fund (2011, p.9)

Throughout the implementation period, the FRUGA project's objective and expected outcomes remained valid demonstrating their consistent relevance in face of the worsening impacts of climate change on flooding in Ger Khoroo settlements. As local communities became increasingly aware of climate change issues, the project's significance grew, aligning closely with the evolving challenges and vulnerabilities. The COVID-19 pandemic exacerbated these vulnerabilities, leading to widespread job losses and reduced working hours among ger area residents. This economic strain further hindered their ability to respond to emergencies and allocate limited resources toward enhancing adaptive capacities. Hence, the FRUGA project and its objectives were not only appropriate in tackling the problem of climate change induced flooding but became more relevant as the COVID-19 pandemic exacerbated these vulnerabilities in the seven most vulnerable Ger khoroo settlements.

Consistency of FRUGA Project's Outcomes with AF Objective and Strategic Priorities: The four outcomes of the FRUGA project have contributed directly to the AF's objective, which is to "reduce vulnerability and increase adaptive capacity to respond to the impacts of climate change,

including variability at local and national levels." Further, the project outcomes were consistent with AF's four strategic priorities (Box 1), as follows:

a) Supporting adaptation priorities determined by and within developing countries: The FRUGA project supported climate change adaptation priorities determined by the Government of Mongolia (Ministry of Environment and Tourism), Municipality of Ulaanbaatar City, the Governors' Offices of Bayanzurkh and Songinokhairkhan Districts, and the Khoroo Governors' Offices of 10 Sub-districts where the project was implemented. The FRUGA project's start was marked by the "National-level Project Inception Workshop" (with 57.4 percent representation of women) held on 28 February 2019, and three "District-level Inception Workshops" (with women participation ranging from 68.7 percent to 74.1 percent) held on 15, 19, and 20 March 2019, were attended by diverse stakeholders and provided significant inputs regarding the adaptation priorities at the national and local levels.
b) Consistency with relevant national development, poverty reduction, and climate change strategies: The FRUGA project was consistent with the national development, and climate change strategies, including the National Development Strategy, the Nationally Determined Contributions, the National Action Programme on Climate Change, the Green Development Policy 2014-2030, and the 2010 National Programme on Water (for further details, see Section 6.1.1.2).
c) Taking into account existing scientific and political guidance: The FRUGA project implementation took into account the scientific guidance provided in the Ulaanbaatar Master Plan and Development Approach for 2030, and the Flood Risk Management Strategy of Ulaanbaatar City. Regarding political guidance, IE was advised by the Municipality of Ulaanbaatar to establish a "City-level Working Group" and two "District-level Sub-Working Groups" at the Governors' Offices of Bayanzurkh and Songinokhairkhan Districts. Through these working groups, the IE regularly sought scientific and political guidance for effective project implementation.
d) Special attention to the particular needs of the most vulnerable communities: The FRUGA project outcomes enhanced the climate change resilience of most vulnerable communities in seven (later administratively sub-divided into 10) Ger khoroo settlements focusing on flooding control and improved flood-resilient toilets in Ulaanbaatar City.

5.1.1.2. Consistency of FRUGA Project's Outcomes with the National Priorities

The FRUGA project's objectives were highly consistent with the national and local level priorities.

***(a) Consistency of FRUGA Project's Outcomes with National-level Priorities*:** The FRUGA project was aligned closely with Mongolia's strategic frameworks, including (a) the National Development Strategy, (b) the Nationally Determined Contributions, (c) the National Action Programme on Climate Change, (d) the Green Development Policy 2014-2030, and (e) the 2010 National Programme on Water.

a) *Mongolia's National Development Strategy* is strongly aligned with the SDGs and defines the country's policy. It is intended to enhance Mongolia's capacity to adapt to climate change and to reduce negative effects on the environment and people. The FRUGA project outcomes are consistent with the National Development Strategy as they enhanced resilience of the most vulnerable communities in Ulaanbaatar city.
b) *The Nationally Determined Contribution of Mongolia* identified a need to conduct disaster risk assessments at local- and sub-national levels and to enhance human capacity to address local climate change impacts, to which the FRUGA project directly responded.
c) *Mongolia's National Action Programme on Climate Change (NAPCC)* focuses on five strategic objectives, of which 4 were relevant to the FRUGA project. When the project implementation started in 2018, Mongolia entered Phase 2 of the NAPCC (2017-2021) which called for the implementation of concrete climate adaptation (and mitigation) measures which the FRUGA project addressed.

d) *The Green Development Policy (2014-2030) of Mongolia* emphasizes the need of settlement plan in accordance with climate change and resilient sanitation. The FRUGA project also responded to this need too.
e) *Mongolia's 2010 National Programme on Water* (approved in 2010) has the overall objectives: (i) the protection of water resources from deterioration and pollution, (ii) the proper use of available resources, and (iii) the creation of conditions enabling the Mongolian people to live in a healthy and safe environment. The FRUGA project contributed to the Section 3.2.10 of the 2010 National Programme on Water, which aims to "Determine impacts of climate change and land use to the water ecosystem in large river basins, ecosystem biological indicators and monitor according to the international standards". The FRUGA project addressed this under its Component 1 and 2. The FRUGA project also addressed the achievement of Section 3.4 which aims to "Introduce advanced technologies for proper utilization and conservation of water resources and recycling and treatment of used water; implementation of comprehensive flood prevention measurements."

***(b) Consistency of FRUGA Project's Outcomes with City-level Priorities*:** At the city level, the FRUGA project's outcomes were consistent with the (a) the Ulaanbaatar Master Plan and Development Approach for 2030, and (b) the "Flood Risk Assessment and Management Strategy of Ulaanbaatar City" (World Bank, 2015), as follows:

a) *Ulaanbaatar Master Plan and Development Approach for 2030*. The FRUGA project's outcomes were consistent with the Ulaanbaatar Master Plan, specifically its "Priority 1: Ulaanbaatar will be a safe, healthy and green city that is resilient to climate change," and "Priority 2: Ulaanbaatar will provide a liveable environment for its residents through appropriate land use planning, infrastructure and housing." Besides these, the Ulaanbaatar Master Plan emphasises the need for flood resilient and drainage infrastructure, and the FRUGA project's outcomes responded directly to this need.
b) *Flood Risk Assessment and Management Strategy of Ulaanbaatar City*. The FRUGA project addressed some of the key strategic directions, recommendations and target areas within the "Flood Risk Assessment and Management Strategy of Ulaanbaatar City" (World Bank, 2015a), including "reduce flood risk through resilient urban development, land use and waste management, protection of social infrastructure and strengthened utility services."

5.1.1.3. Relevance: Rating

Highly Satisfactory (HS): The FRUGA project had no shortcomings in outcome achievement in terms of relevance.

5.1.2. Effectiveness: Discussion and Rating

5.1.2.1. Actual and Expected Achievement of Results at Final Evaluation

This evaluation found that the actual outcomes of FRUGA project were commensurate with the original project objective, and that the IE (UN-Habitat) made highly satisfactory use of the AF's adaptive management modality. The details of the various achievements under the FRUGA project's four outcomes are provided in Table 8.

Table 8. Results Achieved by the FRUGA Project, 2018-2023

Expected Accomplishment	Indicator	Target at Project Completion	Achievement
Outcome 1	Number of Territorial land	One (1)	- One Territorial Land Use Plan developed with identification of flood risks.

Relevant threat, hazard information, evidence and recommendations (on land use and zoning) generated for increasing resilience at the city level	use plans with identified flood risks developed		- Two information dissemination workshops held
	Women participating in planning process	> 50 % women	54.2 percent women's participation achieved
	Number of flood simulation models developed	One (simulation model	- One 'Flood Simulation Model' for Ulaanbaatar city prepared
	Number of Territorial land use plans with identified flood risks developed	Seven (7)	- 10 Land Use Plans with consideration of flood risks for 10 khoroos were developed. - Two information dissemination workshops held. - The work is completed.
	Women participating in planning process	> 50 % women	- 54.2 percent women's participation
Outcome 2 Target inhabitants are aware of resilience building and climate risk reduction processes and have ownership over proposed interventions at the District, Khoroo and community level	Percentage of targeted population aware of predicted flood risks and appropriate responses	Mid-term: 30% End: 50 %	56 percent of the targeted population has been informed about flood risks and appropriate response and adaptation measures through their participation in workshops, training, and physical involvement in the design and implementation of flood-resilient toilets and the planning and implementation monitoring of flood control facilities.
	Women participating	> 50 % women	50.3%
	Number of Khoroo-level flood resilience action plans	Seven (7)	- Ten (10) Khoroo-level annual Community Action Plans (CAP) have been developed and updated annually - 27 Community action planning exercises were organized and attended by 643 community members (73.3 percent women)
	Women participating in planning process	> 50 % women	- 53.9 percent of group membership in the Primary Groups and 64.7 percent membership in the Community Development Councils (CDCs), of which 278 CDC members were female. - 49.1 percent of the community leaders in the organized groups were women.
	Number of awareness campaigns and trainings	4 per Khoroo	- 863 training, workshops, and consultation meetings were organized during the project. 12,984 attended these events
	Women participating	> 50 % women	- 67.2 percent
	Number of studies	Four (4) for the flood protection and drainage intervention (1x Khoroo 7, 2x Khoroo 9 and 1 x Khoroo 24)	EE completed a hydrology study. The hydrology study proposed six flood facilities in the target three khoroos, and the design firm prepared detailed designs. The design company proposed fifteen interventions in three project districts, totalling 8,873 meters and estimating US$2,026,537.37. According to the proposal, 36,661 hectares can be protected, 2,773 plots and 5,544 households can benefit.
Outcome 3 Increased adaptive capacity within prioritized community assets	Number of physical assets strengthened, constructed, and/or modified. to reduce or withstand floods.	Four (4) for the flood protection and drainage intervention: 1x Khoroo 7, 2 x Khoroo 9,	Five (5) flood protection and drainage facilities were constructed in khoroo Number 9 of Bayanzurkh District, and Khoroo number 40 of Songinokhairkhan District. As a result, 221.9 hectares of land is now protected from flood risk, benefitting 3491 households along with their 1719 plots.

		1 x Khoroo 24	<u>Additional Work Accomplished:</u> 197m flood retention wall/dike in 24th khoroo, Songinokhairkhan District (providing flood control benefit for 197 households)
	Number of physical assets strengthened, constructed, and/or modified. to reduce or withstand floods	Seven (7) for the sanitation interventions 7 x in 7 Khoroos	The communities have constructed 1133 improved flood resilient toilets.
	Toilets are appropriate for women, elderly and disabled where required	>50 % of toilets adapted to specific needs	100% of them are adapted to the specific needs of the community
<u>Outcome 4</u> Institutional capacity strengthened to develop and replicate this approach	Number of institutions trained	>1 municipal level >3 district level	Institutional capacity strengthened through the organization of 82 training sessions attended by 1,422 representatives from 21 national and local governments, research and community organizations, including Ministry of Environment and Tourism, two municipal organizations, three district governors' offices, 10 target khoroo governors' offices, Mongolian University for Science and Technology, and five Community Development Councils (target community organizations).
		50% women participation	58.3 percent women participation

Outcome 1: Relevant threat, hazard information, evidence and recommendations (on land use and zoning) generated for increasing resilience at the city level. Under this outcome, the following were the actual achievements:

a) Development of one "Territorial Land Use Plan" for Ulaanbaatar City with the identification of flood risks, along with the organization of two information dissemination workshops. Women participation in the planning process was 54.2 percent.
b) Preparation of the first-ever "Flood Simulation Model for Ulaanbaatar city", which required collaboration among government institutions and an NGO (CCNS), with support from IE (UN-Habitat).
c) Development of 10 "Land Use Plans" for 10 Khoroos with consideration of flood risks, along with the organization of two information dissemination workshops. Women participation in the planning process was 54.2 percent.

Outcome 2: Target inhabitants are aware of resilience building and climate risk reduction processes and have ownership over proposed interventions at the District, Khoroo and community level. Under this outcome, the following were the actual achievements:

a) A majority (56 percent) of target inhabitants was informed and made aware about flood risks and appropriate response and adaptation measures through their participation in workshops, training sessions, and physical involvement in the design and implementation of improved flood-resilient toilets and the planning and implementation and monitoring of flood control facilities. Women participation in the workshops and training sessions was 50.3 percent.
b) Ten Khoroo-level annual Community Action Plans (CAPs) were developed and updated annually during the FRUGA project implementation. The IE conducted 27 Community Action Planning exercises that were attended by 643 community members, of which 73.3 percent were women.

c) The majority of "Primary Group" membership (53.9 percent) and of the "Community Development Councils" (64.7 percent) was that of women; 278 CDC members were women. Further, 49.1 percent of community leaders in the organized groups were women.
d) During the FRUGA project implementation, IE organized a total of 863 training sessions, workshops, and consultation meetings that were attended by 12,984 community members, of which 67.2 percent were women.

e) Based on the hydrology study conducted under the project, the design firm proposed in total 15 interventions in three project districts for building overall flood resilience therein. Detailed designs for six flood control facilities in the three target khoroos were prepared by the design firm for the project intervention. The conceptual schemes of the rest 9 proposed interventions were handed over by the project team to the district governor's offices for their inclusion in further climate adaptation interventions of the local government.

***Outcome 3: Increased adaptive capacity within prioritized community assets*.** Under this outcome, the following were the actual achievements:

a) Five flood protection and drainage facilities were constructed in Khoroo number 9 of Bayanzurkh District, and Khoroo number 40 of Songinokhairkhan District. As a result, 221.9 hectares of land is now protected from flood risks, benefitting 3491 vulnerable households along with their 1719 residential plots.
b) The FRUGA project accomplished additional work in the form of a 197-metre-long flood retention dike in 24th Khoroo of Songinokhairkhan District as part of the EE's in-kind contribution. This additional accomplishment, in the form of a 197-metre-long flood retention dike, provided flood control benefit to additional 197 vulnerable households in 24th Khoroo of Songinokhairkhan District.
c) With the support of FRUGA project, the organized communities constructed 1133 improved flood resilient toilets, and all (100%) of them were adapted to the specific needs of the vulnerable communities including women, girls, elderly, people with disabilities, and children with disabilities in the target Khoroo settlements.

***Outcome 4: Institutional capacity strengthened to develop and replicate this approach*.** Under this outcome, the following were the actual achievements:

The project strengthened institutional capacity through the organization of 82 training sessions that were attended by 1,422 representatives from 21 national and local government entities, research institutions, and community organizations. These institutions included the Ministry of Environment and Tourism, two municipal organizations, three district governors' offices, 10 target khoroo governors' offices, the Mongolian University for Science and Technology, and five Community Development Councils (as target community organizations). Women constituted 58.3 percent of all attendees in the institutional capacity development sessions.

5.1.2.2. Effective Application of UN-Habitat's People's Process in FRUGA Project

In the FRUGA project implementation, the IE and EE made effective application of UN-Habitat's People's Process of Community Mobilisation, Organization, and Community Action Planning. The People's Process has been developed through and for the involvement of grassroots communities in the implementation of various international development projects and programmes in the Asia-Pacific region (UN-Habitat, 2011). The application of People's Process was useful in mobilizing grassroots communities in the 10 target Ger Khoroo settlements, organizing them in 'Primary Groups', establishing a 'Community Development Council' in each of the three districts, i.e., Bayanzurkh, Songinokhairkhan, and Sukhbaatar Districts. A total of 144 Primary Groups have been established representing 1827 households and 7508 population (as mentioned earlier).

The application of UN-Habitat's People's Process contributed to the FRUGA project effectiveness in six ways:

a) Participatory identification of climate induced flooding problems and preparation of "Flood Exposure Maps" (as discussed in detail in sub-section 5.2.5.2).
b) Participatory identification of beneficiaries (including the elderly and persons with disabilities) for flood resilient toilets.
c) Successful community engagement in the construction of flood protection infrastructure (channels, pipes and dyke).
d) Successful participatory monitoring of the construction of flood protection infrastructure (channels, pipes and dyke) and the installation of flood resilient toilets to neediest beneficiaries.
e) Strengthened community capacities for the replication and scaling-up of project activities.
f) Avoidance of land resettlement during the construction of flood control structures due to the successful and effective utilization of community engagement for participatory needs assessment, participatory Community Action Planning, and participatory monitoring during project implementation.

5.1.2.3. Effective Utilization of Adaptive Management in FRUGA Project

***(a) Business Continuity Plan for Managing Project Implementation during COVID-19 Lockdowns*:** Like elsewhere in the world, the FRUGA project was impacted by the COVID-19 pandemic and related lockdowns imposed by the Government of Mongolia. The lockdown restrictions included bans on community gatherings and meetings that were essential for the project implementation. Citywide and partial lockdowns in Ulaanbaatar further complicated implementation progress, necessitating remote work for project staff.

The project implementation was further affected by the closure of Mongolia's southern border with China. This international border remained closed from January 2020 to January 2023. China is a major source of building material for Mongolia. The closure of international border affected the import of building material. Moreover, there were no international flights between Mongolia and China during 2021-2022.

Despite the obstacles posed by the COVID-19 pandemic related lockdowns, the FRUGA project team swiftly adapted by implementing a **"Business Continuity Plan"** to manage project implementation activities online while adhering to the various health guidelines. The **remote management of project activities** was an effective improvement over a total halt in project implementation. However, the challenge of COVID-19 lockdowns affected in-person interactions and management of project activities.

Due to the delays caused by the COVID-19 pandemic and the related lockdowns, the FRUGA project required one extension of 10 months, from the original completion date of 28 February 2023 to 31 December 2023.

***(b) Project Extension in Response to COVID-19 Lockdowns*:**

In addition to pandemic-related challenges, Mongolia's reliance on imported construction materials faced disruptions from prolonged border closures with China. This supply chain disruption led to increased costs and hindered the implementation of Output 3, specifically impacting the construction of flood control facilities and improved sanitation infrastructure.

To mitigate these setbacks, an extension request was submitted to the Adaptation Fund Board (AFB) on 1 December 2022. Following approval on 9 December 2022, the project extension was granted, ensuring the completion of planned activities and reinforcing its resilience in the face of unforeseen challenges.

The project faced challenges due to significant political events, including parliamentary and municipal elections in June and October 2020, as well as the presidential election in June 2021. These events led to restructuring and staff turnover within municipal agencies, particularly affecting the target districts and khoroos. Each instance of restructuring necessitated dedicated time and effort from the project team to establish new relationships and rapport effectively.

The people in the communities were initially sceptical about the community-led approach since they were not used to participating in decision-making processes. Initially, few groups were formed, and leaders were elected. The momentum was built up over time through a series of meetings, particularly after results became visible.

Finalization of the feasible infrastructure activities through an inclusive consultation process and approval by the Project Working Group took much longer than anticipated. The design company was authorized to design flood control infrastructure. However, since many electric poles run alongside the projected pathways, additional authorized companies were required to redesign transmission infrastructure, incurring additional costs.

5.1.2.4. Effectiveness: Rating

Satisfactory (S): The FRUGA project had minor shortcomings in outcome achievement in terms of effectiveness.

5.1.3. Efficiency: Discussion and Rating

5.1.3.1. Consideration of Alternatives

The consideration of alternatives focused on two aspects under Component 3: Enhance resilience of community level flood protection assets.

(a) Flood Control Structures:

The project considered three alternatives for the construction of flood prevention structures: (i) open and lined flood protection channels; (ii) underground flood protection channel (pipe); and (iii) flood prevention (retention) dykes. After careful consideration of the three alternatives, the project built three types of flood protection and prevention structures, as follows.

- Flood protection channel SO1 in 40th khoroo of Songinokhairkhan District
- Flood protection channel SO2 in 40th khoroo of Songinokhairkhan District
- Flood protection channel SO3 in 40th khoroo of Songinokhairkhan District
- Flood protection channel B2 in 9th khoroo of Bayanzurkh District
- Flood prevention (retention) dyke B1 in 9th khoroo of Bayanzurkh District

(b) Flood Resilient Toilets:

The residents of Ger Khoroo settlements in Ulaanbaatar have been using open pit latrines for decades. The human sludge remained frozen in the winter months. In the spring and summer season, when the sludge thawed, residents sprayed ash (or other disinfectants) to prevent the spread of diseases. Over time, when one pit gets filled with sludge, another pit is dug to create and use another open pit latrine. This sanitation system has worked for the residents of Ger Khoroo settlements in Ulaanbaatar for several decades.

However, given the impact of climate change, including the gradual melt of permafrost and sudden downpour of rain, some areas in Ger Khoroo settlements have seen increased surface water runoff. This surface water runoff enters open latrine pits. Then these pits get filled up with water, they

overflow and spread their contents over the land surface. This causes various diseases and health problems, in addition to making the pit latrines unusable for different periods of time.

The FRUGA project needed to respond to this new situation caused by the worsening impacts of climate change. Therefore, in order to support the residents of Ger Khoroo settlements, the project came up with several alternatives for flood resilient toilets that were designed and built based on the specific needs of the beneficiaries. In total, the project supported the installation of 1,133 flood resilient toilets as follows.

- *Complete Toilets*. The flood resilient 'complete toilets' included the sludge holding tank and the superstructure (or chamber). A total of 499 'complete toilets' were installed.
- *Complete Toilets with Wastewater Tanks*: Some beneficiaries were provided 'complete toilets' along with an attached wastewater tank for the storage of greywater. A total of 39 households benefitted from such support. However, with the increase in cost of construction material that was imported from China, the construction of wastewater tanks had to be abandoned.
- *Portable Toilets*. The need for flood resilient 'portable toilets' were expressed by beneficiary households who had a family member with disability. A total of 86 portable toilets were provided in the target Ger Khoroo settlements.
- *Dry Toilets*: The 'dry toilets' were provided to the families living in those houses where the groundwater table was high (i.e., close to the surface). These indoor toilets require the use of compost to manage the waste. Only 19 dry toilets were provided under the project. Since these toilets were manufactured in China and the COVID-19 lockdowns affected imports, the project had to abandon the provision of dry toilets.
- *Toilet Tanks*: As the construction material became costlier due to COVID-19 lockdowns (since most construction material is imported from China), the project had to adapt its strategy to provide flood resilient toilets to beneficiaries in the target Ger Khoroo settlements. Utilising the organisational apparatus of 'Primary Groups' and CDCs, it was agreed that the project would provide support for the construction of 'toilet tanks' (or sludge holding tanks) while the construction of superstructure (or chamber) would be paid for by the beneficiary households. As a result of this arrangement, the project built 529 toilet tanks.

Field visits by the Evaluation Consultant to the Ger Khoroo settlements in Bayanzurkh, Songinio-khairkhan and Sukhbaatar Districts and the semi-structured interviews conducted with some beneficiary households, including those having persons with disability, revealed that they were satisfied with the flood resilient toilets provided by the FRUGA project. They informed the Evaluation Consultant that the Social Mobilisers from EE (WVIM) and the members of local Primary Groups held several rounds of discussions with them in order to understand the household-specific needs for flood resilient toilets, and provided the best possible solution that was feasible under the project.

5.1.3.2. FRUGA Project's Process of Preparation and Implementation: Comparison with Other Projects

***Efficient Utilisation of UN-Habitat's People's Process*:** The FRUGA project preparation and implementation made efficient utilisation of UN-Habitat's People's Process (programme/ project implementation model). In the case of FRUGA project, the People's Process was implemented by WVIM, the main EE.

In Mongolia, WVIM implements two types of development programmes. First is the long-term "Area Programme", which has its own methodology to support community and children in a selected area (see WVIM, 2024). The Area Programme spans a 15-year lifecycle, and registers between 2,500 and 3,000 children under its child sponsorship scheme. The Area Programme is designed to integrate these children and their families into various development activities and

provide various types of support. Community mobilization is designed to support families and individuals who meet specific vulnerability criteria to ensure that assistance reaches those most in need. The vulnerability criteria typically include living below poverty line, families with many children, single parent headed households, unemployed, and persons with disability, etc. WVIM's short-term grant projects, while different in their duration and scope, deliver targeted interventions to address urgent needs and provide immediate support.

Compared to the WVIM's Area Programme, UN-Habitat's People's Process (programme/ project implementation model) involves all members of the local community, including women, youth, elderly, children, persons with disability, and the rest. It focuses on the mobilisation of the whole community, and organisation of the community members in Primary Groups that choose their leaders. A number of Primary Groups from one administrative and/or geographical area form a CDC. The Primary Groups and CDCs are given training in 'Community Action Planning' which identifies the local development needs and helps in prioritising them. This process results in 'Community Action Plans' which indeed technical plans for the prioritised infrastructure and services which are costed. Then, development grants are sought from donors or the local government. Once the 'Community Action Plans' are funded, they are implemented through 'Community Contracts'.

Discussions with WVIM (the main EE) revealed their appreciation for the UN-Habitat's People's Process which was "more holistic" in terms of the mobilisation and organisation of local community and engaging them in 'Community Action Planning' to address the community-wide needs for local development.

***Efficient Utilisation of UN-Habitat's People's Process in Project Preparation*:** The IE started the preparation of FRUGA project during 2017-2018. Community awareness on urban development and related problems was built during the various projects implemented by UN-Habitat, which included: (i) Community-Led Ger Area Upgrading in Ulaanbaatar City (funded by the Government of Japan); (ii) Preparation of ADB-funded Ger Area Development Investment Programme for Ulaanbaatar; and (iii) Feasibility Study of Green Affordable Housing and Urban Renewal project funded by ADB for which UN-Habitat conducted community mobilisation and organisation, and Community Action Planning activities.

The FRUGA project preparation activities lasted about one year during 2017-2018. The IE conducted consultations with the communities in Ger Khoroo settlements, the Municipality of Ulaanbaatar, and MOET. It took into account the findings and recommendations of the "Flood Risk Assessment and Management Strategy of Ulaanbaatar City" prepared by the World Bank (2015a-b). All of this provided critical inputs to IE for the preparation of FRUGA project.

***Efficient Utilisation of UN-Habitat's People's Process in Project Implementation*:** When the FRUGA project implementation commenced, the IE started engagement with the local communities it had consulted with during project preparation. These communities were mobilised and organized into Primary Groups and CDCs. Consultation with and training sessions for the organized communities in the target Ger Khoroo settlements were conducted. Community Action Planning activities were completed. All these activities provided invaluable inputs for the design and layout of flood protection structures (open channels, underground pipes, and flood protection dyke). Further consultations were conducted with CDCs and Primary Groups for the selection of most needy households who would benefit the most from the provision of improved flood resilient toilets (as discussed under 5.1.3.1.(b)).

Field visits to target Ger Khoroo settlements and semi-structured interviews with members of the beneficiary communities, Khoroo Governors, officials of the Municipality of Ulaanbaatar, and the representatives of MOET revealed that the FRUGA project activities were properly designed taking into account the adaptation needs of the Ger Khoroos most vulnerable to climate induced flooding. The evaluation exercise also found that the neediest households were selected as project

beneficiaries and provided with flood resilient toilets. Stakeholders highlighted the detailed attention to every aspect of project and its efficient implementation by the IE and EEs.

5.1.3.3. Cost and Time Dimensions of Efficiency

The FRUGA project scores highly in terms of cost and time dimensions of efficiency as discussed below.

***(a) Cost Dimension of Efficiency*:** The FRUGA project had the highest cost efficiency compared to similar projects implemented in Ulaanbaatar city in 2021. A comparison of similar projects shows that the FRUGA project accomplished the construction of flood protection channels with the lowest unit cost. The estimated cost for the construction of flood protection channels under FRUGA project was US$427,674.95 per km for the "Flood Protection Channel B2 in Khoroo 9 of Bayanzurkh District" and US$316,374.18 per km for the "Flood Protection Channel SO2, Khoroo 7, Songinokhairkhan District" (Table 9). These unit costs for the construction of flood control channels were much lower compared to US$948,791.92 per km in ADB-funded "Ger Area Development Investment Programme for Ulaanbaatar" project and US$512,948.30 per km in the Flood Protection related procurement by the Municipality of Ulaanbaatar city (Table 9).

Table 9. Cost Comparison of Similar Projects Implemented in Ulaanbaatar (2021)

Project	Type of Construction Work	Length (metres)	Cost in MNT *(in USD)*	Estimated cost per 1 km in MNT *(in USD)*
Ger Area Development Investment Programme (GADIP) for Ulaanbaatar (ADB loan)*	Flood protection Channel, Dambadarjaa Ger area	904	2,443,858,536.00 *(USD 857,707.90)*	2,703,383,336.00 *(USD 948,791.92)*
Flood Protection related Procurement (Municipality of Ulaanbaatar city)**	Flood Protection Channel, 10 & 28 Khoroo, Songinokhairkhan District	1,300	1,900,000,000.00 *(USD 666,832.79)*	1,461,538,461.00 *(USD 512,948.30)*
FRUGA Project (AF funded)	Flood Protection Channel B2, Khoroo 9 in Bayanzurkh District	1,066	1,298,995,576.00 *(USD 455,901.50)*	1,218,569,958.00 *(USD 427,674.95)*
FRUGA Project (AF funded)	Flood Protection Channel SO2, Khroo 7, Songinokhairkhan District	883.5	796,423,815.00 *(USD 279,516.59)*	901,441,782.00 *(USD 316,374.18)*

Exchange Rate between MNT and UD in 2021: US$1= MNT2849.29
*DAFPE:Дамбадаржаа дэд төвд баригдах үерийн хамгаалалтын далан, сувгийн ажил (tender.gov.mn).
** XII.1.74 Үерийн хамгаалалтын далан, 1.3 км /Улаанбаатар, Сонгинохайрхан дүүрэг, 10, 28 дугаар хороо/ (tender.gov.mn).

The higher cost efficiency under the FRUGA project (compared to similar projects) reflects on the cost-efficient procurement process planned by IE (UN-Habitat) following the United Nations' Procurement Rules, and implemented by EE (WVIM) following the World Vision's Procurement Rules. It also underlines the importance of the efficient role played by the construction companies especially during the COVID-19 pandemic period. Moreover, it reflects on the invaluable role of local communities, through Primary Groups and CDCs, in providing inputs to the project design and implementation process, without which the FRUGA project could not have been as successful as it was.

***(b) Time Dimension of Efficiency*:** The FRUGA project implementation was completed within the time duration approved by AF. This was possible due to the extended preparation process that preceded the project approval by AF, and the efficient application and utilization of UN-Habitat's People's Process, including high levels of community engagement. The time related efficiency

also contributed directly to saving project costs as well as indirectly by the timely construction of flood control channels and the installation of flood resilient toilets.

The only delay experienced in FRUGA project implementation was the unprecedented and unanticipated delay caused by the COVID-19 pandemic and the related lockdowns, which affected the whole world. Such events and related delays were impossible to anticipate.

5.1.3.4. Efficiency: Rating

Satisfactory (S): The FRUGA project had minor shortcomings in outcome achievement in terms of efficiency.

5.1.4. Evaluation of Project Outcomes: Rating

Satisfactory (S): The FRUGA project had minor shortcomings in outcome achievement in terms of efficiency.

5.2. Risks to Sustainability and Progress towards Impacts: Dimensions and Ratings

This sub-section evaluation four dimensions of risks to sustainability and how these risks comprise linkages from outcomes to impacts.

5.2.1. Financial and Economic: Discussion & Rating

5.2.1.1. Are there any financial or economic risks that may jeopardize sustainability of project outcomes?

***(a) Flood Protection Infrastructure*:** The first outcome of FRUGA project is the enhanced resilience of 10 target Ger Khoroo settlements in Ulaanbaatar city to climate induced flooding events that have been growing in number over the past two decades. The flood protection channels, pipes and dyke, constructed with AF funding, were handed over to the Municipality of Ulaanbaatar city during the project implementation.

The Company of Geodesy and Water Construction (CGWC), owned by the Municipality of Ulaanbaatar city, is the agency responsible for the operation and maintenance (O&M) of the flood protection infrastructure. This Company's representative was a member of the FRUGA "Project Working Group" during project implementation. Before the FRUGA project, CGWC was dealing with the problem of ice accumulation in winter and flooding in summer months.

The Company welcomed the idea of tackling the problem of climate induced flooding in the most vulnerable Khoroo settlements in Ulaanbaatar city. Therefore, the Company provided strategic and technical inputs to the identification of sites for the construction of flood protection infrastructure, and the preparation of infrastructure designs.

The CGWC is now responsible for the O&M of the flood protection infrastructure built under the FRUGA project. During the project evaluation mission in Ulaanbaatar, the Company's representative expressed satisfaction with the way in which flood protection infrastructure (channels, pipes and dyke) were designed and constructed under the FRUGA project.

The Municipality of Ulaanbaatar city has an "Emergency Preparedness Plan". This plan focuses mainly on responding to emergencies related to key urban infrastructure. The plan does not have a categorical focus on flood risks, but it provides for post-disaster (i.e., post-flood) cleaning services. Therefore, climate change and disaster risk preparedness related important aspects,

such as flood risks, social infrastructure, and the link, should be included in the "Emergency Preparedness Plan" of Ulaanbaatar city.

Recommendations: This final evaluation recommends that:

(i) Climate change and disaster risk preparedness related important aspects, such as climate induced flood risk reduction activities, should be included in the "Emergency Preparedness Plan" of Ulaanbaatar city. This is because flooding events affect not only physical infrastructure but the social infrastructure as well.
(ii) The AF funded Ger Community Resilience Project (GCRP) should initiate policy dialogue with the Municipality of Ulaanbaatar city for the inclusion of climate induced flood risk reduction activities in the "Emergency Preparedness Plan". This will go a long way in addressing the O&M issues related to the FRUGA project outcomes.

In view of this discussion, there are negligible financial or economic risks that affect this dimension of sustainability/linkages.

***(b) Flood Resilient Toilets*:** The FRUGA project provided 1,133 improved flood resilient toilets to the neediest households in the target Ger Khoroo settlements. There is often a risk that such toilets are either not used or maintained by the beneficiary households, especially those who fall in low-income category. This matter was examined during the evaluation mission by conducting field visits to target Ger Khoroo settlements and by conducting semi-structured interviews with households who benefitted from the provision of improved flood resilient toilets.

Under the final evaluation, discussions with beneficiary households revealed that they gave (and give) high importance to maintaining the flood resilient toilets provided under the FRUGA project. This is because the flood resilient toilets have improved their quality of life beyond measure and introduced resilient and user-friendly standards of the sanitation facilities, especially for women, young girls and boys, elderly, and persons with disability. Prior to the implementation of FRUGA project, the community members had difficulties to use their toilets due to flooding of open-pit latrines. Some of the beneficiary households have made in-kind contributions towards the construction of flood resilient toilets suited to their specific needs (as discussed under 5.1.3.1.(b)). Therefore, they are committed to maintaining their flood resilient toilets now and in the future, underlining the sustainability of this important household asset.

Hence, there are moderate financial or economic risks that affect this dimension of sustainability/linkages.

5.2.1.2. What is the likelihood of financial and economic resources being available once the AF grant ends?

***(a) Flood Protection Infrastructure*:** The Company of Geodesy and Water Construction (CGWC), owned by the Municipality of Ulaanbaatar city, is the only agency responsible for O&M of flood protection infrastructure of the city (as mentioned earlier). During 2016-2020 period, the Company had a relatively small O&M budget allocation of MNT 300 million (or US$123,400) on an annual basis.

Ulaanbaatar city experienced several smaller and twice heavy flooding in 2023 which took away five human lives. Given the fact and needs of the restoration activities the Municipality of Ulaanbaatar city increased the Company's O&M budget allocation to MNT 5 billion (or US$1,465,845) in 2024. This budget allocation includes MNT 1 billion (or US$293,169) for post-disaster cleaning services.

That the Municipality of Ulaanbaatar city increased the budget allocation to the Company for O&M is a step in the right direction. This increased O&M budget allocation may not be sufficient, particularly given the vast geographical spread of Ger Khoroo settlements. However, it is likely to

be increased in the future given the increasingly felt impacts of climate change in the form of flooding in Ulaanbaatar city.

Role of Construction Companies that built flood protection infrastructure. In Mongolia, the construction companies that built the flood protection infrastructure are legally responsible for a period of three years to ensure smooth operation and conduct repair (as required) within this period. The 3-year period becomes effective once the constructed infrastructure is handed over to the Municipality of Ulaanbaatar. In line with this regulation, the construction companies involved in FRUGA project are responsible to ensure smooth operation and conduct repair (as required) for three years.

Role of Khoroo Governors' Offices. Under the District Governors' Office, the Khoroo Governors' Offices conduct monitoring of urban infrastructure and services. Further, they are the first port-of-call and an important resource for Ger Khoroo communities if problems arise concerning the flood protection infrastructure built under the FRUGA project.

During the project evaluation, the discussions with Khoroo Governors of the target Ger Khoroos in Bayanzurkh and Songinokhairkhan Districts revealed the high value and importance they give to the flood protection infrastructure built under the FRUGA project. Therefore, the Khoroo Governors' Offices are likely to continue monitoring the physical and operational status of the flood protection infrastructure and help resolve any problems that may arise in the future.

Role of Primary Groups and CDCs. The mobilised and organized communities in the form of Primary Groups and CDCs are another important resource for the community members. The Primary Groups and CDCs could act as human/labour resource in terms of: (i) participatory monitoring of the condition of flood protection infrastructure and any related problems, and (ii) helping clean the flood protection/drainage channels, when needed.

The semi-structured interviews and discussions conducted during the evaluation found that the members of Primary Groups and CDCs have formed communication groups on social media and are regularly in touch with each other. They often discuss subjects of common interest including the upkeep of flood protection infrastructure and the flood resilient toilets.

Recommendations: This final evaluation recommends that:

1) Efforts should be made for raising the budgetary allocation for O&M to the Company of Geodesy and Water Construction (CGWC) under the Municipality of Ulaanbaatar city.
2) The AF funded Ger Community Resilience Project (GCRP) should initiate policy dialogue with the Municipality of Ulaanbaatar city for increasing the budgetary allocation for O&M to CGWC in order to address any O&M problems arising in the future, and in turn to enhance sustainability of the flood protection infrastructure built under the FRUGA project.
3) Regular meetings of the Primary Groups and CDCs, which were created and functioned under the FRUGA project, should be held in order for them to remain as a sustainable resource for tackling local development problems related to urban (including flood protection) infrastructure and services.
4) Periodic (quarterly) meetings between Primary Group Leaders and CDC Leaders should be held at Khoroo and District levels not only for the sustainability of these community-led organizations but also for tackling the local development issues, including the O&M of the flood protection structures (including channels, pipes and dyke) built under the FRUGA project.

Hence, there is a high likelihood of financial and economic resources being available once the AF grant ends.

***(b) Flood Resilient Toilets*:** Under the final evaluation, discussions with beneficiary households revealed that they highly value the flood resilient toilets provided under the FRUGA project in the

target Ger Khoroo settlements. The flood resilient toilets have improved the quality of life and introduced resilient and user-friendly standards of the sanitation facilities for local communities, including women, young girls and boys, elderly, and persons with disability. there is strong ownership of toilets provided under the FRUGA project. Hence, it is likely that financial and economic resources will be made available by the beneficiaries for the O&M of flood resilient toilets and, thus, their sustainability.

Recommendation: This final evaluation recommends that regular meetings of the Primary Groups and CDCs, which were created and functioned under the FRUGA project, should be held in order for them to remain as a sustainable resource for tackling any problems related to O&M of flood resilient toilets and, thus, their sustainability.

Hence, there is a high likelihood of financial and economic resources being available once the AF grant ends.

5.2.1.3. Financial and Economic: Rating

Moderately Likely (ML): There are moderate risks that affect this dimension of sustainability / linkages.

5.2.2. Socio-political: Discussion & Rating

5.2.2.1. Are there any social or political risks that may jeopardize sustainability of project outcomes?

***(a) Social Risks*.** There are no social risks anticipated with regard to the sustainability of project outcomes. This is because the FRUGA project (IE and EE) effectively applied the UN-Habitat's People's Process in project implementation. Through the People's Process, grassroots communities in the target Ger Khoroo settlements were directly involved in the identification of local adaptation needs with focus on enhancing resilience through the construction of flood control infrastructure (including channels, pipes and dyke). Extensive consultations were held with the local communities, organized in the form of Primary Groups and CDCs, on the identification of neediest households for the provision of improved flood resilient toilets.

No social risks or issues related to human rights, ethnic strife or social tension were reported during the semi-structured interviews with the representatives of MOET, the Municipality of Ulaanbaatar city, District and Khoroo Governors' Offices, IE, EEs, construction companies, and the local community leaders, conducted by the Evaluation Consultant.

On the contrary, the semi-structured interviews revealed that the application of UN-Habitat's People's Process brought together the grassroots communities, organized them, and gave them a common cause for tackling local development problems related to flooding, insanitary conditions caused by overflowing toilet pits, and other issues concerning urban services, such as poor solid waste management.

***(b) Political Risks*.** There are no political risks that may jeopardize sustainability of project outcomes.

The year 2024 is an election year in Mongolia. Parliamentary elections were held in June 2024. The ruling Mongolian People's Party won the general election (Anadolu Agency, 2024). This provides continuity in the national government policies on climate change, adaptation and resilience, which are under the portfolio of MOET.

In October 2024, Mongolia will have local government elections. In this regard, it is important to note that, if there is a change of political party leading the Municipality of Ulaanbaatar city (after

an election), leadership of municipal portfolios may change, including that on climate change and resilience. Such a change in municipal leadership may trigger a reshuffle of officials who are leading and managing the various departments and companies of the Municipality of Ulaanbaatar city.

The quality of governance is often dependent on the capacity of officials who take office. This is further dependent on the new leadership in the government at the city, district and khoroo levels.

Having said that, discussions with the senior representatives of the Municipality of Ulaanbaatar city revealed that it is highly unlikely that the municipal policies on and budgets for climate adaption and resilience would undergo any drastic change given the fact that the impacts of climate change are increasingly being felt in Ulaanbaatar city and its Ger Khoroo settlements.

5.2.2.2. What is the risk that the level of stakeholder ownership (including ownership by governments and other key stakeholders) will be insufficient to allow for the project outcomes/benefits to be sustained?

***(a) Flood Protection Infrastructure*:** There is low risk that the level of stakeholder ownership (including ownership by governments and other key stakeholders) will be insufficient to allow for the FRUGA project outcomes/benefits––related to flood protection infrastructure, to be sustained.

The Municipality of Ulaanbaatar city has a high level of stakeholder ownership regarding the FRUGA project outcomes/benefits to be sustained. This is unlikely to change even if there is a change in the political party leading the municipal government after the local government election in October 2024. The sustainability of project outcomes/benefits is likely continue given the city government's commitment for the O&M of flood control infrastructure built under the project (as discussed in sub-section 5.2.1.2.(a)).

***(b) Flood Resilient Toilets*:** There is low risk that the level of stakeholder ownership will be insufficient to allow for the FRUGA project outcomes/benefits––related to flood resilient toilets, to be sustained. The beneficiaries pride themselves of the flood resilient toilets provided by the FRUGA project because these improved toilets not only met their highly felt household need but also improved insanitary conditions caused by climate change induced flooding in the target Ger Khoroo settlements. During discussions for the final evaluation, project beneficiaries expressed their commitment to the O&M of flood resilient toilets now and in the future.

5.2.2.3. Do the various key stakeholders see that it is in their interest that project benefits continue to flow?

This evaluation exercise found that the various key stakeholders see that it is in their interest that project benefits continue to flow.

- *Ministry of Environment and Tourism*. Through the implementation of FRUGA project, MOET has witnessed with enormous value of enhancing resilience to climate induced flooding for urban areas and their residents. As a result, it has supported the AF funding (US$7,965,882) of the Ger Community Resilience Project (GCRP) that is under implementation in Ulaanbaatar city since 17 August 2023.
- *Municipality of Ulaanbaatar*. The Municipality of Ulaanbaatar city, its agencies, and the District and Khoroo Governors' Offices value and would like to the project benefits to flow in terms of: (i) First-ever "Flood Simulation Model for Ulaanbaatar city", (ii) Territorial Land Use Plan for Ulaanbaatar City with the identification of flood risks, (iii) Land Use Plans for 10 Khoroos with consideration of flood risks, and (iv) flood protection infrastructure (channels, pipe and dyke) built in the target Ger Khoroo settlements.
- *Grassroot Communities*. Organized into Primary Groups and CDCs, grassroot communities would like to see the continuation of project benefits in terms of flood

protection infrastructure and 1,133 flood resilient toilets provided in the 10 target Khoroos in Bayanzurkh, Songinokhairkhan, and Sukhbaatar Districts.

Such overwhelming interest in the continuation of FRUGA project benefits is due to an important factor. There were two massive floods in Ulaanbaatar city and its Ger Khoroo settlements on 9 June and 3 August 2023. During these floods, the flood protection channels, pipe and dyke constructed under the project were tested in real life situation. All flood protection structures worked well, which underlined the benefit of the FRUGA project outcomes for MOET, the Municipality of Ulaanbaatar city, its agencies, and the District and Khoroo Governors' Offices, and the grassroots communities.

Likewise, the flood resilient toilets built under the FRUGA project have been working well, providing continued quality of life (or urban liveability) benefits to the grassroot communities. Therefore, the various key stakeholders see that it is in their interest that project benefits continue to flow.

5.2.2.4. Is there sufficient public/stakeholder awareness in support of the project's long-term objectives?

The evaluation found there is sufficient public/stakeholder awareness in support of the FRUGA project's long-term objectives. All stakeholders and local communities in the target Ger Khoroo settlements are not only aware but also understand that the FRUGA project outcomes are in the long-term interest of the Ulaanbaatar city in general and that of the local communities in particular. Having gone through the participatory needs assessment, community action planning, and participatory implementation and monitoring under the People's Process, the organized local communities are fully aware about what it takes to build flood protection infrastructure and the flood resilient toilets, which have tremendously improved their quality of life. Their ongoing communications among Primary Groups and CDCs and their commitment to working for the improvement of local communities testifies their awareness of the long-terms objectives of FRUGA project.

5.2.2.5. Socio-political: Rating

Likely (L): There are no or negligible risks that affect this dimension of sustainability / linkages.

5.2.3. Institutional Framework and Governance: Discussion

5.2.3.1. Do the legal frameworks, policies, and governance structures and processes within which the project operates pose risks that may jeopardize sustainability of project benefits?

The legal frameworks, policies, and governance structures and processes, within which the project operates, do not pose risks that may jeopardize sustainability of project benefits, as discussed below.

***(a) Legal Frameworks*.** For the sustainability of FRUGA project benefits, one legal framework that applies directly is the post-construction role of companies that built flood protection structures (three channels, one pipeline, and one flood protection dyke). The construction companies are legally responsible for a period of three years to ensure smooth operation and conduct repair, as required. Accordingly, the 3-year period became effective once the flood protection infrastructure was handed over to the Municipality of Ulaanbaatar city. In line with this regulation, the construction companies involved in FRUGA project have been responsible to ensure smooth operation and conduct repair (as required) for three years. This regulation has made sure that the flood protection infrastructure was tested over a period of three years with relevant repairs conducted by the construction companies.

***(b) Policies*.** In cities, one of the important policies is the master plan that guides the process of urban development with a long-term perspective. Regarding the sustainability of project benefits, it is important to note that the 'Flood Risk Map' generated under the AF funded FRUGA project has been shared with the Municipality of Ulaanbaatar city for its integration into the 'Master Plan of Ulaanbaatar City for 2040', which is under preparation. There are guidelines for the preparation of Master Plan of Ulaanbaatar city, which includes the preparation of the 'Spatial Development Plan' and the 'Land Use Plan'. According to the guidelines, an Engineering Plan is attached to the Master Plan.

The GCRP Team (which used to be the FRUGA Project Team) is working with the "Urban Development Department" of the Municipality of Ulaanbaatar city to integrate the 'Flood Risk Map' (prepared under the FRUGA project) into the 'Spatial Development Plan' and the 'Land Use Plan' that are being prepared under the Master Plan for 2040.
***(c) Governance Structure*.** There are plans to reorganize the governance structure and processes within the Municipality of Ulaanbaatar city, but this reorganization may not affect the sustainability of FRUGA project benefits.

The governance structure in the Municipality of Ulaanbaatar city has three tiers: city-level, district-level, and khoroo (subdistrict) level. At present there are nine districts that include more than 200 khoroos. The City Mayor, appointed in November 2023, has led the preparation of a 'Restructuring Plan' for the Municipality of Ulaanbaatar city. According to this Plan, the current nine districts (and their khoroos) may be restructured into 40 districts. These new districts may be called "cities". However, this reorganization of governance structure may not affect the process of O&M of flood protection infrastructure built under the FRUGA project.

***(d) Governance Processes*.** There is minor risk to the sustainability of FRUGA project benefits in terms of the process of governance. Such risks may arise if the local government and/or private sector initiate and start implementing urban development projects (infrastructure and services) in the Ger Khoroo settlements without taking into account the existing flood protection infrastructure (built under FRUGA project) and the climate induced flood risks.

Recommendation. It is recommended, therefore, that proper technical assessment should be conducted before undertaking any new urban infrastructure projects in the Ger Khoroo settlements where flood protection structures have been constructed under FRUGA project. Among other things, this will require taking in account the 'Flood Risk Map' (prepared under FRUGA project) and close coordination with the Company of Geodesy and Water Construction (CGWC) that is in-charge of O&M of urban infrastructure (including flood protection facilities) in Ulaanbaatar city and its Ger Khoroo settlements.

5.2.3.2. Are requisite systems for accountability and transparency, and required technical know-how, in place?

The requisite systems for accountability and transparency are in place. The Municipality of Ulaanbaatar city would benefit immensely with further capacity development in terms of the required technical know-how.

***(a) Accountability*.** A 'citizen complaint system' on flood control is in place at the Municipality of Ulaanbaatar city. It has been functioning well and has shown that there were no complaints from citizens regarding the floods that occurred in June and August 2023. This underlined the fact that the flood protection structures have been effective in enhancing resilience in the target Ger Khoroo settlements.

(b) Transparency. The Municipality of Ulaanbaatar city has a transparent budget system. By law, the city government is mandated to share the budget information openly. Therefore, the annual budgets are uploaded on city government's website.

Information on the development works undertaken by District Governors' Offices is shared with public.

(c) Required Technical Know-how. The technical know-how of middle-level management staff and technical experts needs to be upgraded regularly. This is important because: (i) Knowledge on and skills for climate adaptation and enhancing urban resilience are continuously evolving around the world, and (ii) the middle-level management staff and technical experts are often not replaced even when the political leadership and senior-level management undergo changes particularly after local government elections.

5.2.3.3. Institutional Framework and Governance: Rating

Likely (L): There are no or negligible risks that affect this dimension of sustainability / linkages.

5.2.4. Environmental Risks and Assumptions: Discussion & Rating

5.2.4.1. Are there any environmental risks that may jeopardize sustainability of project outcomes?

(a) Climate Change Projections and their Impacts. Under FRUGA project, the "Flood simulation model development and climate change impact assessment for Ulaanbaatar city" study (UN-Habitat, 2020a) was conducted by an EE (Climate Change on Nature and Society NGO or CCNS). Based on the future GHG emissions and the related Representative Concentration Pathway (RCP) scenarios as presented in the (then) latest IPCC report, "Climate Change 2013: The Physical Science Basis" (IPCC, 2013), the study made projections for Ulaanbaatar city regarding changes in air temperature and precipitation (Table 10) for the 'near future' (2016-2035), 'mid future' (2046-2065) and 'far future' (2081-2100).

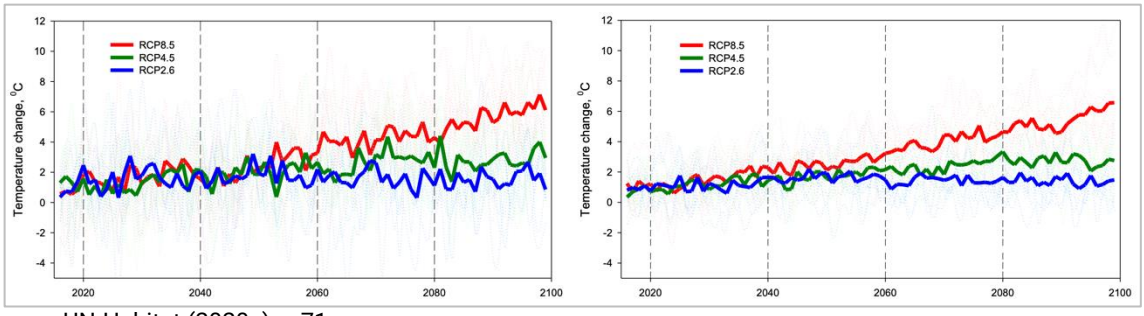
Air Temperature Projections for Ulaanbaatar city. The projections showed that the seasonal air temperature change and its intensity in Ulaanbaatar city is almost similar within 1.0 to 1.5 degree Celsius in 'near future' (2016-2035) period under all RCP scenarios. However, projections are sharply differentiated in the 'mid future' (2046-2065) and 'far future' (2081-2100) periods across the RCP scenarios (Figure 2), when seasonal temperature increase is likely to be 1.3 to 3.1 degree Celsius higher and 1.2 to 5.6 degree Celsius higher respectively (Table 10).

Table 10. Seasonal climate change projection over Ulaanbaatar city under different GHG scenarios (estimated by ensemble mean of 10 GCMs respect to 1986-2005 climate mean)

GHG scenaroius	Season	Near future, 2016-2035		Mid future, 2046-2065		Far future, 2081-2100	
		Temperature, ^{0}C	Precpitation, %	Temperature,^{0}C	Precpitation, %	Temperature,^{0}C	Precpitation, %
RCP2.6 (low emission)	Winter	1.5±0.6	9.5±8.1	1.8±0.6	16.2±8.8	1.5±0.8	13.1±11.1
	Spring	1.2±0.4	10.4±8.3	1.3±0.4	12.6±12.8	1.2±0.5	10.5±9.6
	Summer	1.0±0.3	9.2±9.6	1.6±0.3	6.2±9.8	1.4±0.3	8.3±7.0
	Autumn	1.4±0.4	5.3±10.4	1.6±0.3	7.0±10.3	1.5±0.3	6.1±10.6
RCP4.5 (mid emission)	Winter	1.2±0.5	9.7±9.2	2.1±0.6	17.9±7.7	2.8±0.7	28.3±8.7
	Spring	1.0±0.5	8.4±7.9	1.9±0.5	14.0±9.1	2.4±0.4	15.7±10.2
	Summer	1.1±0.4	2.8±6.9	2.0±0.3	7.3±8.6	2.8±0.3	4.9±10.0
	Autumn	1.1±0.3	4.9±7.7	2.2±0.3	7.8±9.2	2.7±0.3	8.1±8.2
RCP8.5 (high emission)	Winter	1.5±0.7	12.1±10.6	3.1±0.9	30.7±10.7	5.6±0.8	52.4±7.9
	Spring	1.3±0.6	8.1±10.2	2.7±0.8	17.2±7.8	4.8±0.6	26.0±10.4
	Summer	1.3±0.4	4.2±8.5	2.9±0.5	7.1±7.1	5.4±0.7	5.1±9.0
	Autumn	1.3±0.4	6.8±11.2	3.1±0.7	9.7±8.3	5.6±0.7	16±8.9

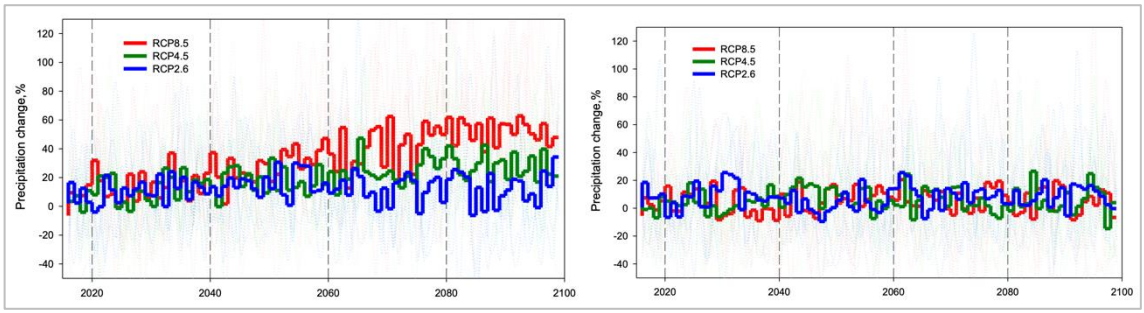
Source: UN-Habitat (2020a), p.72.

Figure 2. Future projection of air temperature over Ulaanbaatar in (a) winter and (b) summer



Source: UN-Habitat (2020a), p.71.

Figure 3. Future projection of precipitation over Ulaanbaatar in (a) winter and (b) summer



Source: UN-Habitat (2020a), p.71.

Precipitation Projections for Ulaanbaatar city. The projections show that winter precipitation increase in Ulaanbaatar city will be higher than those in summer (Figure 3). Winter precipitation is likely to increase by 9.5 to 12.1% in 'near future' (2016-2035), 16.2 to 30.7% in 'mid future' (2046-2065) and 13.1 to 52.4% in 'far future' (2081-2100) respectively depending on the RCP scenarios. Summer precipitation is likely to increase by less than 10% in all three periods (Table 10).

Overall Climate Change in Ulaanbaatar city. The projections for the seasonal climate for the three periods show that relatively high intensity warming, and high increase of precipitation is detected in winter season. For the summer season, slight increase of precipitation and high variability in temperature increase is detected.

***(b) Permafrost in Mongolia*.** A study of permafrost distribution in Mongolia under the RCP2.6 and RCP8.5 scenarios (Adiya and Erdenebat, 2021) discusses that the climate change is likely to have impact on permafrost melt in Khangai and Khentii mountains. The study does not highlight any change in permafrost distribution in Ulaanbaatar city or its surrounding region.

***(c) Earthquake Risk in Ulaanbaatar*.** A recent study (Suzuki et al, 2020) found a 50 km long fault running from northwest to southeast of Ulaanbaatar city. Named as Ulaanbaatar Fault (or UBP), this is fault is "believed to be capable of causing earthquakes with magnitudes greater than M 7 and subsequent associated damage to buildings and heavy causalities within the metropolitan area" (Suzuki et al, 2020:437). The study recommends that "building resistance requirements in Ulaanbaatar should be revised to mitigate for the potential of extensive seismic damage" (p.437).

Recommendations. It is recommended that:

1) Periodic updating of/study on the "Flood simulation model development and climate change impact assessment for Ulaanbaatar city" should be conducted every five years. This will require the involvement of the Government of Mongolia, the Municipality of Ulaanbaatar city, and NGOs like Climate Change on Nature and Society (CCNS). The IE of GCRP (UN-Habitat) should explore the possibilities of resource mobilization for the second edition of the abovementioned study.
2) The Government of Mongolia and the Municipality of Ulaanbaatar city should take in account the results from the study conducted by Suzuki et al (2020). Based on these findings, the seismic hazard map of Ulaanbaatar city-region should be revised and updated. Moreover, a new disaster risk prevention strategy of Ulaanbaatar city should be developed to improve public safety in the capital city-region. Further investigations should be conducted to identify if there are any other faults in the Ulaanbaatar city-region.

5.2.4.1. Environmental Risks and Assumptions: Rating

Likely (L): There are no or negligible risks that affect this dimension of sustainability / linkages.

5.2.5. Uncertainties on Climate Change Impacts—Baselines: Discussion and Rating)

5.2.5.1. What is the risk that vulnerability assessments, existing adaptive capacity assessments, reference and scenario development, and other assessments would be insufficient to allow interventions to be sustained or linkages to impacts analyzed?

***(a) Flood Simulation Model for Ulaanbaatar city*.** For the first time in Ulaanbaatar city, FRUGA project accomplished the following:

- Preparation of the "Flood simulation model development and climate change impact assessment for Ulaanbaatar city" study (UN-Habitat, 2020a).
- Preparation of the "Current Land Use Review for Northern Ger Areas and 10 target khoroos of Ulaanbaatar city" (UN-Habitat, 2020b). This study resulted in the development of "Land Use Plans" for 10 Khoroos with consideration of flood risks, along with the organization of two information dissemination workshops.
- Development of one "Territorial Land Use Plan" for Ulaanbaatar City with the identification of flood risks, along with the organization of two information dissemination workshops.

These documents prepared under the AF funded FRUGA project constitute the latest analysis and assessments in this regard.

***(b) Mobile Application (App) for Sharing Flood Risk Maps*.** The FRUGA project developed a mobile application (App) to share with general public the flood risk maps prepared under the AF funded project. It organized workshops to disseminate this information and validate findings.

Recommendations. It is recommended that:

1) Periodic updating of/study on the "Flood simulation model development and climate change impact assessment for Ulaanbaatar city" should be conducted every five years (as suggested above).
2) The study on "Current Land Use Review for Northern Ger Areas and 10 target khoroos of Ulaanbaatar city" should be expanded to all districts and khoroos of Ulaanbaatar city.
3) The dissemination of information in the form of flood risk maps through the smartphone application (App) prepared under the FRUGA project should be continued by the relevant public authorities.

5.2.5.2. Vulnerability assessments require value judgements, and any attempt to define and measure vulnerability must be the result of a consultative, stakeholder-driven process, rather than the result of sole technical analysis resulting in a simple metric. Was the vulnerability assessment conducted at the beginning of the project appropriate, scientifically based?

In 2017-2018, when the FRUGA project was under preparation, there was limited information or assessment on flood risks in Ulaanbaatar city, except the "Flood Risk Assessment and Management Strategy of Ulaanbaatar City" prepared by the World Bank (2015a).

***(a) Inputs to FRUGA project preparation*.** During the FRUGA project preparation exercise, IE (UN-Habitat) consulted with the Municipality of Ulaanbaatar city. The city government advised the selection of most vulnerable areas based on (i) the "Flood Risk Assessment and Management Strategy of Ulaanbaatar City" (World Bank, 2015a); (ii) the record of emergency calls on the incidents of flooding in Ulaanbaatar city and its Ger khoroo settlements; and (iii) the assessment by the District Offices' professional staff on the most vulnerable Ger khoroo settlements.

***(b) Flood Exposure Mapping*.** The FRUGA project conducted "Flood Exposure Mapping" in consultation with the grassroots communities in the Ger khoroo settlements. Communities prepared maps showing areas that started to get flooded in the recent years due to the (climate induced) increased intensity of rainfall and the lack of flood protection/control infrastructure. These "Flood Exposure Maps" included the flood protection/control facilities that existed prior to the implementation of FRUGA project.

These "Flood Exposure Maps" were used for the validation of the "Flood Simulation Model for Ulaanbaatar city" prepared under the project. Further, two flooding incidents during the summer of 2023 (on 9 June and 3 August) confirmed the results of "flood exposure assessment" conducted in consultation with the grassroots communities in the Ger khoroo settlements.

5.2.5.3. Uncertainties on Climate Change Impacts—Baselines: Rating

Likely (L): There are no or negligible risks that affect this dimension of sustainability / linkages.

5.2.6. Risks to sustainability and progress towards impacts: Overall Rating

Moderately Likely (ML): There are moderate risks that affect this dimension of sustainability / linkages.

5.3. Evaluation of Processes Influencing Achievement of Project Results

5.3.1. Preparation and Readiness: Discussion

5.3.1.1. Were the project's objectives and components clear, practical, and feasible within its time frame?

The FRUGA project's objectives and components were clear, practical, and feasible within its time frame. The project's objective was "to enhance the climate change resilience of the seven (later administratively sub-divided into 10) most vulnerable Ger khoroo settlements focusing on flooding in Ulaanbaatar City."

The project implementation commenced on 28 February 2019. The original duration of project implementation was four years until 27 February 2023. The period of four years was sufficient for the implementation of project's components, particularly considering that the construction period in Mongolia lasts only for six months.

An extension of project became necessary and unavoidable due to the COVID-19 pandemic and related lockdowns. Despite the delays, the FRUGA project needed only 10 months of extension until 31 December 2023 by which time project activities under all four components were completed effectively and efficiently.

5.3.1.2. Were the capacities of the executing entities and its counterparts properly consulted when the project was designed?

During the project design phase, UNOPS was identified as the main EE based on their qualification, capacity and experience. However, their financial proposal was found infeasible when the project implementation commenced.

Therefore, the IE openly e-advertised the procurement process for selection of the main EE. As a result of the procurement process following the United Nations' Financial and Procurement Rules and Regulations, WVIM was selected, based on its qualification, capacity and experience, as the main EE from among five candidates.

Other EEs (CCNS, UDRC, and MTTTC) were also selected during the project implementation through open competitive selection process, based on their qualification, capacity and experience, and following the United Nations' Financial and Procurement Rules and Regulations.

5.3.1.3. Were lessons from other relevant projects/programmes properly incorporated into the project design?

The FRUGA project design incorporated the findings, lessons learned and recommendations of the following projects/programmes.

a) *World Bank – "Flood Risk Assessment and Management Strategy of Ulaanbaatar City" prepared by the World Bank (2015a, 2015b)*. This study looked at 35 floods that occurred over a century (1915-2013) and found that 60% of these floods took place within the decade of 2000-2010. The study noted that 50% of these floods were of 'alluvial' type due to water flow and run-off from mountain slopes and along dry riverbeds. Moreover, Ulaanbaatar city suffers from flash floods and groundwater flooding.
b) *ADB – Managing Cities in Asia – Ulaanbaatar: Urban Renewal and Affordable Housing (2016-2017)*. This was ADB's Project Preparation Technical Assistance (PPTA) for a project development on improved housing conditions in Ulaanbaatar's Ger areas. UN-Habitat supported ADB in participatory concept and methodology development of affordable housing and urban renewal.
c) *WHO – Community Engagement for Slum Upgrading within the Health System Strategy in Songinokhairkhan District, Ulaanbaatar (2015)*. The main of UN-Habitat's support to project was to actively and meaningfully engage communities in the Ger settlements of the Songinokhairkhan district in the implementation of the Strategy of Health System Strengthening.
d) *Municipality of Ulaanbaatar city – Guidelines for Participatory Urban Development in Ulaanbaatar City (2013-2014)*. This project aimed to establish written guidelines on the process of community mobilization, organization, and strengthening which could be

readily available reference materials for the staff and officials of MUB and districts responsible for Ger area projects implementation. This project trained the key focal community leaders who would serve as trainers from the nine districts of Ulaanbaatar to establish the foundation of strong community organizations which could develop and manage projects using the community-led and participatory approach.

e) *Mongol Diving LLC – Community Engagement Support to Public-Private Partnership in New Ger Area Redevelopment in Ulaanbaatar City (2013-2015):* This community engagement component will facilitate the community engagement in the MCUD- funded project to ensure that the design and plans of the infrastructure projects are according to needs of the residents, that issues especially pertaining to making land available for the project are adequately discussed and resolved within the community.
f) *ADB – Ulaanbaatar Urban Services and Ger Areas Development Investment Programme (Ulaanbaatar Urban Renewal Community Participation) (2012-2014)*. This ADB PPTA was for the development of a 10-year Multi-tranche Financing Facility funding programme on "Ger Area Development and Investment Programme". UN-Habitat supported the PPTA in participatory planning of the required basic and social infrastructures in the selected ger areas.
g) *JICA – Community-Led Ger Area Upgrading in Ulaanbaatar City (2009-2013)*. The overall objective of the project was to improve the quality of life of five selected ger area communities through community-led upgrading by empowering the communities through their mobilization and organization. The project built on the ongoing urban development and strategic planning efforts in Ulaanbaatar city under the Cities Alliance funded "Citywide Pro-poor Ger Upgrading Strategy and Investment Plan of Ulaanbaatar" project.
h) *Cities Alliance – Citywide Pro-poor Ger Upgrading Strategy and Investment Plan (GUSIP) of Ulaanbaatar (2006-2010)*. The overall objective of the project was to prepare a Citywide Pro-poor "Ger-area Upgrading Strategy and In-vestment Plan" (GUSIP) for Ulaanbaatar through a structured consultative process, involving public sector agencies, Duureg (District) and Khoroo (Sub-District) Councils, Ger-area communities, private sector agencies, civil society organizations and non-governmental organizations. The project resulted in the preparation of the first-ever "Citywide Pro-poor Ger-area Upgrading Strategy of Ulaanbaatar City", which was adopted as an urban policy by the Ulaanbaatar City Council in July 2007.

5.3.1.4. Were the partnership arrangements properly identified and roles and responsibilities negotiated prior to project approval?

The evaluation exercise showed that the partnership arrangements were properly identified, and some roles and responsibilities were negotiated prior to project approval and some after it. The partnership arrangements were laid out and presented in the form of the "Organogram of the Project" in the FRUGA project proposal.

(a) Project Implementation Entities. UN-Habitat was the IE for the FRUGA project.

(b) Project Advisory Committee and Project Coordination Unit to Project Working and Sub-Working Groups. The project proposal included the establishment of a Project Advisory Committee and Project Coordination Unit to support of the project implementation. However, during the project's Inception Workshop held in February 2019, national partners advised to establish above two project support units in the form of a 'Project Working Group' at the subnational level and three 'Sub-Working Groups' at the target district level in line with the national working practices. As per this advice, the 'Project Working Group', headed by the General Manager of MUB, was established, and included representatives of MUB and the UN-Habitat National Project Manager. Also, District-level 'Sub-Working Groups' were established in the three target Districts. The 'Sub-Working Groups' were chaired by the respective Deputy District Governors and were comprised of specialists from the key divisions of the District Offices and Khoroo Governors of target khoroos. The organizational arrangement of 'Sub-Working Group' under the target districts' Governor's Offices was officialised in May 2019.

(c) Project Implementation Unit (PIU). PIU consisted of: (a) UN-Habitat ROAP: Human Settlements Officer – Team Leader (International 1); Programme Management Team. (b) UN-Habitat Mongolia Office: Project Manager & Gender Specialist/Focal Point (National 1), Admin and Finance Officer (National 1), and Driver (National 1).

(d) Project Execution Unit (PEU). PEU was established under the main EE and consisted of an EE Project Manager (National 1), Operations/Finance Officer (National 2), Climate Change Advisor (International 1); Community Development & Contract Advisor (International 1), a Field Engineer (National 2); Urban Planner (National 1); Social Mobilizers (National 5). The PEU was in charge of daily project implementation.

(e) Community Level Partners. At the community level, neighbourhood-level Primary Groups and subdistrict-level Community Development Councils were established. Each of these were headed by a Chair, Vice Chair, Treasurer, and Secretary.

5.3.1.5. Were climate models considered and vulnerability assessments conducted? What was the quality of the models used?

When the FRUGA project was prepared during 2017-2018, there was limited information or assessment available in terms of climate models or vulnerability assessments in Ulaanbaatar city, with the exception of "Flood Risk Assessment and Management Strategy of Ulaanbaatar City" prepared by the World Bank (2015a). Therefore, the IE utilized the following technical and strategic inputs for the preparation of FRUGA project.

(a) Inputs to FRUGA project preparation. During the FRUGA project preparation exercise, IE (UN-Habitat) consulted with the Municipality of Ulaanbaatar city. The city government advised the selection of most vulnerable areas based on:

1) "Flood Risk Assessment and Management Strategy of Ulaanbaatar City" (World Bank, 2015a).
2) The record of emergency calls on the incidents of flooding in Ulaanbaatar city and its Ger khoroo settlements.
3) The assessment by the District Offices' professional staff on the most vulnerable Ger khoroo settlements.

(b) Flood Exposure Mapping. The FRUGA project conducted "Flood Exposure Mapping" in consultation with the grassroots communities in the Ger khoroo settlements. Communities prepared maps showing areas that started to get flooded in the recent years due to the (climate induced) increased intensity of rainfall and the lack of flood protection/control infrastructure. These "Flood Exposure Maps" included the flood protection/control facilities that existed prior to the implementation of FRUGA project. These "Flood Exposure Maps" were used for the validation of the "Flood Simulation Model for Ulaanbaatar city" prepared under the project. Further, two flooding incidents during the summer of 2023 (on 9 June and 3 August) confirmed the results of "flood exposure assessment" conducted in consultation with the grassroots communities in the Ger khoroo settlements (as discussed in sub-section 5.2.5.2).

(c) Development of the Flood Simulation Model for Ulaanbaatar city. Given the fact that there were no climate change impact assessment or flood simulation model was available at the time of project design, the AF funded FRUGA project conducted the study, "Flood simulation model development and Climate change impact assessment for Ulaanbaatar city". This study resulted in the development of a Flood Simulation Model for Ulaanbaatar city, and the projection of climate change scenarios for air temperature and precipitation for the 'near future' (2016-2035), 'mid future' (2046-2065) and 'far future' (2081-2100) (as discussed in sub-section 5.2.4.1).

5.3.2. Country Ownership: Discussion

5.3.2.1. Was the project concept in line with the national sectoral and development priorities and plans of the country?

The FRUGA project concept was line with the national sectoral and development priorities and plans of Mongolia.

(a) FRUGA Project Concept's Alignment with National Sectoral and Development Priorities and Plans. The FRUGA project was aligned closely with Mongolia's strategic frameworks, including (a) the National Development Strategy, (b) the Nationally Determined Contributions, (c) the National Action Programme on Climate Change, (d) the Green Development Policy 2014-2030, and (e) the 2010 National Programme on Water.

1) *Mongolia's National Development Strategy* is strongly aligned with the SDGs and defines the country's policy. It is intended to enhance Mongolia's capacity to adapt to climate change and to reduce negative effects on the environment and people. The FRUGA project concept was aligned with the National Development Strategy because it enhanced resilience of the most vulnerable communities in Ulaanbaatar city.
2) *The Nationally Determined Contribution of Mongolia* identified a need to conduct disaster risk assessments at local- and sub-national levels and to enhance human capacity to address local climate change impacts. The FRUGA project concept responded to the need for such disaster risk assessments at the local level and built capacity of various stakeholders in Ulaanbaatar city.
3) *Mongolia's National Action Programme on Climate Change (NAPCC)* focuses on five strategic objectives, of which 4 were relevant to the FRUGA project. When the project implementation started in 2018, Mongolia entered Phase 2 of the NAPCC (2017-2021) which called for the implementation of concrete climate adaptation (and mitigation) measures. The FRUGA project concept was aligned with the NAPCC in terms of improving climate adaptation and building resilience for the most vulnerable communities exposed to climate change induced flooding in Ulaanbaatar city.
4) *The Green Development Policy (2014-2030) of Mongolia* emphasizes the need of settlement plan in accordance with climate change and resilient sanitation. The FRUGA project concept also responded to this need too by focusing on the provision of 1,133 flood resilient toilets to the most vulnerable communities in Ger khoroo settlements in Ulaanbaatar city.

5) *Mongolia's 2010 National Programme on Water* (approved in 2010) has the overall objectives: (i) the protection of water resources from deterioration and pollution, (ii) the proper use of available resources, and (iii) the creation of conditions enabling the Mongolian people to live in a healthy and safe environment. The FRUGA project contributed to the Section 3.2.10 of the 2010 National Programme on Water, which aims to "Determine impacts of climate change and land use to the water ecosystem in large river basins, ecosystem biological indicators and monitor according to the international standards". The FRUGA project concept was aligned with the National Programme on Water under its Component 1 and 2. The FRUGA project concept was also aligned with the achievement of Section 3.4 of the National Programme on Water which aims to "Introduce advanced technologies for proper utilization and conservation of water resources and recycling and treatment of used water; implementation of comprehensive flood prevention measurements."

(b) FRUGA Project Concept's Alignment with Ulaanbaatar City-level Priorities and Plans. At the city level, the FRUGA project concept was aligned with (a) the Ulaanbaatar Master Plan and Development Approach for 2030, and (b) the "Flood Risk Assessment and Management Strategy of Ulaanbaatar City" (World Bank, 2015a), as follows.

(c) *Ulaanbaatar Master Plan and Development Approach for 2030*. The FRUGA project concept was aligned with the Ulaanbaatar Master Plan and Development Approach for 2030, specifically its "Priority 1: Ulaanbaatar will be a safe, healthy and green city that is resilient to climate change," and "Priority 2: Ulaanbaatar will provide a liveable environment for its residents through appropriate land use planning, infrastructure and housing." Besides these, the Ulaanbaatar Master Plan and Development Approach for 2030 emphasises the need for flood resilient and drainage infrastructure, and the FRUGA project concept was directly aligned with this important priority.

***(d) Flood Risk Assessment and Management Strategy of Ulaanbaatar City*.** The FRUGA project concept was in line with the key strategic directions, recommendations and target areas discussed in the "Flood Risk Assessment and Management Strategy of Ulaanbaatar City" (World Bank, 2015a), including "reduce flood risk through resilient urban development, land use and waste management, protection of social infrastructure and strengthened utility services."

5.3.2.2. Are project outcomes contributing to national development priorities and plans?

The FRUGA project's outcomes contributed to the national development priorities and plans.

***(a) FRUGA Project Outcomes Contributing to National Development Priorities and Plans*.** The FRUGA project outcomes contributed to the national development priorities and plans, including (a) the National Development Strategy, (b) the Nationally Determined Contributions, (c) the National Action Programme on Climate Change, (d) the Green Development Policy 2014-2030, and (e) the 2010 National Programme on Water.

1) *Mongolia's National Development Strategy*. Aligned with SDGs, the National Development Strategy is intended to enhance Mongolia's capacity to adapt to climate change and to reduce negative effects on the environment and people. The FRUGA project outcomes contributed to the National Development Strategy as they enhanced resilience of the most vulnerable communities to climate induced flooding in target Ger khoroo settlements in Ulaanbaatar city.
2) *The Nationally Determined Contribution of Mongolia* identified a need to conduct disaster risk assessments at local- and sub-national levels and to enhance human capacity to address local climate change impacts. The FRUGA project outcomes responded directly to the need for disaster risk assessments at the local level by developing a "Flood Simulation Model for Ulaanbaatar City" (UN-Habitat, 2020a) and built capacity of various stakeholders in Ulaanbaatar city.
3) *Mongolia's National Action Programme on Climate Change (NAPCC)*. The NAPCC focuses on five strategic objectives, of which 4 were relevant to the FRUGA project. When the project implementation started in 2018, Mongolia entered Phase 2 of the NAPCC (2017-2021) which called for the implementation of concrete climate adaptation (and mitigation) measures. The FRUGA project outcomes contributed the NAPCC in terms of improving climate adaptation and building resilience for the most vulnerable communities exposed to climate change induced flooding in Ulaanbaatar city.
4) *The Green Development Policy (2014-2030) of Mongolia* emphasizes the need of settlement plan in accordance with climate change and resilient sanitation. The FRUGA project outcomes contributed to this need by providing 1,133 flood resilient toilets to the most vulnerable communities in Ger khoroo settlements in Ulaanbaatar city.
5) *Mongolia's 2010 National Programme on Water* (approved in 2010) has the overall objectives: (i) the protection of water resources from deterioration and pollution, (ii) the proper use of available resources, and (iii) the creation of conditions enabling the Mongolian people to live in a healthy and safe environment. The FRUGA project contributed to the Section 3.2.10 of the 2010 National Programme on Water, which aims to "Determine impacts of climate change and land use to the water ecosystem in large river basins, ecosystem biological indicators and monitor according to the international

standards". Under its Component 1 and 2, the FRUGA project outcomes directly contributed to the National Programme on Water. The FRUGA project outcomes also contributed towards the achievement of Section 3.4 which aims to "Introduce advanced technologies for proper utilization and conservation of water resources and recycling and treatment of used water; implementation of comprehensive flood prevention measurements."

***(b) FRUGA Project Outcomes Contributing to City-level Priorities and Plans*.** At the city level, the FRUGA project's outcomes contributed to (a) the Ulaanbaatar Master Plan and Development Approach for 2030, and (b) the Flood Risk Assessment and Management Strategy of Ulaanbaatar City, as follows:

1) *Ulaanbaatar Master Plan and Development Approach for 2030*. The FRUGA project's outcomes contributed to the Ulaanbaatar Master Plan and Development Approach for 2030, specifically its "Priority 1: Ulaanbaatar will be a safe, healthy and green city that is resilient to climate change," and "Priority 2: Ulaanbaatar will provide a liveable environment for its residents through appropriate land use planning, infrastructure and housing." Besides these, the Ulaanbaatar Master Plan and Development Approach for 2030 emphasises the need for flood resilient and drainage infrastructure, and the FRUGA project's outcomes contributed directly to this need by building flood protection infrastructure in the most vulnerable Ger khoroo settlements in Ulaanbaatar city.
2) *Flood Risk Assessment and Management Strategy of Ulaanbaatar City*. The FRUGA project outcomes contributed to the key target areas identified in the "Flood Risk Assessment and Management Strategy of Ulaanbaatar City" (World Bank, 2015a), including "reduce flood risk through resilient urban development, land use and waste management, protection of social infrastructure and strengthened utility services." This was done by providing flood protection infrastructure and flood resilient toilets in the most vulnerable Ger khoroo settlements in Ulaanbaatar city.

5.3.2.3. Were the relevant country representatives from government and civil society involved in the project/programme?

***(a) Municipality of Ulaanbaatar city (MUB)*.** The representatives of MUB were actively involved throughout the design and implementation of FRUGA project.

As advised by the national partners and based on their working practices, a 'Project Working Group' at MUB was established. The Project Working Group replaced the 'Project Advisory Committee' suggested in the FRUGA project proposal. Headed by the General Manager of MUB, the Project Working Group ensured alignment with local government regulations, environmental considerations, and the needs of the local communities in the target Ger khoroo settlements.

On behalf of MUB, the City Engineering Facilities Division (CEFD) and the Company of Geodesy and Water Construction (CGWC) were actively involved in FRUGA project design and implementation. CEFD was the 'main coordinating body' representing the 'Mayor's Office of Ulaanbaatar City'. It was involved during the entire process of project design and implementation, including infrastructure need assessment, project design, identification of infrastructure layout, procurement process (tender evaluation and selection of construction and construction-supervision companies), and the construction of flood protection infrastructure. CGWC is the municipality-owned company in-charge of O&M of flood protection infrastructure in Ulaanbaatar city.

***(b) Governor's Offices of Songinokhairkhan, Bayanzurkh, and Sukhbaatar Districts*.** To coordinate FRUGA project implementation at the district-level, a 'Sub-Working Group' was established at each of the three target districts of Songinokhairkhan, Bayanzurkh, and Sukhbaatar. The establishment of district-level Sub-Working Groups was suggested and agreed by the participants during the Inception Workshops to replace the 'Project Coordination Team' proposed in the

project proposal. The Deputy District Governors worked as Chairs of 'Sub-Working Groups' in their respective Districts. The 'Sub-Working Groups' were comprised of specialists from the key divisions of the District Offices and Khoroo Governors of target khoroos (subdistricts). The organizational arrangement of 'Sub-Working Group' under the target districts' Governor's Offices was officialised in May 2019 through the District Governor's resolutions in the Songinokhairkhan, Bayanzurkh, and Sukhbaatar Districts.

(c) Ger-area Communities in 10 Target Khoroos (subdistricts). The FRUGA project organized and mobilized grassroots communities in 10 target Ger khoroo settlements into Primary Groups and CDCs that actively participated in the various activities conducted during project design and implementation.

(d) Involvement of NGOs. The IE (UN-Habitat) involved four international and national NGOs as EEs in FRUGA project implementation. These NGOs were: World Vision International Mongolia (WVIM), Climate Change on Nature and Society (CCNS), Mongolia Taiwanese Technology Transfer Center (MTTTC), and Urban Development Resource Center (UDRC).

5.3.2.4. Has the government approved policies or regulatory frameworks in line with the project/programme's objectives?

The Government of Mongolia has approved policies and regulatory frameworks in line with FRUGA project objectives. The objective of FRUGA project was "to enhance the climate change resilience of the seven (later administratively sub-divided into 10) most vulnerable Ger khoroo settlements focusing on flooding in Ulaanbaatar City."

1) *Mongolia's National Action Programme on Climate Change (NAPCC)*. The NAPCC focuses on five strategic objectives, of which 4 were relevant to the FRUGA project. When the project implementation started in 2018, Mongolia entered Phase 2 of the NAPCC (2017-2021) which called for the implementation of concrete climate adaptation (and mitigation) measures. The FRUGA project objective was aligned to the NAPCC in terms of improving climate adaptation and building resilience for the most vulnerable communities exposed to climate change induced flooding in Ulaanbaatar city.
2) *The Nationally Determined Contribution of Mongolia* identified a need to conduct disaster risk assessments at local and sub-national levels and to enhance human capacity to address local climate change impacts. The FRUGA project objective responded directly to the need for disaster risk assessments at the local level by developing a "Flood Simulation Model for Ulaanbaatar City" (UN-Habitat, 2020a) and building capacity of various stakeholders in Ulaanbaatar city.

5.3.2.5. When appropriate, what was the role of local communities?

The local communities played a central role in the FRUGA project design and implementation. The IE and EE (WVIM) made effective application of UN-Habitat's People's Process, which included community mobilisation, organization, and Community Action Planning. UN-Habitat has developed and implemented the People's Process for the active involvement of grassroots communities in the implementation of international development projects and programmes in the Asia-Pacific region (UN-Habitat, 2011).

Through the application of UN-Habitat's People's Process, local communities played important roles in FRUGA project in six ways.

a) Participatory identification of climate induced flooding problems and participatory preparation of "Flood Exposure Maps" (as discussed in sub-section 5.2.5.2).
b) Participatory identification of beneficiaries (including women, youth, children, elderly and persons with disabilities) for flood resilient toilets.
c) Successful community engagement in the construction of flood control infrastructure (channels, pipes and dyke).

d) Successful participatory monitoring of the construction of flood control infrastructure (channels, pipes and dyke) and the installation of flood resilient toilets to neediest beneficiaries.
e) Strengthened community capacities for the replication and scaling-up of project activities.
f) Avoidance of land resettlement during the construction of flood control structures due to the successful and effective utilization of community engagement for participatory needs assessment, participatory Community Action Planning, and participatory monitoring during project implementation.

5.3.3. Stakeholder Involvement: Discussion

5.3.3.1. Did the project involve the relevant stakeholders through information sharing and consultation and by seeking their participation in project/programme design, implementation, and M&E? For example, did the project/programme implement appropriate outreach and public awareness campaigns?

The evaluation found that FRUGA project involved the relevant stakeholders through information sharing and consultation and by seeking their participation in project design, implementation, and M&E.

The IE (UN-Habitat) has been working on Ger area upgrading and development since 2005-2006. It has accumulation rich and extensive experience in implementing urban development projects where local communities have played a central role in project design and implementation (see sub-section 5.3.1.3).

Building on this rich and extensive experience, the IE and EE (WVIM) made effective application of UN-Habitat's People Process (project implementation model) in FRUGA project. The local communities in 10 target Ger Khoroo settlements were mobilized through information sharing and consultation and by seeking their participation in project design, implementation, and M&E. The mobilized communities were organized into Primary Groups and CDCs.

The community members, and their Primary Groups and CDCs contributed to FRUGA project implementation in several ways: (i) Participatory identification of climate induced flooding problems and participatory preparation of "Flood Exposure Maps". (ii) Participatory identification of beneficiaries (including women, youth, children, elderly and persons with disabilities) for flood resilient toilets. (iii) Successful community engagement in the construction of flood control infrastructure (channels, pipes and dyke). (iv) Successful participatory monitoring of the construction of flood control infrastructure (channels, pipes and dyke) and the installation of flood resilient toilets to neediest beneficiaries. (v) Avoidance of land resettlement during the construction of flood protection structures due to the successful and effective utilization of community engagement.

During the FRUGA project implementation, IE and EE (WVIM) organized 863 training sessions, workshops, and consultation meetings. A total of 12,984 community members, of which 67.2 percent were women, attended, benefitted from, and contributed to these training sessions, workshops, and consultation meetings.

5.3.3.2. Did the project consult with, and make use of, the skills, experience, and knowledge of the appropriate government entities, nongovernmental organizations, community groups, private sector entities, local governments, and academic institutions in the design, implementation, and evaluation of project/programme activities?

The FRUGA project consulted with and made use of the skills, experience and knowledge of government entities, NGOs, community groups, private sector entities, and city-level and sub-city level local governments in the design, implementation, and evaluation of project activities.

(a) Ministry of Environment and Tourism (MOET). The project consulted and took the advice of MOET, especially the Special Envoy for Climate Change, and Focal Point for Adaptation Fund. This helped in developing proper understanding of the AF requirements and the importance of climate finance for the design and implementation of the FRUGA project, especially since there were limited financial resources available for adaptation funding in Mongolia.

(b) Municipality of Ulaanbaatar city (MUB). The General Manager of MUB was the Head of the Project Working Group and provided advice on project implementation. The City Engineering Facilities Division (CEFD) and the Company of Geodesy and Water Construction (CGWC) were actively involved in FRUGA project design and implementation. CEFD was the 'main coordinating body' representing the 'Mayor's Office of Ulaanbaatar City'. It was involved during the entire process of project design and implementation, including infrastructure need assessment, project design, identification of infrastructure layout, procurement process (tender evaluation and selection of construction and construction-supervision companies), and the construction of flood protection infrastructure. CGWC is the MUB-owned company in-charge of O&M of flood protection infrastructure in Ulaanbaatar city.

(c) Non-Governmental Organizations (NGOs). Four NGOs were involved as EEs in FRUGA project implementation.

1) *World Vision International Mongolia (WVIM, an EE)*. An international NGO, WVIM was the main EE that IE engaged in FRUGA project implementation. For WVIM, FRUGA project was the first AF supported project that they were directly involved in implementing in Mongolia. WVIM contributed with their expertise, among other things, in project implementation and international and local procurement.
2) *Climate Change on Nature and Society (CCNS, an EE)*. The FRUGA project involved CCNS for the preparation of first-ever "Flood simulation model development and climate change impact assessment for Ulaanbaatar city" study. CCNS used the Weather Research and Forecasting (WRF)-Hydro model utilizing and analyzing huge amounts of climate data and went through the process of sourcing climate data from various agencies.
3) *Mongolian Taiwanese Technology Transfer Center (MTTTC, an EE)*. The FRUGA project engaged MTTTC for the development of 'Ger Khoroo (Subdistrict) level Detailed Land-use Plans', specifically targeting flood risk reduction in 10 target Khoroos (Subdistricts) in Bayanzurkh, Songinokhairkhan, and Sukhbaatar Districts.
4) *Urban Development Resource Centre (UDRC, an EE)*. The IE involved UDRC for the organization of the National-level Project Inception Workshop on 28 February 2019. The Inception Workshop provided a platform for discussing important and relevant problems and issues and provided inputs to FRUGA project implementation.

(d) Community Groups. The IE effectively applied UN-Habitat People's Process (project implementation model) for the mobilization and organization of grassroots communities in Primary Groups and CDCs. The IE built the capacity of community groups on Community Action Planning and other important issues, such disaster risk reduction and solid waste management. The community groups contributed to FRUGA project implementation in several ways: (i) Participatory identification of climate induced flooding problems and participatory preparation of "Flood Exposure Maps" (as discussed in sub-section 5.2.5.2). (ii) Participatory identification of beneficiaries (including women, youth, children, elderly and persons with disabilities) for flood resilient toilets. (iii) Successful community engagement in the construction of flood control infrastructure (channels, pipes and dyke). (iv) Successful participatory monitoring of the construction of flood control infrastructure (channels, pipes and dyke) and the installation of flood resilient toilets to neediest beneficiaries. (v) Avoidance of land resettlement during the construction of flood control structures due to the successful and effective utilization of community engagement for participatory needs assessment, participatory Community Action Planning, and participatory monitoring during project implementation.

This evaluation found that the community groups organized under the FRUGA project are still functioning, i.e., after project completion. They have been utilizing the social media groups, which were set up during the COVID-19 pandemic, to communicate with each other and discuss the local development issues and tackle them collectively. They are utilizing the community capacities built through training sessions and Community Action Planning meetings organized during the FRUGA project implementation.

***(e) Private Sector Entities*.** Through EE (WVIM), the FRUGA project partnered with four private sector entities (design and construction companies) to design and build flood protection infrastructures and supervise the construction process.

Spirit of Collaboration. This evaluation found a 'spirit of collaboration' among the IE, EEs, community groups, private sector entities, and the national and local project partners.

a) The IE, the EE (WVIM), community groups, and the private sector entities, along with the government partners, worked collaboratively throughout FRUGA project implementation.
b) Community groups learned how IE, EE and the private sector entities worked for the construction of flood protection infrastructure. The private sector entities expressed that the structured consultation with community groups (organized through UN-Habitat's People's Process) was helpful in revolving minor but irritable issues (such as the day-to-day storage of building material in the right-of-way of roads and streets) that come up during construction process.
c) The EE (WVIM) was first time exposed to and administered UN-Habitat's People's Process for the holistic mobilization, organization and engagement of local communities towards their active participation in project implementation.
d) For IE (UN-Habitat), which has been working actively in Mongolia since 2005-2006, the FRUGA project provided an opportunity to work with a new set of partners, such as WVIM, CCNS, MTTTC, UDRC, and the design and construction companies, especially towards enhancing resilience for local communities that were most vulnerable to climate induced flooding.
e) For MOET and AF in Mongolia, the FRUGA project was the first urban development sector project which build flood protection infrastructure, enhanced resilience to climate induced flooding, and conducted highly important studies, such as the "Flood simulation model development and climate change impact assessment for Ulaanbaatar city" which will be useful for city as a whole.

5.3.3.3. Were perspectives of those who would be affected by project decisions, those who could affect the outcomes, and those who could contribute information or other resources to the process, taken into account while taking decisions?

While taking decisions, the FRUGA project took into account the perspectives of those who would be affected by project decisions, those who could affect the outcomes, and those who could contribute information or other resources to the process.

(a) Perspectives of those who would be affected by project decisions. These stakeholders were the local communities in the 10 target Ger khoroo settlements. Three district-level CDCs were established, one each in Bayanzurkh, Songinokhairkhan and Sukhbaatar districts. The Primary Group leaders and members, and CDC leaders and members were provided training in Community Action Planning as well as in other matters of local development, such as disaster risk reduction and solid waste management. Primary Groups and CDCs were actively involved in the process of (i) Participatory identification of climate induced flooding problems and participatory preparation of "Flood Exposure Maps", which were validated through the preparation of the Flood Simulation Model for Ulaanbaatar city; (ii) Participatory identification of beneficiaries (including women, youth, children, elderly and persons with disabilities) for flood resilient toilets; (iii) Successful community engagement in the construction of flood protection infrastructure (channels, pipes and dyke); and (iv) Successful participatory monitoring of the construction of flood protection

infrastructure (channels, pipes and dyke) and the installation of flood resilient toilets for neediest beneficiaries.

(b) Perspectives of those who could affect project outcomes. These stakeholders included MOET, the Municipality of Ulaanbaatar city (MUB), and District Governor's Offices and Khoroo Governor's Offices.

(i) MOET advised the IE on the AF requirements and the importance of climate finance for the design and implementation of the FRUGA project, especially since there were limited financial resources available for adaptation funding in Mongolia.
(ii) MUB and its City Engineering Facilities Division (CEFD) and the Company of Geodesy and Water Construction (CGWC) were actively involved throughout the process of project design and implementation. The Project Working Group, headed by the General Manager of MUB, ensured the project's alignment with local government regulations, environmental considerations, and the needs of the local communities in the target Ger khoroo settlements.
(iii) District Governor's Offices of Bayanzurkh, Songinokhairkhan and Sukhbaatar districts were involved in FRUGA project implementation as the Deputy District Governors acted as the Chairs of 'Sub-Working Groups' in their respective districts and provided strategic and operational advice in project implementation at the district level.
(iv) Khoroo Governor's Offices provided operational inputs and support to project implementation at the Ger khoroo level and provided office space for the organization of meetings.

(c) Perspectives of those who could contribute information or other resources. The stakeholders who contributed information and/or other resources included MUB and its City Engineering Facilities Division (CEFD) and Company of Geodesy and Water Construction (CGWC), District Governor's Offices, Khoroo Governor's Offices, local communities and their Primary Groups and CDCs, the four EEs, and the private sector entities (i.e., design and construction companies).

5.3.3.4. Were the relevant vulnerable groups (including women, children, elderly, disabled, poor) and powerful supporters and opponents of the processes properly involved?

The FRUGA project involved the relevant vulnerable groups (including women, children, elderly, persons with disability, poor) and powerful supporters and opponents of the various process.

***(a) Involvement of Vulnerable Groups through the People's Process*.** Through the application and utilization of UN-Habitat's People's Process (project implementation model), the FRUGA project involved all members of local community, including women, youth, elderly, children, persons with disability, and the poor. The local communities in the 10 target Ger khoroo settlements, mobilized and organized as Primary Groups and CDCs, contributed their knowledge on local development, their experience of flooding incidents and their impact on local communities, their time, and their commitment to addressing local flooding problems.

The organized local communities proved themselves to the strong supporters of FRUGA projects and its various stages of implementation, including (i) participatory identification of climate induced flooding problems and participatory preparation of "Flood Exposure Maps"; (ii) participatory identification of beneficiaries for the installation of flood resilient toilets; (iii) sharing information and experiences with the design and construction companies that built the flood protection infrastructure (channels, pipes and dyke); and (iv) participatory monitoring of the construction of flood protection infrastructure and the installation of flood resilient toilets to neediest beneficiaries.

***(b) Involvement of Powerful Supporters – MUB, its Agencies, and District and Khoroo Governors' Offices*.** The powerful supporters of FRUGA project were MUB, its City Engineering Facilities Division (CEFD) and the Company of Geodesy and Water Construction (CGWC), who were

involved throughout project design and implementation. The official representatives of CEFD and CGWC were involved during the entire process of project design and implementation, including infrastructure need assessment, project design, identification of infrastructure layout, procurement process (tender evaluation and selection of construction and construction-supervision companies), and the construction of flood protection infrastructure. District Governor's Offices of Bayanzurkh, Songinokhairkhan and Sukhbaatar districts were involved in FRUGA project implementation. The Deputy District Governors acted as the Chairs of 'Sub-Working Groups' in their respective districts and provided strategic and operational advice in project implementation at the district level. Khoroo Governors' Office provided operational inputs and support to project implementation at the Ger khoroo level.

***(c) Involvement of Powerful Opponents*.** The powerful opponents of project were those households whose residential plots were located in and/or along the alignment of the flood protection infrastructure to be built. They did not want the flood protection infrastructure (pipes or dyke) to go across their plot boundary (called 'Khashaa', often made of wooden planks). This is where the local communities organized into Primary Groups and CDCs because powerful supporters. Through consultation and negotiation, the Primary Groups helped to integrate these households' concerns in project implementation. These households, whose residential plots were located in and/or along the alignment of the flood protection infrastructure to be built, temporarily moved their plot boundaries (Khasaas, often made of wooden planks) to provide access for laying the flood protection/drainage pipes and dyke. Thus, IE and EE (WVIM) were able to involve successfully the powerful opponents of FRUGA project.

5.3.3.5. Were gender balance perspectives of those affected and involved in the project/programme assessed?

The FRUGA project proposal noted that "Although Mongolian women play a key and vital role in community and khoroo level planning and implementation activities, they are under-represented in higher level government, institutional and political decision-making levels." Therefore, the gender balance perspectives of those affected by and involved in FRUGA project were assessed. This was achieved through the following activities:

(a) Preparation of FRUGA Project's Gender Approach (in compliance with AF Gender Policy & Action Plan). The FRUGA project's Gender Approach recognized women as "agent of change" in building community resilience. Accordingly, the project adopted the following approaches for achieving gender balance, equality, equity, mainstreaming, responsiveness and sensitivity.

(i) *Gender Objectives of FRUGA Project*. The 'gender objectives' for the project were specified: (a) To improve gender equality within the target 10 Ger khoroo settlements; and (b) To promote gender empowerment and women's leadership within the project implementation and within decision making bodies.

(ii) *Project's Gender Focal Point*. The National Project Manager of the IE (UN-Habitat) team was designated as FRUGA project's Gender Focal Point to ensure the achievement of 'gender objectives' and address gender issues arising during project implementation.

(iii) *Capacity Building Strategy*. The CDCs, established as part of the People's Process, aimed for gender equality in the composition of training participants. During the FRUGA project implementation, IE and EE (WVIM) organized a total of 863 training sessions, workshops, and consultation meetings. A total of 12,984 community members, of which 67.2 percent were women, attended, benefitted from, and contributed to these training sessions, workshops, and consultation meetings.

***(b) Equal participation of women in community mobilisation, organization and representation*.** The application of UN-Habitat's People's Process led to the mobilization and organization of local communities in the 10 target Ger khoroo settlements. The local communities were mobilized and organized into a total of 144 Primary Groups representing 1827 households and 7508 population.

A total of 985 women members represented their households in the target Ger area communities. The majority of "Primary Group" membership (53.9 percent) and of the "Community Development Councils" (64.7 percent) was that of women; 278 CDC members were women. Further, 212 women (49.4%) held leadership positions in Primary Groups. Thus, the project ensured equal participation of women in community mobilisation, organization and representation.

5.3.4. Financial Management: Discussion

5.3.4.1. Did the project have the appropriate financial controls, including reporting and planning, that allowed management to make informed decisions regarding the budget and allowed for timely flow of funds?

The FRUGA project had the appropriate financial controls, including reporting and planning, that allowed management to make informed decisions regarding the budget and allowed for timely flow of funds.

The implementation of various activities under the four components of FRUGA project was completed in strict adherence to the United Nations' Financial and Procurement Rules and Regulations.

5.3.4.2. Was there due diligence in the management of funds and financial audits? Financial audits of the project, if available at the time of the evaluation, should be used as a source of information.

The FRUGA project was implemented with due diligence in the management of funds and financial audits, as follows.

The IE (UN-Habitat) followed the United Nations' Financial and Procurement Rules and Regulations for due diligence in the management of funds. Note: In United Nations, an external audit is required when a contract cost with a partner exceeds US$100,000. All EE engaged with the cost exceeding US$100,000 had financial audits. In case of WVIM, three financial audits were conducted during the life span of the project.

5.3.5. Implementing Entity Supervision and Backstopping: Discussion

5.3.5.1. Did Implementing Entity staff identify challenges in a timely fashion and accurately estimate their significance?

The evaluation found that the IE staff identified the various challenges in a timely fashion and accurately estimated their significance. Moreover, the IE staff responded to and addressed these challenges in a timely manner by making effective use of adaptive management, as discussed below.

***(a) Selection of the main EE for the Implementation of FRUGA project*.** During the project design phase, UNOPS was identified as the main EE based on their qualification, capacity and experience. However, their financial proposal was found infeasible when the project implementation commenced. Therefore, the IE staff decided to open the procurement process and e-advertised inviting applications for the for selection of the main EE. As a result of the procurement process following the United Nations' Financial and Procurement Rules and Regulations, WVIM was selected, based on its qualification, capacity and experience, as the main EE from among five candidates. The contract with WVIM as an EE for Component 3 commenced on 19 August 2019.

***(b) Changes in the FRUGA Project Organogram*.** The FRUGA project proposal had suggested the establishment of a 'Project Advisory Committee'. However, when the project implementation commenced, the national partners advised (based on the national working practices) to establish a 'Project Working Group' at MUB. Headed by the General Manager of MUB, the Project Working

Group ensured alignment with local government regulations, environmental considerations, and the needs of the local communities in the target Ger khoroo settlements.

At the district-level, a 'Sub-Working Group' was established at the District Governor's Offices of three target districts, viz. Songinokhairkhan, Bayanzurkh, and Sukhbaatar. This organization arrangement was suggested by the participants during the Inception Workshops to replace the 'Project Coordination Team' proposed in the FRUGA project proposal. The District Deputy Governors worked as the Chairs of 'Sub-Working Groups' in their respective districts. The 'Sub-Working Groups' were comprised of specialists from the key divisions of the District Offices and Khoroo Governors of 10 target khoroos. The 'Sub-Working Group' under the target district's Governor's Office was officialised in May 2019 through the District Governor's resolutions in the Songinokhairkhan, Bayanzurkh, and Sukhbaatar Districts.

(c) Inclusion of Output 4.3: "Bringing Global Knowledge on best practices to in-country Implementing Partners and communities, customized widely used appropriate tools on adaptation building local capacity." The IE included Output 4.3 in the FRUGA project in response to the following factors. During the Inception Workshop conducted in February 2019 with the support of UDRC (an EE) and during consultations with the government partners, it became clear that there was a greater need to implement a 'Comprehensive Knowledge Management Strategy' aiming at multi-level stakeholders bringing international expertise under the different components in a more integrated manner. The objective was to address the knowledge gaps on climate change and resilience at different levels, including among government partners and communities. This required inputs from global experience integrating into the local context, customizing widely used tools and peer reviews on flood resilience action plans, guideline documents, etc. Similarly, it was realised that the outcomes of 'Comprehensive Knowledge Management Strategy' should inform the development of regional and global capacity development tools and normative products. Therefore, the IE established a separate outcome incorporating the international experts' inputs under the new 'Output 4.3' that links to all other project outputs. Accordingly, Outputs of 1.1-d, 1.2-b, 2.1-d, 2.2a Subcomponent 1 were moved to Output 4.3.

(d) 'Business Continuity Plan' during COVID-19 Pandemic and related Lockdowns. During the lockdowns enforced during the COVID-19 pandemic, the 'work-from-home' modality was applied to all PIU, PEU, and IP team members to mitigate COVID-19 infection risks for the project staff. Online training and consultation modalities were also applied to organizing community and stakeholders' consultations and training sessions. The IE prepared a 'Business Continuity Plan', and updated it, as and when required. With these arrangements, the IT and the whole FRUGA project team implemented the various planned activities. This was achieved despite the fact that 61% of FRUGA project team members were infected with COVID-19 at different points during project implementation.

(e) Re-alignment of Flood Protection/Drainage Infrastructure. Due to unforeseen circumstances, in March 2020, IE (UN-Habitat) had to request approval from AFB to change the alignment of a flood protection infrastructure under Output 3.1 that was planned in Khoroo 40 of Songinokhairkhan District. This was because in 2017, the initial plan of the ADB's 'Ger Area Development Investment Programme' was to construct a thermal plant to serve the Bayankhoshuu Sub-centre in Khoroo 9 area. However, it was changed in 2019 to the construction of heating pipelines across Khoroo 7 to connect Bayankhoshuu Sub-centre to the central heating system in place of constructing the proposed thermal plant. Hence, along with the submission of first PPR in March 2020, IE (UN-Habitat) requested approval from AFB to change the alignment of the flood protection/drainage infrastructure planned in Khoroo 40 under Output 3.1. The AFB approved this change in September 2020.

5.3.5.2. Did Implementing Entity staff provide quality support and advice to the project, approve modifications in time, and restructure the project when needed?

The IE staff provided quality support and advice to the FRUGA project, approved modifications in time, and restructured certain project activities when it was in the interest of the project objective. The IE core staff included: (i) International staff: UN-Habitat Team Leader (part-time) based at UN-Habitat ROAP-Fukuoka; (ii) National staff: Project Manager (full-time), Admin and Finance Officer (full-time), all based at the UN-Habitat Mongolia Office, Ulaanbaatar.

On six occasions, the IE core staff approved project modifications and/or requested and secured approval of AFB, when restructuring of the project was required, as follows.

a) Selection of the main EE for the implementation of FRUGA project.
b) Changes in the FRUGA project organogram.
c) Inclusion of Output 4.3: "Bringing Global Knowledge on best practices to in-country Implementing Partners and communities, customized widely used appropriate tools on adaptation building local capacity."
d) 'Business Continuity Plan' during COVID-19 pandemic and related lockdowns.
e) Re-alignment of flood protection/drainage infrastructure.
f) No-cost extension to complete the planned activities delayed due to Covid impacts.

These six points are discussed in detail in Sub-section 5.3.5.1 above.

5.3.5.3. Did the Implementing Entity provide the right staffing levels, continuity, skill mix, and frequency of field visits for the project?

The IE provided the required staffing levels, continuity, skill mix, and frequency of field visits for the project, except for the implementation of the 'Comprehensive Knowledge Management Strategy' that needed higher budget allocation.

For cost-efficient implementation of FRUGA project, the IE provided the following full-time staff and part-time consultants.

***(a) IE Core Staff*.** The UN-Habitat Team Leader (International, part-time), based at UN-Habitat ROAP-Fukuoka, supervised the project. The Project Manager (National, full-time), based at UN-Habitat Mongolia Office in Ulaanbaatar, oversaw the day-to-day implementation of the project. The Admin and Finance Officer (National, full-time), based at UN-Habitat Mongolia Office in Ulaanbaatar, dealt with admin and financial matters of the project.

***(b) IE Consultant*.** The IE hired part-time consultants to conduct midterm and final project evaluation of the project.

Given the limitation of budget allocation, the IE worked with this bare minimum staff to implement the FRUGA project.

***(c) Implementing the Comprehensive Knowledge Management Strategy*.** While the FRUGA project achieved its overall objective and accomplished various outputs/outcomes, it could have done much better in terms of:

(i) Documenting the project implementation process, which was very systematic and output/outcome oriented.
(ii) Producing various kind of knowledge products (more than it did).
(iii) Publishing the knowledge products (more than it did).
(iv) Disseminating the knowledge products (more than it did).

Discussions with the IE revealed that they "focus on achieving project objectives, outputs and outcomes, and less in terms of showing-off of results achieved". The first part is a commendable commitment. However, in today's world, when in many cases little work is done and more noise is made, it is important that when an important and *avant garde* climate adaptation initiative and endeavour like FRUGA project achieves its objective and accomplishes it outputs and outcomes,

it becomes important to document the implementation process, and produce publish knowledge products, and disseminate them as widely as possible.

This evaluation found that perhaps the budget allocation for the implementation of the project's 'Comprehensive Knowledge Management Strategy' was lesser than what would have been sufficient for the purpose. Therefore, this is an important lesson to be learned for future AF (and other) projects/programmes in Mongolia (and beyond).
Recommendation. In future AF funded projects, more funds should be allocated for implementation of a project's 'Comprehensive Knowledge Management Strategy', that includes the (i) documentation of project implementation process, (ii) production and publication (online and offline) of knowledge products, and (iii) their dissemination.

5.3.6 Delays in Project Start-up and Implementation: Discussion

5.3.6.1. If there were delays in project implementation and completion, what were the reasons?

The COVID-19 pandemic and related lockdowns were the main reason behind the delay in the implementation and completion of FRUGA project. However, this delay was of 10 months.

The original completion date of FRUGA project was 27 February 2023. Due to the COVID-19 pandemic and related lockdowns, the AF Board approved an extension of 10 months. Therefore, FRUGA project implementation was completed by the extended date of 31 December 2023 by which time project activities under all four components were completed.

5.3.6.2. Did the delays affect project outcomes and/or sustainability, and, if so, in what ways and through what causal linkages?

The 10-month delay in the completion of FRUGA project did not affect project outcomes and/or sustainability. All project activities under the project four components were completed effectively and efficiently by the extended project completion date of 31 December 2023.

The project's extended date (31 December 2023) of completion helped in the (unplanned) testing of the flood protection infrastructure built under the FRUGA project. Ulaanbaatar city and its Ger khoroo settlements received heavy rainfall on 9 June and 3 August 2023. During this rainfall events, the flood protection infrastructure, which was built under FRUGA project, worked well and no complaints or emergency calls were received by MUB's Water Structure and Geodesy Company from the target Ger khoroo settlements. According to the representative of Water Structure and Geodesy Company, this was an indirect confirmation that the flood protection infrastructure built under the AF funded project was successful in draining the rainwater in the summer of 2023.

5.4. Evaluation of Contribution of Project Achievements to the Adaptation Fund Targets, Objectives, Impact, and Goal: Elements and Ratings

5.4.1. Contributions towards AF Goal: Discussion

[AF Evaluation Guideline: Assessment of results from other sections should be used to further discussions in this section.]

AF Goal: "Assist developing-country *Parties to the Kyoto Protocol* that are particularly vulnerable to the adverse effects of climate change in meeting the costs of concrete adaptation projects and programmes, in order to implement climate-resilient measures" (Adaptation Fund, 2010, p.14).

5.4.1.1. Was the project designed and implemented in and by a developing-country *Party to the Kyoto Protocol* that is particularly vulnerable to adverse effects of climate change?

The FRUGA project was designed and implemented in and by a developing-country *Party to the Kyoto Protocol*. Mongolia ratified the Kyoto Protocol on December 15, 1999.

Mongolia is particularly vulnerable to adverse effects of climate change and extreme weather events, including droughts, flash flooding and harsh winters (called *Dzud*). Mongolia's capital, Ulaanbaatar, which is also the coldest capital city in the world, has been affected by harsh winters and climate induced flash flooding. A study looked at 35 floods that occurred over a century (1915-2013) and found that 60% of these floods took place within the decade of 2000-2010 (World Bank, 2015a). The report noted that 50% of these floods were of 'alluvial' type due to water flow and run-off from mountain slopes and along dry riverbeds.

The FRUGA project directly addressed the problem of climate adaptation with the objective "to enhance the climate change resilience of the seven (later administratively sub-divided into 10) most vulnerable Ger khoroo settlements focusing on flooding in Ulaanbaatar City."

5.4.1.2. Through this project, would the country be able to achieve concrete adaptation measures and increase its resiliency? If yes, how? What have been the main challenges or risks to attain increased resilience?

Through FRUGA project, Mongolia would be able to achieve concrete adaptation measures and increase its resiliency. The project has been able to make significant contribution at both city and sub-city levels.

***(a) Concrete Adaptation Measures*.** The contributions of FRUGA project have been able to achieve concrete adaptation measures at both city and sub-city levels, as follows.

1) *Flood Protection Infrastructure for Most Vulnerable Communities*. The AF funded FRUGA project built five flood protection structures with a total length of 4.517 km (or 4,517 metres), including two drainage channels and one underground drainage pipeline in 40th Khoroo of Songinokhairkhan District, and one drainage channel and one flood prevention (retention) dyke in 9th Khoroo of Bayanzurkh District. As a result of these adaptation measures, 221 hectares of land in Ger khoroo settlements is now protected from climate change induced flooding. The flood protection structures were tested and proven effective during the heavy flooding that occurred in the summer of 2023 in Ulaanbaatar city. The flood protection infrastructure has been handed over to MUB. The Company of Geodesy and Water Construction (CGWC) under MUB is responsible for O&M of flood protection infrastructure.

   Main Risk. The main risk is that if there is not sufficient annual budget allocation by MUB to the Company of Geodesy and Water Construction (CGWC), which is responsible for O&M of flood protection infrastructure (built under FRUGA project), the latter may fall into disrepair.

2) *Improved Flood Resilient Toilets*. The FRUGA project provided 1,133 flood resilient toilets to most vulnerable households (including those with elderly and persons with disability) in the 10 target Ger khoroos (subdistricts). Thus, a total of 8,707 most vulnerable people living in these Ger khoroo settlements have benefitted from the concrete adaptation measure of providing climate-resilient and gender-responsive sanitation facilities (i.e., improved flood resilient toilets).

   Main Risk. There is no clear risk to the O&M of improved flood resilient toilets because the beneficiary households value them and are committed to maintaining them now and in the future.

***(b) Increasing Resilience at City and Sub-city Levels*.** The FRUGA project has contributing to increasing resilience at the Ulaanbaatar city and sub-city or District (*Duureg*) and Subdistrict (*Khoroo*) levels.

1) *First-ever Flood Simulation Model of Ulaanbaatar city*. The AF funded FRUGA project conducted the study, "Flood simulation model development and climate change impact assessment for Ulaanbaatar city" (UN-Habitat, 2020a). This study resulted in the development of the first-ever Flood Simulation Model for Ulaanbaatar city, and the projection of climate change scenarios for air temperature and precipitation for the 'near future' (2016-2035), 'mid future' (2046-2065) and 'far future' (2081-2100) (as discussed in detail in sub-section 5.2.4.1). This contribution of FRUGA project would help the Municipality of Ulaanbaatar city (MUB) and its partners to integrate the future climate change scenarios for air temperature and precipitation into urban policies, strategies, Master Plan and other relevant plans and, in turn, increase resilience at city and sub-city levels.

   Main Challenges. There are two main challenges here. First, the Municipality of Ulaanbaatar city (MUB) need to integrate the future climate change scenarios for air temperature and precipitation (prepared under FRUGA project) into the relevant urban policies, strategies, Master Plan and other plans at city and sub-city levels.

   Second, the Mongolia National Agency for Meteorology and Environmental Monitoring (NEMHEM) should include a section on the urban context in its periodic climate change and impact assessment processes. Building on the first-ever Flood Simulation Model developed for Ulaanbaatar city, NEMHEM should work with MOET, the Ministry of Construction and Urban Development, the Municipality of Ulaanbaatar city (MUB) and other national and local stakeholders, to periodically update the flood simulation model and climate change impact assessment for Ulaanbaatar city.

2) *Flood Risk Map of Ulaanbaatar city*. The AF funded FRUGA project developed the Flood Risk Map of Ulaanbaatar city, which has been shared with the Municipality of Ulaanbaatar city (MUB) for its integration into the 'Master Plan of Ulaanbaatar City for 2040' that is under preparation. There are guidelines for the preparation of Master Plan of Ulaanbaatar city, which includes the preparation of the 'Spatial Development Plan' and the 'Land Use Plan'. According to the guidelines, an Engineering Plan is attached to the Master Plan. The Urban Development Department of MUB should integrate the 'Flood Risk Map' (prepared under FRUGA project) into the 'Spatial Development Plan' and the 'Land Use Plan' that are being prepared under the 'Master Plan of Ulaanbaatar City for 2040'. This would contribute immensely to enhancing resilience in Mongolia's capital at both city and sub-city levels.

   Main Risk. The main risk is that if the Flood Risk Map is ignored or not integrated into the 'Spatial Development Plan' and the 'Land Use Plan' under the 'Master Plan of Ulaanbaatar City for 2040' and, in turn, the urban development process is not guided accordingly. In that avoidable scenario, urban development will continue to take place in flood risk areas in Mongolia's capital city. Such a scenario would fail to enhance resilience not only for the Ulaanbaatar city and its infrastructure, but also for its growing population.

3) *Smartphone Application (App) for Sharing Flood Risk Maps*. The FRUGA project developed a mobile application (App) to share with general public the flood risk maps (prepared under the project) and, thus, build public awareness of the flood risk areas in Ulaanbaatar city. The project organized workshops to disseminate the flood risk information and validate findings. If the smartphone application and its usage were made public, this would go a long way to enhance resilience by building public awareness of flood risk

areas so that people can avoid settling or buying land in such areas and take protective measures from potential flooding in case they (already) live in flood risk areas.
Main Risk. The main risk is that if the smartphone application (developed under the project) and its usage is not made public, members of the general public may keep settling, buying land or continuing to live in flood risk areas. This would result in more people exposed to climate change induced risks and hazards.

3) *Flood Risk Maps of Northern Ger Areas and 10 Target Ger Khoroo Settlements*. The FRUGA project developed the flood risk maps of 'northern Ger areas' and 10 target Ger khoroos (subdistricts) in Ulaanbaatar city using the 'Flood Simulation Model' and 'Climate Change Impact Assessment'. The flood risk maps for the 10 target khoroo settlements have already been useful in the planning, design and construction of flood protection infrastructure (channels, pipes and dyke) of concrete adaptation measures. The integration of these flood risk maps into urban policies, strategies and plans would further enhance resilience in Ulaanbaatar city at multiple levels.

   Main Challenge. There are two main risks here as discussed under "First-ever Flood Simulation Model of Ulaanbaatar city" (see sub-section 5.4.1.2 (b), para 1 above).

5.4.1.3. Contributions towards AF Goal: Rating

Highly Satisfactory (HS): The project/programme has made clear contributions to the Adaptation Fund targets, objectives, impact, and goal.

5.4.2. Contributions towards AF Impact: Discussion and Rating

[AF Evaluation Guideline: Assessment of results from other sections should be used to further discussions in this section.]

5.4.2.1. Contributions towards AF Impact: Discussion

AF Impact: "Increased resiliency at the community, national, and regional levels to climate variability and change" (Adaptation Fund, 2010, p.14).

Were the project's results increasing resilience at the community, national, and/or regional levels to climate variability and change? If yes, how? What have been the main challenges or risks to attain increased resilience?

The FRUGA project's results increased resilience at the community and city levels to climate variability and change. Moving forward, the project's results could also contribute potentially to enhancing urban resilience at the national level to climate variability and change.

***(a) Increasing Resilience at Community Level*.** This evaluation found that the effective application of UN-Habitat's People's Process resulted in increased resilience at the community level in the 10 target Ger khoroo settlements in Bayanzurkh, Songinokhairkhan and Sukhbaatar districts of Ulaanbaatar city. The process began with the mobilization and organization of grassroots communities in Primary Groups within 10 target Ger khoroo settlements. These Primary Groups were federated under three district-level CDCs in Bayanzurkh, Songinokhairkhan and Sukhbaatar districts. Under the project, the Primary Groups and CDCs received training and capacity building support on Community Action Planning, and other important development subjects, such disaster risk reduction and solid waste management. The direct engagement of Primary Groups and CDCs in the various project activities further built their capacity to collectively discuss local development issues, collectively approach relevant authorities and present their problems and, thus, collectively find solutions to such issues as they arise from time to time.

Main Challenges. This evaluation found there are two main challenges moving forward. First challenge is the sustainability of the Primary Groups and CDCs after the completion of FRUGA project. The field visits to target Ger khoroo settlements and semi-structured interviews with community leaders showed that the Primary Groups and CDCs organized under the FRUGA project are still functioning, i.e., after project completion. They have been utilizing the social media groups, which were set up during the COVID-19 pandemic, to communicate with each other and discuss the local development issues and tackle them collectively. The Primary Groups and CDCs have been utilizing their hands-on experience and capacities built through training sessions and Community Action Planning sessions organized during the FRUGA project implementation.

Second challenge, which is more difficult than the first, is the sustainability of the Primary Groups' and CDCs' capacities built during the FRUGA project implementation. This requires continuous upgrading and updating of community groups' capacities.

***(b) Increasing Resilience at City-level*.** The FRUGA project's results increased resilience at the city level to climate variability and change.

1) *First-ever Flood Simulation Model of Ulaanbaatar city*. The AF funded FRUGA project conducted the study, "Flood simulation model development and climate change impact assessment for Ulaanbaatar city" (UN-Habitat, 2020a). This study resulted in the development of the first-ever Flood Simulation Model for Ulaanbaatar city, and the projection of climate change scenarios for air temperature and precipitation for the 'near future' (2016-2035), 'mid future' (2046-2065) and 'far future' (2081-2100) (as discussed in detail in sub-section 5.2.4.1). This contribution of FRUGA project would help the Municipality of Ulaanbaatar city (MUB) and its partners to integrate the future climate change scenarios for air temperature and precipitation into urban policies, strategies, Master Plan and other relevant plans and, in turn, increase resilience at city and sub-city levels.

   Main Challenges. There are two main challenges here. First, the Municipality of Ulaanbaatar city (MUB) need to integrate the future climate change scenarios for air temperature and precipitation (prepared under FRUGA project) into the relevant urban policies, strategies, Master Plan and other plans at city and sub-city levels.

   Second, building on the first-ever Flood Simulation Model developed for Ulaanbaatar city, NEMHEM should work with MOET, the Ministry of Construction and Urban Development, the Municipality of Ulaanbaatar city (MUB) and other national and local stakeholders, to periodically update the flood simulation model and climate change impact assessment for Ulaanbaatar city.

2) *Flood Risk Map of Ulaanbaatar city*. The AF funded FRUGA project developed the Flood Risk Map of Ulaanbaatar city, which has been shared with the Municipality of Ulaanbaatar city (MUB) for its integration into the 'Master Plan of Ulaanbaatar City for 2040' that is under preparation. There are guidelines for the preparation of Master Plan of Ulaanbaatar city, which includes the preparation of the 'Spatial Development Plan' and the 'Land Use Plan'. According to the guidelines, an Engineering Plan is attached to the Master Plan. The Urban Development Department of MUB should integrate the 'Flood Risk Map' (prepared under FRUGA project) into the 'Spatial Development Plan' and the 'Land Use Plan' that are being prepared under the 'Master Plan of Ulaanbaatar City for 2040'. This would contribute immensely to enhancing resilience in Mongolia's capital at both city and sub-city levels.

   Main Risk. The main risk is that if the Flood Risk Map is ignored or not integrated into the 'Spatial Development Plan' and the 'Land Use Plan' under the 'Master Plan of Ulaanbaatar City for 2040' and, in turn, the urban development process is not guided accordingly. In

that avoidable scenario, urban development will continue to take place in flood risk areas in Mongolia's capital city. Such a scenario would fail to enhance resilience not only for the Ulaanbaatar city and its infrastructure, but also for its growing population.

3) *Smartphone Application (App) for Sharing Flood Risk Maps*. The FRUGA project developed a mobile application (App) to share with general public the flood risk maps (prepared under the project) and, thus, build public awareness of the flood risk areas in Ulaanbaatar city. The project organized workshops to disseminate the flood risk information and validate findings. If the smartphone application and its usage were made public, this would go a long way to enhance resilience by building public awareness of flood risk areas so that people can avoid settling or buying land in such areas and take protective measures from potential flooding in case they (already) live in flood risk areas.

   Main Risk. The main risk is that if the smartphone application (developed under the project) and its usage is not made public, members of the general public may keep settling, buying land or continuing to live in flood risk areas. This would result in more people exposed to climate change induced risks and hazards.

4) *Flood Risk Maps of Northern Ger Areas and 10 Target Ger Khoroo Settlements*. The FRUGA project developed the flood risk maps of 'northern Ger areas' and 10 target Ger khoroos (subdistricts) in Ulaanbaatar city using the 'Flood Simulation Model' and 'Climate Change Impact Assessment'. The flood risk maps for the 10 target khoroo settlements have already been useful in the planning, design and construction of flood protection infrastructure (channels, pipes and dyke) of concrete adaptation measures. The integration of these flood risk maps into urban policies, strategies and plans would further enhance resilience in Ulaanbaatar city at multiple levels.

   Main Challenge. There are two main risks here as discussed under "First-ever Flood Simulation Model of Ulaanbaatar city" (see sub-section 5.4.2.1 (b), para 1 above).

***(c) Working towards Increasing Urban Resilience at National Level*.** The FRUGA project's results could contribute potentially to enhancing urban resilience at the national level to climate variability and change as discussed below.

The AF funded FRUGA project has prepared a platform for launching a national-level initiative (programme/project) for increasing urban resilience at the national level. The project has successfully conducted the first-ever study on "Flood simulation model development and climate change impact assessment for Ulaanbaatar city" (UN-Habitat, 2020a).

The study was conducted by CCNS (a national NGO). By working with FRUGA project as an EE, CCNS built its mid-term and long-term institutional and technical capacity for preparing 'Flood Simulation Model' and conducting climate change impact assessment at city level, using the Weather Research and Forecasting (WRF)-Hydro model utilizing huge amounts of climate data. This engagement with FRUGA project helped CCNS to go through the process of sourcing climate data from various sources and analysing it for preparing the "Flood simulation model development and climate change impact assessment for Ulaanbaatar city."

All of this provides a unique opportunity to the Government of Mongolia, the Mongolia National Agency for Meteorology and Environmental Monitoring (NEMHEM), the Ministry of Environment and Tourism (MOET), the Ministry of Construction and Urban Development (MCUD), and other national and local partners, to establish a national-level system for conducting periodic climate change and impact assessment focused on cities and towns in Mongolia.

Building on and taking lessons from the preparation of "Flood Simulation Model for Ulaanbaatar city", the Government of Mongolia, NEMHEM, MOET, MCUD and various city governments, may

decide to work together to develop national-level system (as in the previous para) which could start developing 'flood simulation models' for cities and towns in Mongolia.

Developing such a national-level system would significantly contribute towards increasing urban resilience at the national level.

5.4.2.2. Contributions towards AF Impact: Rating

Highly Satisfactory (HS): The project/programme has made clear contributions to the Adaptation Fund targets, objectives, impact, and goal.

5.4.3. Contributions towards AF Objective: Discussion and Rating

[AF Evaluation Guideline: Assessment of results from other sections should be used to further discussions in this section.]

AF Objective: Reduce vulnerability and increase adaptive capacity to respond to the impacts of climate change, including variability at local and national levels.

5.4.3.1. Has the project reduced vulnerability to climate change impacts? How did the project reduce vulnerability to climate change at the different levels?

Vulnerability is the "propensity or predisposition to be adversely affected. Vulnerability encompasses a variety of concepts and elements including sensitivity or susceptibility to harm and lack of capacity to cope and adapt" (IPCC, 2018, p. 560).
The AF funded FRUGA project has reduced vulnerability to climate change impacts. This was done mainly at two levels.

***(a) Reduced Vulnerability at Community Level*.** The FRUGA project reduced vulnerability to climate change impacts at community level, as discussed below.

1) *Reduced Vulnerability through Flood Protection Infrastructure*. The AF funded FRUGA project built five flood protection structures with a total length of 4,517 metres (or 4.517 km), including two drainage channels and one underground drainage pipeline in 40th Khoroo of Songinokhairkhan District, and one drainage channel and one flood prevention (retention) dyke in 9th Khoroo of Bayanzurkh District. As a result of these adaptation measures, the vulnerability of 221 hectares of land in Ger khoroo settlements is now reduced to climate change induced flooding. The flood protection structures were tested and proven effective during the heavy flooding that occurred in the summer of 2023 in Ulaanbaatar city.

2) *Reduced Vulnerability through Improved Flood Resilient Toilets*. The FRUGA project built 1,133 flood resilient toilets to most vulnerable households in the 10 target Ger khoroo settlements in Bayanzurkh, Songinokhairkhan and Sukhbaatar districts. Thus, the vulnerability of 8,707 most vulnerable people living in these Ger khoroo settlements has been reduced to climate change induced flooding. The provision of climate-resilient and gender-responsive sanitation facilities (i.e., improved flood resilient toilets) has reduced vulnerability of particularly those households whose family members include elderly and persons with disability.

***(b) Reduced Vulnerability at City Level*.** The FRUGA project reduced vulnerability to climate change impacts at city level. The flood protection infrastructure has been handed over to MUB. The Company of Geodesy and Water Construction (CGWC) under MUB is responsible for O&M of flood protection infrastructure.

This evaluation found that the flood protection structures, built under the AF funded project, were tested and proven effective during the heavy flooding that occurred in the summer of 2023 in Ulaanbaatar city. Discussion with the representative of CGWC revealed that there were no emergency calls for help from local communities in target Ger khoroo settlements during the 2023 flooding events.

5.4.3.2. Has the project increased adaptive capacity to respond to the impacts of climate change, including variability at local and national levels? How did the project increase the adaptive capacity to respond to climate change impacts and variability?

The FRUGA project increased adaptive capacity to respond to the impacts of climate change, including variability at local level, including city level and sub-city level.

***(a) Increased Adaptive Capacity at Community Level*.** This evaluation found that the effective application of UN-Habitat's People's Process resulted in increased adaptive capacity at community level in the 10 target Ger khoroo settlements in Bayanzurkh, Songinokhairkhan and Sukhbaatar districts of Ulaanbaatar city. The process began with the mobilization and organization of grassroots communities in Primary Groups within 10 target Ger khoroo settlements. These Primary Groups were federated under three district-level CDCs in Bayanzurkh, Songinokhairkhan and Sukhbaatar districts. Under the project, the Primary Groups and CDCs received training and capacity building support on Community Action Planning, and other important development subjects, such disaster risk reduction and solid waste management. The direct engagement of Primary Groups and CDCs in the various project activities further built their capacity to collectively discuss local development issues, collectively approach relevant authorities and present their problems and, thus, collectively find solutions to such issues as they arise from time to time.

***(b) Increased Adaptive Capacity at City Level*.** The FRUGA project increased adaptive capacity at city level are as follows.

1) *First-ever Flood Simulation Model of Ulaanbaatar city*. The AF funded FRUGA project conducted the study, "Flood simulation model development and climate change impact assessment for Ulaanbaatar city" (UN-Habitat, 2020a). This study resulted in the development of the first-ever Flood Simulation Model for Ulaanbaatar city, and the projection of climate change scenarios for air temperature and precipitation for the 'near future' (2016-2035), 'mid future' (2046-2065) and 'far future' (2081-2100) (as discussed in detail in sub-section 5.2.4.1). This contribution of FRUGA project would help the Municipality of Ulaanbaatar city (MUB) and its partners to integrate the future climate change scenarios for air temperature and precipitation into urban policies, strategies, Master Plan and other relevant plans and, in turn, increase their adaptive capacity at city and sub-city levels.

2) *Flood Risk Map of Ulaanbaatar city*. The AF funded FRUGA project developed the Flood Risk Map of Ulaanbaatar city, which has been shared with MUB for its integration into the 'Master Plan of Ulaanbaatar City for 2040' that is under preparation. There are guidelines for the preparation of Master Plan of Ulaanbaatar city, which includes the preparation of the 'Spatial Development Plan' and the 'Land Use Plan'. According to the guidelines, an Engineering Plan is attached to the Master Plan. The Urban Development Department of MUB should integrate the 'Flood Risk Map' (prepared under FRUGA project) into the 'Spatial Development Plan' and the 'Land Use Plan' that are being prepared under the 'Master Plan of Ulaanbaatar City for 2040'. This would contribute immensely to increasing adaptive capacity of MUB.

5.4.3.3. What have been the main challenges or risks to attain reduced vulnerability and increased adaptive capacity?

The main challenges to attain reduced vulnerability and increased adaptive capacity at community and city levels are discussed below.

(a) Main Challenges at Community Level. This evaluation found that there are two main challenges to attain reduced vulnerability and increased adaptive capacity at community level. First challenge is the sustainability of the Primary Groups and CDCs after the completion of FRUGA project. The field visits to target Ger khoroo settlements and semi-structured interviews with community leaders showed that the Primary Groups and CDCs organized under the FRUGA project are still functioning, i.e., after project completion. They have been utilizing the social media groups, which were set up during the COVID-19 pandemic, to communicate with each other and discuss the local development issues and tackle them collectively. The Primary Groups and CDCs have been utilizing their hands-on experience and capacities built through training sessions and Community Action Planning sessions organized during the FRUGA project implementation. Second challenge, which is more difficult than the first, is the sustainability of the Primary Groups' and CDCs' capacities built during the FRUGA project implementation. This requires continuous upgrading and updating of community groups' capacities.

(b) Main Challenges at City Level. The main challenges to attain reduced vulnerability and increased adaptive capacity at city level are related to the regular updating of "Flood Simulation Model of Ulaanbaatar city" and the integration of flood risk maps (prepared under FRUGA project) into the 'Master Plan of Ulaanbaatar City for 2040' that is under preparation.

1) *Regular Updating of Flood Simulation Model of Ulaanbaatar city*. There are two main challenges here. First, the Municipality of Ulaanbaatar city (MUB) needs to integrate the future climate change scenarios for air temperature and precipitation (prepared under FRUGA project) into the relevant urban policies, strategies, Master Plan and other plans at city and sub-city levels. Second, building on the first-ever Flood Simulation Model developed for Ulaanbaatar city, NEMHEM should work with MOET, the Ministry of Construction and Urban Development, the Municipality of Ulaanbaatar city (MUB) and other national and local stakeholders, to periodically update the flood simulation model and climate change impact assessment for Ulaanbaatar city.

2) *Integration of Flood Risk Map into Master Plan of Ulaanbaatar City 2040*. The AF funded FRUGA project developed the Flood Risk Map of Ulaanbaatar city, which has been shared with the Municipality of Ulaanbaatar city (MUB) for its integration into the 'Master Plan of Ulaanbaatar City for 2040' that is under preparation. There are guidelines for the preparation of Master Plan of Ulaanbaatar city, which includes the preparation of the 'Spatial Development Plan' and the 'Land Use Plan'. The main risk is that if the Flood Risk Map is ignored or not integrated into the 'Spatial Development Plan' and the 'Land Use Plan' under the 'Master Plan of Ulaanbaatar City for 2040' and, in turn, the urban development process is not guided accordingly. In that avoidable scenario, urban development will continue to take place in flood risk areas in Mongolia's capital city. Such a scenario would fail to enhance resilience not only for the Ulaanbaatar city and its infrastructure, but also for its growing population. However, if the flood risk map is integrated into the 'Master Plan of Ulaanbaatar City 2040', it would contribute immensely to attain reduced vulnerability and increased adaptive capacity at city and sub-city levels in Mongolia's capital city.

5.4.3.3. Contributions towards AF Objective: Rating

Highly Satisfactory (HS): The project/programme has made clear contributions to the Adaptation Fund targets, objectives, impact, and goal.

5.4.4. Rating

Highly Satisfactory (HS): The project/programme has made clear contributions to the Adaptation Fund targets, objectives, impact, and goal.

5.5. Evaluation of M&E Systems: Dimensions and Ratings

5.5.1. M&E Systems

5.5.1.1. Design: Discussion and Rating

(a) What is the assessment of the M&E plan to monitor results and track progress toward achieving project objectives? Was the plan based on the project RBM framework? Did the plan provide a timetable for various M&E activities, such as specific evaluations, reviews, and supervisions, as well as an appropriate budget?

The FRUGA project had a detailed M&E Plan which scheduled various activities: (i) Inception Workshop and Report; (ii) Periodic status/ progress reports; (iii) Mid-term Evaluation; (iv) Final Evaluation; (v) Project Terminal Report; (vi) Audits; (vii) Community consultations / workshops / training; and (viii) Visits to field sites.

The M&E Plan was based on the project RBM Framework. The M&E Plan assigned 'Responsible Parties' with a 'Time Frame' and the type of 'Reporting' (see Table 11). The M&E Plan provided a timetable for the implementation of various M&E activities.

Except this Final Evaluation, all other activities scheduled in the M&E Plan have been completed. The last M&E activity to be completed is the Final Evaluation.

(b) Design: Rating

Highly Satisfactory (HS): There were no shortcomings in the project M&E system.

5.5.1.2. Implementation: Discussion and Rating

(a) An M&E system was in place and facilitated timely tracking of progress toward project objectives by collecting information on chosen indicators (which include selected AF standard/core indicators) continually throughout the project implementation period.

The FRUGA project had a well-functioning M&E system, which facilitated timely tracking of progress towards project objective and outcomes. It collected information on the chosen indicators (including AF standard/core indicators) continually throughout the project implementation period (see Table 12). The IE collected and compiled information on the project implementation progress from the EEs including the community organizations and reported on annual basis to AFB. Also, quarterly and annual narrative reports were prepared and submitted to the relevant national and local government partners.

(b) Annual project reports (PPR) were complete and accurate, with well-justified ratings.

The M&E plan supported the monitoring of results and tracking progress toward achieving project objectives. The IE submitted five complete and accurate annual Project Performance Reports (PPRs) to AFB with well-justified ratings for the following periods:

- 1 October 2018 – 1 October 2019
- 1 October 2019 – 1 March 2021

- 1 March 2021 – 28 February 2022
- 1 March 2022 – 28 February 2023
- 1 March 2023 – 28 February 2024

Table 11. FRUGA Project M&E Plan and Its Implementation

Type of M&E Activities	Responsible Parties	Time Frame	Reporting	Implementation	Completion status
Inception Workshop and Report	Project Manager; Project Implementation Unit (PIU); Project Advisory Committee; and UN-Habitat ROAP	Inception Workshop: within first two months of start, Report: within first quarter	Inception Report	The Inception Workshop was held at two levels to inform the interested stakeholders and beneficiary communities about the project and engage them from the beginning of the project implementation. The national-level Inception Workshop was conducted on 28 February 2019 at the national level inviting the national and city level stakeholders and interested parties at the Blue Sky Hotel of Ulaanbaatar city. The inception workshop was attended by 54 participants (57.4 percent women). This was followed by three District level Inception Workshops at the target Songino-khairkhan, Sukhbaatar and Bayanzurkh districts of Ulaanbaatar City which were conducted on 15, 19 and 20 March 2019 respectively. In total, 237 (67% women) representations of the Ministry of Environment and Tourism, Ministry of Construction and Urban Development, Mayor's Office, Municipal Departments and target Districts and Khoroo; representatives of potential partners and interested parties including UN sister agencies, international communities, NGOs, individual experts and residents from flood prone areas attended the workshops and were consulted and informed on the project. The district level inception workshops in Songino-khairkhan district were attended by 54 participants (74 percent women), in Sukhbaatar by 83 participants (67.5 percent women) and Bayanzurkh was attended by 46 participants (70 percent women). The Inception Report was submitted on 26 March 2019. It provided information on the changes made in the FRUGA project document since AF approval, inception phase discussions with key partners, project management arrangements and project implementation, including M & E, risks management, environmental and social risks management and knowledge management.	Completed
Periodic status/ progress reports	Project Manager and PIU team members	Quarterly	Quarterly Report	During the project implementation, quarterly and annual progress reports were prepared based on the EE's reports and submitted by the PIU to UN-Habitat ROAP and national stakeholders in Mongolia.	Completed

Mid-term Evaluation	Project Manager and PIU team members, UN-Habitat ROAP, Project Advisory Committee, External Consultants		Midterm Evaluation Report	The Mid-Term Evaluation, covering project implementation from February 2019 to June 2021, was conducted in July 2021. It primarily focused on assessing output achievements, constraints, and opportunities. It confirmed satisfactory project implementation, particularly in flood resilience building, utilizing the UN-Habitat's People's Process approach to engage communities effectively. This approach has not only involved the beneficiary communities but also helped to develop community organizational structures that can continue the resilience-building activities beyond the project with support from the local government. The Mid-term Evaluation found that the project demonstrated reasonable rates of effectiveness and efficiency, scoring an overall implementation rating of 4.4 out of 5. Recommendations from the Mid-term evaluation include urging for greater consideration of climate change impacts in national policies and increased investment in flood protection infrastructure. Additionally, it advocated for continued support from UN-Habitat to integrate urban climate change impacts into policies and assist in resilience-building projects. Furthermore, it emphasizes the need for nurturing newly established communities and supporting Community Development Committees (CDCs) through their formal recognition to enhance their role in local decision-making processes. The Mid-term Evaluation report was submitted to the AFB in June 2021.	Completed
Final Evaluation	Project Manager and PIU team, UN-Habitat ROAP, Project Advisory Committee, External Consultants	At least three months before the end of project implementation	Final Evaluation Report	The recruitment of an international consultant for the project final evaluation was started in January 2024 and the selected consultant started evaluation exercise from May 2024.	Ongoing
Project Terminal Report	Project Manager and PIU team members, UN-Habitat ROAP, Local consultant	At least three months before the end of the project	Terminal Report	The Project Completion Report was prepared by the PIU after the completion of FRUGA project implementation on 31 Dec 2023 and submitted to AFB on 27 June 2024.	Completed

Audit	UN-Habitat ROAP, Project Manager and PIU team members	As per UN-Habitat regulations	Audit Reports	The World Vision International Mongolia (WVIM), the main EE of the project, conducted audits on annual basis throughout the project implementation period. The audits of other EEs, which had contracts with a total value of more than US$100,000, were required by UN-Habitat. Therefore, the audit of CCNS's work was completed.	Completed
Community consultations / workshops / training	Project Manager and PIU team members	Within one week after each event	Documentation	The local communities in 10 target Ger Khoroos (subdistricts) were trained and empowered through 498 consultations for community mobilization and organization from the start of the project. The consultations were attended by 6,924 representatives of beneficiary communities, with 65% female participation. As a result of these activities, 144 community groups were formed under the FRUGA project, with 49% having women as community group leaders; 53.9% of the members of community groups are women. The community groups have further been trained and empowered under the FRUGA project to construct the improved toilets for their peer community members with close monitoring and supervision conducted by the EE (WVIM) field staff. Sex-disaggregated databases for community participation in meetings, consultations and community-led activities were developed and maintained by the EE field staff and monitoring officer to ensure the beneficiaries' equal participation.	Completed
Visits to field sites	UN-Habitat ROAP, Project Advisory Committee, Government Representatives	Every six months	Field Report	The regular field visits were done by PIU Project Manager on bi-weekly basis to track the project implementation and identify if there is any shortcomings or risks associated with the ongoing and planned activities. The project working group and sub-working groups' site visits were organized when support actions were required during the specific milestones of the project. During the project life span, the National Designated Authority (NDA) for AFB and the Head of the Climate Change Department of the Ministry of Environment and Tourism visited the project sites twice to observe the project implementation rate. The UN Resident Coordinator also visited the project sites to observe the project implementation progress.	Completed

Table 12. AF Standard / Core Indicators of FRUGA Project

Impact: Increased resiliency at the community, national, and regional levels to climate variability and change	Core Indicator: No. of beneficiaries		**Total: Direct + Indirect beneficiaries**	**Direct beneficiaries supported by the project**	**Indirect beneficiaries supported by the project**
		Total	148,982	56,400	92,582
		% of female beneficiaries	52.02	54	50.03
		% of Youth beneficiaries	5	5	5

Outcome 1: Reduced exposure to climate-related hazards and threats	Indicator 1: Relevant threat and hazard information generated and disseminated to stakeholders on a timely basis	**Number of targeted stakeholders**		**Hazards information generated and disseminated**	**Overall effectiveness**
		Total	12,984	Inland flooding	Effective
		% of female targeted	67.2		
Output 1.1 Risk and vulnerability assessments conducted and updated	Indicator 1.1: No. of projects/programmes that conduct and update risk and vulnerability assessments	**No. of projects/programmes that conduct and update risk and vulnerability assessments**	**Sector**	**Scale**	**Status**
		1	Disaster risk reduction	Sub-national	Risk and Vulnerability assessments completed or updated
Outcome 3: Strengthened awareness and ownership of adaptation and climate risk reduction processes	Indicator 3.1: Increase in application of appropriate adaptation responses	**Percentage of targeted population applying adaptation measures**		**Sector**	
		38.78		Disaster risk reduction	
Output 3.1: Targeted population groups participating in adaptation and risk reduction awareness activities	Indicator 3.1.1: Percentage of targeted population awareness of predicted adverse impacts of climate change, and of appropriate responses	**No. of targeted beneficiaries**	**% of female participants targeted**	**Level of awareness**	
		12,984	67.20	Mostly aware	
Output 3.2: Strengthened capacity of national and subnational stakeholders and entities to capture and disseminate knowledge and learning	Indicator 3.2.1: No. of technical committees / associations formed to ensure transfer of knowledge	**No. of technical committees / associations**	**% of women represented in committees / associations**	**Level of awareness**	
		5	40-60%	Mostly aware	

Outcome 4: Increased adaptive capacity within relevant development sector services and infrastructure assets	Indicator 4.1: Increased responsiveness of development sector services to evolving needs from changing and variable climate	**Project/programme sector**	**Geographical scale**	**Response level**
		Flood risk reduction	Local	Mostly responsive
	Core Indicator 4.2: Assets produced, developed, improved or strengthened	**Sector**	**Targeted asset**	**Changes in asset (quantitative or qualitative)**
		Disaster risk reduction	5 Physical assets produced / improved / strengthened	Newly constructed
		Water & Sanitation	1,133 flood resilient household sanitation facilities constructed	Newly constructed

(c) The information provided by the M&E system was used during the project implementation to improve performance and to adapt to changing needs (adaptive management).

(1) Utilizing M&E System to Improve Project Performance

The FRUGA project used the information provided by the M&E system during the implementation period to improve performance and to adapt to changing needs (adaptive management).

***Women Involvement in Project Implementation*.** The IE tracked the involvement of women in the project activities throughout the implementation period. If the involvement of women or men were less than 50 percent, the project team discussed on how to enhance their participation and took relevant measures.

***Youth Involvement in Project Implementation*.** The IE tracked the involvement of youth in the FRUGA project implementation and made efforts to increase youth involvement. The project tracking shows that youth involvement figures hovered around 30 percent. This was because of there were some constraints. Having said that, this evaluation found that the youth need(ed) to study at school or university. Some youth also worked and took care of their family. Therefore, their participation was lower, even though they expressed that they wanted to be involved in the project implementation. In order to address this matter, the FRUGA Project Team organized information sharing sessions at local schools to increase youth involvement. According to the project team observation, in the People's Process, those who participated actively were mainly older, retired, housewives, some who were taking care of children or those with disability, i.e., mainly those who had time to spare. However, thanks to the various efforts made by the project team, youth engagement under the project ranged around 30 percent.

***Grievance Redressal System*.** The project implemented a grievance redressal mechanism in the target Ger khoroos (sub-districts), which allowed an accessible, transparent, fair and effective means of communicating any concerns regarding project design and implementation.

1) *Grievance Reporting Boxes*. To receive any grievance, the project set up "Grievance Reporting Boxes" that provided the name of the project, address and email contact information at the target Ger Khoroo Offices.
2) *Facebook Page on FRUGA Project*. The IE also created a Facebook page on FRUGA Project[5] that was (and is) functioning from the beginning of the project. It allowed local communities to communicate with the project and/or share their ideas or complaints. The Facebook page also allowed IE to share and disseminate information on project activities, good practices and lessons learned.
3) *Community Groups' Direct Contact with Social Mobilisers*. The community groups organized under the project, i.e., CDCs and Primary Groups, had the contact numbers of the Social Mobilizers and the FRUGA Project Office in case they needed any help and support or needed to report anything amiss. The project treated and recorded such phone-based conversation as official communication from local communities and responded officially through the CDCs.
4) *Field Visits and Community Requests and Grievance Reporting*. During the field visits conducted by project staff, one of the common subjects that was communicated was the reiteration of the need for suitable flood resilient toilets for the elderly and persons with disability who had problems of movement. Such requests also came from households who had small children, especially girls. The project team took into account and accommodated their requests and made best efforts to resolve these problems by providing suitable toilets, including portable or dry toilets.
5) *Problem-solving through CDCs and Primary Groups*. These community groups also functioned also 'first point of contact' to whom local residents could register grievances or complaints. For example, some minor requests regarding toilets were handled by CDCs in the respective districts.
6) *Involving Construction Companies in Resolving Problems*. Sometimes, grievances were registered regarding problems that required the involvement of construction companies that built the flood protection infrastructure.

   In Sharkhad Ger area in Bayanzurkh District, after the construction of the flood protection channel, a problem was reported where the surface rainwater flow was not draining to the flood protection channel but getting logged, affecting nearby houses. For resolving this problem, both infrastructure design company as well as construction company had to be involved. Both companies worked together and built "inlets" so that rainwater could drain into the flood protection/drainage channel.

   The project built small bridges over flood protection channel for the passage of people and small motor vehicles. In one incident, a small bridge built over a flood protection channel was damaged due the passage of heavy vehicles (that are not meant to go over small bridges). A grievance was reported to the project office. This problem was resolved with the help of the construction company that had built the same.

   The project built metal fences (railings) along flood protection channels as a safety procedure in order to prevent accidents (such as children falling down into drainage channel). In some cases, after the completion of construction work, the parts of metal fences were stolen away or hit-and-broken by vehicles passing by or parking nearby. This was a challenge for the project team, but it took help of the construction company to repair and/or replace as per the situation.

   In Bayankhoshuu Ger area of Songinokharikhan District, where underground flood protection/drainage pipes were laid, 'control wells' had to be constructed for the inspection and monitoring of water flow, especially during the rainy season. Initially,

[5] See: https://www.facebook.com/ubfruga

these control well openings were covered with cast-iron lids. The project was informed by the local communities that many of them were stolen. With the help of construction company, the project replaced the cast-iron lids; however, they were stolen again. Then the project team requested the construction company to build heavy concrete-lids that are very difficult to move (and hence, steal). This problem has been resolved.

(2) Adaptive Management: Utilizing M&E System to Adapt to Changing Needs

The evaluation found that by the application of 'Adaptive Management,' the FRUGA project team utilized the M&E system to adapt to changing needs throughout the project. On five occasions during project implementation, the project team identified challenges and addressed them in a timely manner: (i0 Selection of the main EE for the implementation of FRUGA project; (ii) Changes in the FRUGA project organogram; (iii) Inclusion of Output 4.3: Bringing Global Knowledge on best practices to in-country Implementing Partners and communities, customized widely used appropriate tools on adaptation building local capacity; (iv) 'Business Continuity Plan' during COVID-19 pandemic and related lockdowns; and (v) Re-alignment of flood protection/drainage infrastructure. These five points on the utilization of adaptive management are discussed in detail in Sub-section 5.3.5.1.

(d) Project had an M&E system in place with proper training for parties responsible for M&E activities to ensure that data will continue to be compiled and used after project closure.

***Challenge of Post-Project M&E Systems*.** Post-project continuation of an M&E system created by a project is often a difficult challenge in developing countries. In case of the Municipality of Ulaanbaatar city (MUB), there is an 'Complaint Redressal System' that receives complaints online and via phone calls. However, like many other developing countries, such systems are not fool proof in their functioning.

***Participatory M&E System*.** In view of this problem and to supplement MUB's M&E system and response mechanism, the FRUGA project developed a "Participatory M&E System" by building the capacity of the target communities mobilized and organized in CDCs and Primary Groups through the People's Process.

For the sustainability of the Participatory M&E System, the project team provided training on Community Monitoring for the members of organized communities and their leaders (e.g., Primary Group Leaders) in the Ger areas where flood protection/drainage channels and underground pipes were built. In case any problem is found, or an issue arises, the community leaders should immediately inform the Company of Geodesy and Water Construction (CGWC) through the local Khoroo Office. In case of solid waste accumulation in flood protection/drainage channels, the local PG and/or CDC members should get together and join forces to clean the channel. If the problem is bigger than what they can handle at community-level, then they should approach the local Khoroo Office for support.

(e) Implementation: Rating

Highly Satisfactory (HS): There were no shortcomings in the project M&E system.

5.5.1.3. Budgeting and funding for M&E activities: Discussion

The evaluators will determine whether the M&E plan was sufficiently budgeted for at the project planning/design stage and whether M&E was funded adequately and in a timely manner during implementation.

A project should have 5-10 percent of its budget allocated for M&E (Frankel and Gage, 2016). The FRUGA project budgeted for M&E just over US$134,000, which was 2.98 percent of the **total project budget of US$4,495,235**. This budget allocation was on the lower side of what M&E budget is expected to be.

According to the AF requirements, the IE's Project Execution Cost must be at or below 9.5 percent of the total project budget. The actual FRUGA Project Execution Cost was US$393,593. Following this, US$134,000 allocated for M&E under the FRUAGA project accounted for 34 percent of the UN-Habitat's or IE's Project Execution Cost.

While the project team managed to conduct M&E activities within the allocated budget, it could have done better with regard to the documentation and dissemination of project results from monitoring and reporting implementation if there were additional resources. This would have allowed the FRUGA project lessons learned, and good practices identified to be shared with the wider community of adaptation planners and practitioners at all levels and around the world (more on this in Sub-section 5.5.4.3.).

Recommendation. The AFB may consider higher allowance for Project Execution Cost that includes M&E budget allocation. The M&E budget allocation should be higher so that more funds are available for the documentation and dissemination of project achievements, lessons learned and best practices.

5.5.1.4. Implementation: Rating

Satisfactory (S): There were minor shortcomings in the project M&E system.

5.5.2. Indicators: Discussion and Rating

5.5.2.1. Regarding the type of adaptation indicators that planners and practitioners should select, it is suggested that a mix of quantitative, qualitative, and narrative tools be used, including surveys and scorecards, so that results can be triangulated to give the most accurate picture possible of progress towards adaptation and the factors involved.

The FRUGA project used a mix of quantitative, qualitative and narrative tools, including a survey.

***(a) Quantitative Indicators*.** Most indicators used in the FRUGA project were quantitative indicators, including AF standard/core indicators (Table 12). These were related to the flood protection infrastructure built and the improved flood resilient toilets installed under the project. Data on community consultations, meetings, and training sessions was regularly collected and reported. Data on the direct and indirect beneficiaries (including percentage of women beneficiaries) supported by the project was tracked, collected and reported. Tracking of women participation in various projects activities, especially consultations, project meetings, and training sessions was regularly done and reports submitted to AF on annual basis.

***(b) Qualitative Indicators*.** The project used qualitative indicators, especially under project Component 3 and 4, such as 'Level of awareness,' 'Response level,' and 'Changes in asset (quantitative or qualitative).'

***(c) Narrative Tools*.** Within the budgetary constraints and the restrictions caused by the COVID-19 pandemic, the project made concerted efforts to document and disseminate lessons learned and best practices in the form of videos, brochures, guidelines and impact

stories, published using UN agencies and UN Mongolia websites and AFB website. The use of narrative tools for M&E included the following:

1) 'Quarterly Narrative Reports' submitted by the EEs throughout the implementation of the project.
2) Video documentation was done at different points as part of the project visibility work to demonstrate the progress and success of the work during the project implementation, including during the UN Day celebration, SDG/Climate Week / World Water Day / World Toilet Day. A 20-minute video of the whole project was made. There are also shorter videos of workshops, etc. Some of these videos are available online, e.g., on Facebook.
3) The FRUGA project created a Facebook page and used it for reaching out to the target communities, partners, and the general public for information dissemination and sharing good experiences and lessons learned. Efforts were made by the project team to make Facebook posts every month. The project team also shared information through the Facebook pages of MoET, Ulaanbaatar City Mayor's Office, UN Mongolia, the target Khoroo Offices for building public awareness about the project and its good practices and lessons learned.
4) Three project brochures (both in English and Mongolian languages) titled: (i) "Flood Resilience in Ulaanbaatar Ger Areas: Climate Change Adaptation through Community-driven Small-scale Protective and Basic-services Interventions" (8-pager published in 2019), (ii) "Flood Resilience in Ulaanbaatar Ger Areas" (2-pager published in 2020); and (iii) "Flood Resilience in Ulaanbaatar Ger Area Project" (4-pager published in 2023) were prepared and published for building public awareness on the project and its implementation.
5) Four 'Guidelines titled: (i) "Guidance for Household Hygiene"; (ii) "Guidance for the Usage of Improved Toilets"; (iii) "Instruction for COVID prevention and Environmental Hygiene for Individuals"; and (iv) "Instruction for COVID Prevention and Environmental Hygiene for Households" were prepared and published for providing practical guidance on these topics to individuals as well as community members in target Khoroos.
6) The project impact stories were developed and published online using various websites and the Facebook pages of the FRUGA project, UN-Habitat in Mongolia, UN in Mongolia, Ministry of Environment and Tourism and Mayors Office of Ulaanbaatar City to disseminate information about the project's achievements and immediate impacts as part of the documentation of good practices and lessons learned under the project. These include the articles published in UN-Habitat Annual Report 2021 (UN-Habitat, 2021c) and AFB websites which are: (i) "Flood resilience building through local community action in ger areas of Ulaanbaatar city, Mongolia" (UN-Habitat, 2021b); and (ii) "Mongolia flood defence project shows the way for urban adaptation" (Adaptation Fund, 2022).
7) Smartphone Application (App) for Sharing Flood Risk Maps prepared under the project was the FRUGA initiative to improve public awareness of the flood risk. Also, it was prepared to validate and evaluate this knowledge product generated under the project through public view.

***(d) Survey*.** Survey Monkey was used to conduct survey to seek community feedback on the project implementation progress during the project's Mid-term Evaluation.

5.5.2.2. Even though attention should be given to all indicators defined in the project and programme in an integral manner, specific assessment on the incorporation and use of AF standard/core indicators is expected, as these would form the data from which information will be gathered to assess the Adaptation Fund.

The FRUGA project included AF standard/core indicators in the project proposal. The IE tracked and reported on the progress made on these indicators (particularly "No. of

beneficiaries" and "Assets produced, developed, improved or strengthened") throughout the project implementation period.

- *Number of Beneficiaries (AF Core Indicator)*. The project had a total of 148,982 beneficiaries (of which 52.02 percent were women). Direct beneficiaries 56,400, including 54 percent women, and indirect beneficiaries 92,582, including 50.03 percent women. On average, the proportion of youth beneficiaries stood at five percent.

- *Assets produced, developed, improved or strengthened (AF Core Indicator)*. The project focused on "Disaster Risk Reduction" and "Water & Sanitation" sectors. Five physical assets were produced for "Disaster Risk Reduction" and 1,133 flood resilient household sanitation facilities constructed under "Water & Sanitation" sector. Al these assets were "newly constructed."

For the project's final data on "AF standard/core indicators" reported in the Project Completion Report, see Table 12.

5.5.2.3. Indicators: Rating

Highly Satisfactory (HS): There were no shortcomings in the project M&E system.

5.5.3. Project Baselines: Discussion and Rating

5.5.3.1. Have baselines been designed through a participatory approach, using cost-effective and accessible information?

***(a) Participatory Approach for Designing Baseline*.** The baselines were designed through a participatory approach, using cost effective and accessible information. For this purpose, during July to December 2017, the IE conducted a series of "Community Consultations" in Khoroo 7, 9, 12, 13, 16, 24, 25 – the identified high-risk settlements for floods in Ger areas in north of Ulaanbaatar city. The three rounds of community consultations focused on: (i) rapid risk and vulnerability assessment, (ii) prioritization, and (iii) vulnerable group consultations to identify specific issues and needs. During these community consultation, the IE's Social Mobilizers provided an introduction to the global climate change challenges and how these challenges impact Mongolia. They took the voluntary participants through a series of consultations via the UN-Habitat's People's Process. The outcome of these consultations was: (i) Identification of issues relevant to climate change; (ii) Discussion and prioritization of key issues in community groups; (iii) Identification of possible priority projects to address key issues; and (iv) Depiction of issues on maps and presentation to the community groups.

(If needed, the list of meetings can be enclosed in this Evaluation Report as an Annex – the data referred to here is "Table 11. Consultations and Meetings with key stakeholders" in Project Document).

***(b) Baselines in Project Results Framework*.** The project baselines as well as the targets were included in the Project Results Framework (see Annex 3).

5.5.3.2. Were reference and adaptation scenarios considered by the project?

During project preparation, the reference and adaptation scenarios were considered. This process helped in drawing the "Baseline" scenario, i.e., without AF support. Further, the "Additional" scenario was drawn, i.e., with AF support (see Table 13).

Table 13. Baseline and Additional Scenarios related to Expected Project Outcomes

Outcomes/planned activities	Baseline (without AF)	Additional (with AF)
Outcome 1.1. Relevant threat and hazard information / evidence and recommendations for reducing vulnerability at the municipal and community level generated.	Detailed/specific climate change threat and hazard information / evidence is not available for Ulaanbaatar, which means the government and communities cannot plan for adaptation / resilience measures	The activities related to this outcome will allow the municipal government of Ulaanbaatar and communities to collect information to start planning for adaptation / resilience measures, especially related to floods, also besides and /or beyond the project
Outcome 2.1. Target community members are aware of climate change impacts and participate in resilience action planning activities.	Ulaanbaatar municipality and communities can't plan for adaptation / resilience measures without effective planning processes based on activities executed under outcome 1.1.	The activities related to this outcome will allow the municipal government of Ulaanbaatar and communities to plan for adaptation / resilience measures, especially related to floods.
Outcome 3.1. Increased adaptive capacity within relevant development and natural resource sectors at the community level.	Target communities have no options (capacity and financial resources) to protect their people and assets against climate change impacts, especially floods	The activities related to this outcome will allow target communities to protect inhabitants and assets against climate change impacts, especially floods
Outcome 4.1. Project implementation is fully transparent. All stakeholders are informed of products and results and have access to these for replication.	Communities and the municipal and national government have limited knowledge of resilient planning and protection of towns, communities and assets	Communities and the municipal and national government have increased knowledge of resilient planning and protection of towns, communities and assets

5.5.3.3. Have vulnerability baselines, climate-risk baselines, and adaptive capacity baselines been described and assessed?

The project described the vulnerability baselines, climate-risk baselines, and adaptive capacity baselines. Further, the project completed risk and vulnerability assessment.

5.5.3.4. Have baselines (specifically vulnerability, climate risks, and reference and adaptation scenarios) been reviewed during project implementation?

The baselines (specifically vulnerability, climate risks, and reference and adaptation scenarios) were not reviewed and/or changed during project implementation.

5.5.3.5. Project Baselines: Rating

Highly Satisfactory (HS): There were no shortcomings in the project M&E system.

5.5.4. Alignment of Project M&E Frameworks to National M&E Frameworks: Discussion and Rating

5.5.4.1. Did this project/programme monitoring and evaluation system make the best use of existing (local, sectoral, national) monitoring and evaluation systems, including existing indicators? Could these systems be used as they are, do they need to be revised, or are new and additional systems required?

The existing M&E systems on adaptation and resilience in the urban development context are in the early stages of development in the country.

Having said that, the results achieved by FRUGA project were considered as an AF contribution. Therefore, it would be fair to say that the monitoring of FRUGA results can be seen as a humble beginning towards the establishment of M&E system on adaptation and resilience in the urban development context.

At the time of FRUGA project completion (31 December 2023), the Mongolia's National Adaptation Plan was under review and renewal. A new National Adaptation Plan was approved in March 2024. The NDC will be updated in 2025. During FRUGA project implementation, the team found out the National Adaptation Plan did not focus on adaptation in cities and towns. Therefore, the new AF funded GCRP project includes two project outputs to prominently feature urban adaptation in Mongolia' National Adaptation Plan and 2025 NDC update and mainstreamed into local government policy and planning in the target areas (see Adaptation Fund, 2023b, p. 49).

- GCRP Output 1.4. Integration workshops held to ensure that urban adaptation is prominently featured in Mongolia's NAP and 2025 NDC update, and climate change adaptation considerations are mainstreamed into future urban- related policies and plans.
- GCRP Output 1.5. Urban adaptation mainstreamed into local government policy and planning in the target areas.

Once the urban adaptation is reflected in the NAP and NDC at the national level, and mainstreamed into local government policy at the city level, then national monitoring system as well as local monitoring system in Ulaanbaatar city should be developed with the consideration of adaptation indicators.

Another significant achievement of IE is the inclusion of indicators developed under the AF-funded FRUGA project in the "United Nations Sustainable Development Cooperation Framework 2023-2027" (UNSDCF) for Mongolia that was approved in May 2022. The implementation of UNSDCF started in 2023. The IE (UN-Habitat) got three indicators, which were developed under the FRUGA project, included in the M&E Framework of Mongolia UNSDCF 2023-2027, as follows.

1) "SOU1.4.4: Peri-urban households have access to climate resilient and gender responsive sanitation facilities. ID: 106416.
2) SOU3.1.12: Physical assets developed in response to climate change impacts – specifically flood-adaptation measures. ID: 106418
3) SOU4.3.12: Mongolia has the capacity at the sub-national and community level to plan for and manage urban adaptation actions."

5.5.4.2. Did this project/programme contribute to the establishment of a long-term monitoring system? If it did not, should the project have included such a component? What were the accomplishments and challenges in establishment of this system? Is the information generated by this system being used as originally intended? Is the system mainstreamed—that is, is it embedded in a proper institutional structure, and does it have financing?

The need to establish a long-term monitoring system was identified during the FRUGA project implementation. The new AF funded GCRP project includes two project outputs to prominently feature urban adaptation in Mongolia' National Adaptation Plan and 2025 NDC update and mainstreamed into local government policy and planning in the target areas (see Adaptation Fund, 2023b, p. 49). For detail, see Sub-section 5.5.4.1 above.

5.5.4.3. Did the project include plans for feedback and to disseminate results from monitoring and reporting implementation as to allow for lessons learned and good practices identified to be shared with the wider community of adaptation planners and practitioners at all levels and other existing M&E systems?

The project has made the following documentation in the form of videos, brochures, guidelines and impact stories and published using UN agencies and UN Mongolia websites and AFB website, Facebook pages of MoET and Ulaanbaatar City's Mayor's Office, FRUGA project and UN Mongolia for building public awareness building about the project and its good practices and lessons learned.

Two workshops for sharing the FRUGA project's experience with wider communities were conducted and were attended by a total of 220 participants composed of community members, officials and specialists from the national partners and sister UN agencies. Two information sessions with journalists from popular media and at the National Emergency Committee were conducted and the FRUGA project's good practices and lessons learned were shared.

1) Video documentation was done at different points as part of the project visibility work to demonstrate the progress and success of the work during the project implementation, including during the UN Day celebration, SDG/Climate Week / World Water Day / World Toilet Day. A 20-minute video of the whole project was made. There are also shorter videos of workshops, etc. Some of these videos are available online, e.g., on Facebook.
2) Three project brochures (both in English and Mongolian languages) titled: (i) "Flood Resilience in Ulaanbaatar Ger Areas: Climate Change Adaptation through Community-driven Small-scale Protective and Basic-services Interventions" (8-pager published in 2019), (ii) "Flood Resilience in Ulaanbaatar Ger Areas" (2-pager published in 2020); and (iii) "Flood Resilience in Ulaanbaatar Ger Area Project" (4-pager published in 2023) were prepared and published for building public awareness on the project and its implementation.
3) Four 'Guidelines titled: (i) "Guidance for Household Hygiene"; (ii) "Guidance for the Usage of Improved Toilets"; (iii) "Instruction for COVID prevention and Environmental Hygiene for Individuals"; and (iv) "Instruction for COVID Prevention and Environmental Hygiene for Households" were prepared and published for providing practical guidance on these topics to individuals as well as community members in target Khoroos.
4) The project impact stories were developed and published online using different websites and Facebook pages of the FRUGA project, UN-Habitat in Mongolia, UN in Mongolia, MoET, and the Mayor's Office of Ulaanbaatar City to disseminate information about the project's achievements and immediate impacts as part of the documentation of good practices and lessons learned under the project. These include the articles published in UN-Habitat Annual Report 2021 (UN-Habitat, 2021c) and AFB websites which are: (i) "Flood resilience building through local community action in ger areas of Ulaanbaatar city, Mongolia" (UN-Habitat, 2021a); and (ii) "Mongolia flood defence project shows the way for urban adaptation" (Adaptation Fund, 2022).
5) The UN-Habitat in Mongolia Office organises 'Annual Community Workshops' as a platform for local communities to share the lessons learned and best practices under UN-Habitat implemented projects. Such 'Annual Community Workshops' are

organised at the end of calendar year. During the lifespan of FRUGA project, the organisation of four 'Annual Community Workshops' was planned. The project organised two 'Annual Community Workshops' on 23 December 2019 and 8 December 2023. Similar workshops to reach more communities were planned in 2020, 2021 and 2022, but they could not organise due to COVID-19 pandemic related restrictions.

In the 'Annual Community Workshop' held in 2019, the beneficiary communities under UN-Habitat's past projects shared their experiences and lessons learned in Ger area upgrading that could be useful for the target communities under the FRUGA project. This Annual Community Workshop in December 2019 was attended by 190 residents (of whom 70.5 percent were female) from 10 khoroos in Ulaanbaatar ger areas. The second 'Annual Community Workshop' was conducted in 2023 as a 'Final Workshop' for sharing of FRUGA experiences and good practices, especially to highlight the role of community-led organisations (Primary Groups and Community Development Councils) in project implementation and the sustainability of project outputs and outcomes. This workshop was attended by 130 (of whom 76 percent were female) residents and community members from Ger areas in Sukhbaatar, Songinokhairkhan and Bayanzurkh Districts and officials from the departments of MUB, and target districts and khoroos.

The 'Annual Community Workshops' contributed towards (i) disseminating lessons learned and best practices from a project; (ii) informing government officials and partners about the new ways of implementing project activities and the role of local communities in participatory needs assessment, project design, implementation, and monitoring; and (iii) sharing of experiences by the local communities themselves. This also helps local government representatives and officials understand the challenges and possible solutions towards achieving development outputs and outcomes locally.

6) Two information sessions for sharing the good practices of the project were organized by the project team with the journalists from the popular media and at the National Emergency Committee.
7) Smartphone Application (App) for Sharing Flood Risk Maps prepared under the project was the FRUGA initiative to improve public awareness of the flood risks facing Ulaanbaatar city and its Ger areas. Also, it was prepared to validate and evaluate this knowledge product generated under the project through public view.

The evaluation found that the FRUGA project could do even more for the proper documentation of lessons learned, good practices, and project-led/related innovations. The dissemination of such knowledge products should be done at national and international levels through published and online media, forums, conferences, World Urban Forum (held biennially), Asia-Pacific Forum on Sustainable Development (held annually in Bangkok, Thailand), and through social media, such as Facebook, LinkedIn, etc.

Recommendation.

1) Develop a strategy for the documentation and dissemination of lessons learned, good practices, and project-led/related innovations.
2) AFB to allocate a larger budget for Project Execution Cost––which includes M&E budget, for the documentation and dissemination of lessons learned, good practices, and project-led/related innovations.

5.5.4.4. Alignment of Project M&E Frameworks to National M&E Frameworks: Rating

Satisfactory (S): There were minor shortcomings in the project M&E system.

5.5.5. Evaluation of M&E Systems: Overall Rating

Satisfactory (S): There were minor shortcomings in the project M&E system.

6. Conclusions, Lessons Learned, and Recommendations

6.1. Key Findings and Conclusions

6.1.1. A Well-designed and Implemented Project

The FRUGA project was **a well-designed and implemented project**. The **objective** of the FRUGA project was "to enhance the climate change resilience of the seven (later administratively sub-divided into 10) most vulnerable Ger khoroo settlements focusing on flooding in Ulaanbaatar City," world's coldest capital city. To achieve this objective, the project included four outcomes focused on enhancing resilience of most vulnerable community exposed to climate induced flooding and building adaptive capacity at community and city levels.

With a total approved **grant funding of US$4,495,235 from Adaptation Fund**, the project was **implemented over a period of four years and 10 months**, from 28 February 2019 to 31 December 2023. It required one extension of 10 months due to delays caused by the COVID-19 pandemic and the related lockdowns.

The FRUGA project **effectively achieved all its stated outcomes** which were relevant to the national and local priorities in Mongolia and Ulaanbaatar respectively, and to the AF goal, objective and strategies priorities. It enhanced resilience of most vulnerable communities, with focus on women, children, elderly, and persons with disability. The project built adaptive capacities at community and city level, with the involvement of various stakeholders including national and local government, NGOs, community groups, and private sector entities, in the design, implementation, and evaluation of project activities. The project activities featured high levels (over 50 percent) of participation of women throughout the implementation process. The project featured a number of **best practices** that added value to the project implementation and helped achieve the project outcomes (see Section 6.2 below).

The project **made efficient use of AF financial support** that was expended to achieve project objective and outcomes by following the United Nations Financial and Procurement Rules and Regulation without any discrepancies.

Given the highly satisfactory results it achieved, FRUGA project is a **significant milestone** on the path towards enhancing resilience, building adaptive capacity and reducing vulnerability in Ulaanbaatar city in particular, and an example to emulate for other urban areas in Mongolia in general. It provides important lessons on the effectively utilization of UN-Habitat's People's Process in participatory needs assessment, community mobilization and organization, community action planning, participatory implementation, and participatory monitoring.

The FRUGA project has **broken new ground** in Mongolia and its national capital, Ulaanbaatar city, in terms of demonstrating the effectiveness of international development assistance (IDA) in the fast-emerging domain of climate emergencies. By finding the policy gaps in NAP and NDC with regard to the urban dimension of climate emergencies and the need for enhancing resilience and building adaptive capacity, the project has pushed open doors for national and local level for important policy dialogue and reform in Mongolia, a country particularly susceptible to climate emergencies.

The **project could have done better in terms of documentation and dissemination of its results** in the form of lessons learned and best practices, not simply for visibility, but for the benefit of other cities in Mongolia, the Asia-Pacific region, and around the world, which are

trying to find effective and efficient ways to increase resilience, build adaptive capacity and reduce vulnerability to climate emergencies. This point cannot be emphasized enough.

6.1.2. Theory of Change and FRUGA Project Outcomes

This 'Final Evaluation' developed a **'Theory of Change'** that identified the problem to be addressed under FRUGA project as: **Poor climate change resilience flooding in the seven most vulnerable Ger khoroo settlements in Ulaanbaatar City**. The problem is caused by climate change induced warm summer days and nights in Central Mongolia, including Ulaanbaatar city. This increasingly frequent flood events affect the unplanned Ger settlements, especially because people have built their houses in high-risk areas, such as next, or even in, gullies and riverbed. Ger area residents rely on pit latrines which overflow due to floods, which results in contaminated water and soil resulting in health problems and water scarcity. Therefore, the objective of the FRUGA project was: To enhance the climate change resilience of the seven most vulnerable Ger khoroo settlements focusing on flooding in Ulaanbaatar City.

The FRUGA project aimed to create a fourfold **outcomes**: (i) Increased resilience at city level relating to relevant threat, hazard information, evidence and recommendations (on land use and zoning; (ii) Awareness raised in target community on resilience building and climate risk reduction processes and have ownership over proposed interventions at the District, Khoroo and community level; (iii) Increased adaptive capacity within prioritized community assets; and (iv) Institutional capacity strengthened to develop and replicate this approach, as shown in Figure 1.

This 'Final Evaluation' has analysed and found that these project outcomes have been attained by the FRUGA project's 10 concrete outputs. For the realisation of the 10 outputs, a series of 22 project activities or interventions were effectively and efficiently implemented.

6.1.3. Impact of COVID-19 Pandemic on Project Implementation

Like elsewhere in the world, the FRUGA project was impacted by the COVID-19 pandemic and related lockdowns imposed by the Government of Mongolia. The lockdown restrictions included bans on community gatherings and meetings that were essential for the project implementation. Citywide and partial lockdowns in Ulaanbaatar further complicated implementation progress, necessitating remote work for project staff.

The project implementation was further affected by the closure of Mongolia's southern border with China. This international border remained closed from January 2020 to January 2023. China is a major source of building material for Mongolia. The closure of international border affected the import of building material. Moreover, there were no international flights between Mongolia and China during 2021-2022.

Despite the obstacles posed by the COVID-19 pandemic related lockdowns, the FRUGA project team swiftly adapted by implementing a **"Business Continuity Plan"** to manage project implementation activities online while adhering to the various health guidelines. The **remote management of project activities** was an effective improvement over a total halt in project implementation. However, the challenge of COVID-19 lockdowns affected in-person interactions and management of project activities.

Due to the delays caused by the COVID-19 pandemic and the related lockdowns, the FRUGA project required one extension of 10 months, from the original completion date of 28 February 2023 to 31 December 2023.

6.2. Lessons Learned

The best practices and lessons learned for the future based on the FRUGA project design and implementation are as follows.

6.2.1. Best Practices

1) **People's Process of community mobilisation, organization, and Community Action Planning.** In implementing the FRUGA project, the IE utilized the People's Process approach of UN-Habitat to involve grassroots communities in implementing various projects and programmes in the Asia-Pacific region (see UN-Habitat, 2011). The application of the People's Process was useful in mobilizing Ger area communities, organizing them in 'Primary Groups' and 'Community Development Councils' (CDCs) in each of the three target districts, i.e., Bayanzurkh, Songinokhairkhan, and Sukhbaatar. A total of 144 Primary Groups were established, representing 1,827 households and 7508 population.

2) **Participatory Identification of Climate Change-induced Flooding Problems.** The communities organized in the form of 'Primary Groups' and CDCs contributed to the identification of climate change-induced flooding problems, including inundation of Ger areas, loss of mobility during the periods of flooding, negative physical impacts on housing infrastructure, and the resultant fall in property values with potentially dire economic consequences for Ger area residents.

3) **High Levels of Women Participation throughout Project Implementation.** Right from the start of FRUGA project, women participation remained high in activities throughout the implementation period. The 'Project Inception Workshop' was organized on 28 February 2019, at both national and district levels. The 'National-level Inception Workshop' saw a significant representation of women at 57.4%. Following this, three 'District-level Inception Workshops' were conducted in the three target districts on 15, 19, and 20 March 2019; these were attended by diverse stakeholders, with significant female participation ranging from 68.7% to 74.1%. A total of 237 participants, 67% women, discussed proposed activities under the FRUGA project. These workshops were attended by representatives from the various government ministries, municipal departments, target districts, and potential partner organizations, including the United Nations agencies and NGOs. The high levels of women participation continued in training sessions and community consultation meetings until the end of the project implementation.

4) **Participatory Identification of Resilient Toilet Beneficiaries, including the Elderly and Persons with Disabilities.** The Primary Groups and CDCs provided crucial support in identifying most needy beneficiary households, especially those with elderly family members, women, children and persons with disability. This critical contribution by the 'Primary Groups' was very helpful in extending the benefits of the FRUGA project to the neediest households in the most vulnerable communities of the target Ger khoroo settlements in Ulaanbaatar city.

5) **Strengthened Community Capacities for Replication and Scaling-up of Project Activities.** As the FRUGA project aimed at building the adaptive capacity of the beneficiary communities through their direct involvement and participation, the knowledge and experience from the project implementation are endowed in the target Ger area communities and the Primary Groups and CDCs that were organized and established under the project. This rich experience has transformed the perspective of Ger area communities from that characterized by 'individual struggles' of approaching the local government to address the flooding problem to that of

'collective strength', which now encourages and inspires them to replicate or scale up the project activities (especially about building 'resilient toilets') within and outside of the target areas under the FRUGA project.

6) **Multiplier Effect of Training of Trainers on Disaster Risk Reduction and Resilience Building.** The FRUGA project's beneficiary communities in Ger khoroos (subdistricts) were provided with "Training of Trainers" on disaster risk reduction and resilience building. These trained community members can now train other community members on disaster risk reduction and resilience building and share their experiences within and outside the FRUGA project area in Ulaanbaatar city.

7) **Effective Use of Adaptive Management.** By the application of 'Adaptive Management,' the FRUGA project team utilized the M&E system to adapt to changing needs throughout the project. On five occasions during project implementation, the project team identified challenges and addressed them in a timely manner: (i0 Selection of the main EE for the implementation of FRUGA project; (ii) Changes in the FRUGA project organogram; (iii) Inclusion of Output 4.3: Bringing Global Knowledge on best practices to in-country Implementing Partners and communities, customized widely used appropriate tools on adaptation building local capacity; (iv) 'Business Continuity Plan' during COVID-19 pandemic and related lockdowns; and (v) Re-alignment of flood protection/drainage infrastructure.

8) **Inclusion of FRUGA Project Indicators in the Mongolia UNSDCF**. Another significant achievement of IE is the inclusion of indicators developed under the AF-funded FRUGA project in the "United Nations Sustainable Development Cooperation Framework 2023-2027" (UNSDCF) for Mongolia that was approved in May 2022. The implementation of UNSDCF started in 2023. The IE (UN-Habitat) got three indicators, which were developed under the FRUGA project, included in the M&E Framework of Mongolia UNSDCF 2023-2027, as follows.

    a) "SOU1.4.4: Peri-urban households have access to climate resilient and gender responsive sanitation facilities. ID: 106416.
    b) SOU3.1.12: Physical assets developed in response to climate change impacts – specifically flood-adaptation measures. ID: 106418
    c) SOU4.3.12: Mongolia has the capacity at the sub-national and community level to plan for and manage urban adaptation actions."

6.2.2. Lessons Learned for the Future

9) Developing and Implementing a Comprehensive Knowledge Management Strategy. While the FRUGA project achieved its overall objective and accomplished various outputs/outcomes, it could have done much better in terms of: (i) Documenting the project implementation process, which was very systematic and output/outcome oriented; (ii) Producing various kind of knowledge products (more than it did); (iii) Publishing the knowledge products (more than it did); and (iv) Disseminating the knowledge products (more than it did).

Discussions with the IE revealed that they "focus on achieving project objectives, outputs and outcomes, and less in terms of showing-off of results achieved". The first part is a commendable commitment. However, in today's world, when in many cases little work is done and more noise is made, it is important that when an important and *avant garde* climate adaptation initiative and endeavour like FRUGA project achieves its objective and accomplishes it outputs and outcomes, it becomes important to document the implementation process, and produce publish knowledge products, and disseminate them as widely as possible.

This evaluation found that perhaps the budget allocation for the implementation of the project's 'Comprehensive Knowledge Management Strategy' was lesser than what would have been sufficient for the purpose. Therefore, this is an important lesson to be learned for future AF (and other) projects/programmes in Mongolia (and beyond).

10) **Policy Dialogue and Reform on Enhancing Urban Resilience and Building Adaptive Capacity at National and Local Levels.** The FRUGA project identified policy gaps for enhancing urban resilience and building adaptive capacity at both national and local levels. However, it could have done much better than promoting policy dialogue and reform in this regard. This is very important because unless the urban context is reflected in the National Adaptation Plan (NAP) and Nationally Determined Contribution (NDC) of Mongolia, the various policy, planning, regulatory, budgetary provisions will not be made, and M&E system will not be put in place to support and track the process of enhancing urban resilience and building adaptive capacity at both national and local levels. This point become particularly important because the budget allocation for the "Emergency Preparedness Plan" and for O&M of flood protection infrastructure by Municipality of Ulaanbaatar city (MUB) remains relatively low, despite the growing number of climate induced flooding incidents and their increasingly felt impacts in terms of loss of lives and livelihoods.

6.3. Recommendations

6.3.1. Financial and Economic Sustainability

1) Climate change and disaster risk preparedness related important aspects, such as Climate induced flood risks, should be included in the "Emergency Preparedness Plan" of Ulaanbaatar city. This is because flooding events affect not only physical infrastructure but the social infrastructure as well.
2) The AF funded GCRP should initiate policy dialogue with the Municipality of Ulaanbaatar city for the inclusion of climate induced flood risks in the "Emergency Preparedness Plan". This will go a long way in addressing the O&M issues related to the FRUGA project outcomes.

Flood Protection Infrastructure:

3) Efforts should be made for raising the budgetary allocation for O&M to the Company of Geodesy and Water Construction (CGWC) under the Municipality of Ulaanbaatar city.
4) The AF funded GCRP should initiate policy dialogue with the Municipality of Ulaanbaatar city for increasing the budgetary allocation for O&M to CGWC in order to address any O&M problems arising in the future, and in turn to enhance sustainability of the flood protection infrastructure built under the FRUGA project.
5) Regular meetings of the Primary Groups and CDCs, which were created and functioned under the FRUGA project, should be held in order for them to remain as a sustainable resource for tackling local development problems related to urban (including flood protection) infrastructure and services.
6) Periodic (quarterly) meetings between Primary Group Leaders and CDC Leaders should be held at Khoroo and District levels not only for the sustainability of these community-led organizations but also for tackling the local development issues, including the O&M of the flood protection structures (including channels, pipes and dyke) built under the FRUGA project.

Flood Resilient Toilets:

7) This final evaluation recommends that regular meetings of the Primary Groups and CDCs, which were created and functioned under the FRUGA project, should be held in order for them to remain as a sustainable resource for tackling any problems related to O&M of flood resilient toilets and, thus, their sustainability.

Governance Processes:

8) It is recommended, therefore, that proper technical assessment should be conducted before undertaking any new urban infrastructure projects in the Ger Khoroo settlements where flood protection structures have been constructed under FRUGA project. Among other things, this will require taking in account the 'Flood Risk Map' (prepared under FRUGA project) and close coordination with the Company of Geodesy and Water Construction (CGWC) that is in-charge of O&M of urban infrastructure (including flood protection facilities) in Ulaanbaatar city and its Ger Khoroo settlements.
9) Periodic updating of/study on the "Flood simulation model development and climate change impact assessment for Ulaanbaatar city" should be conducted every five years. This will require the involvement of the Government of Mongolia, the Municipality of Ulaanbaatar city, and NGOs like Climate Change on Nature and Society (CCNS). The IE of GCRP (UN-Habitat) should explore the possibilities of resource mobilization for the second edition of the abovementioned study.
10) The Government of Mongolia and the Municipality of Ulaanbaatar city should take in account the results from the study conducted by Suzuki et al (2020). Based on these findings, the seismic hazard map of Ulaanbaatar city-region should be revised and updated. Moreover, a new disaster risk prevention strategy of Ulaanbaatar city should be developed to improve public safety in the capital city-region. Further investigations should be conducted to identify if there are any other faults in the Ulaanbaatar city-region.
11) Periodic updating of/study on the "Flood simulation model development and climate change impact assessment for Ulaanbaatar city" should be conducted every five years.
12) The study on "Current Land Use Review for Northern Ger Areas and 10 target khoroos of Ulaanbaatar city" should be expanded to all districts and khoroos of Ulaanbaatar city.
13) The dissemination of information in the form of flood risk maps through the smartphone application (App) prepared under the FRUGA project should be continued by the relevant public authorities.

6.3.2. Processes Influencing Achievement of Project Results

14) In future AF funded projects, more funds should be allocated for implementation of a project's 'Comprehensive Knowledge Management Strategy', that includes the (i) documentation of project implementation process, (ii) production and publication (online and offline) of knowledge products, and (iii) their dissemination.

6.3.3. M&E Systems

15) In the AF projects, the M&E budget allocation should be higher, i.e., ranging between 5 and 10 percent of the total project budget. In line with the Adaptation Fund's "Strategic Pillar 3: Learning and Sharing" (Adaptation Fund, 2023a), the AFB may consider higher allowance for Project Execution Cost that includes M&E budget allocation. The M&E budget allocation should be higher so that more funds are available for the documentation and dissemination of project achievements, lessons learned and best practices. This recommendation cannot be emphasized enough.

16) Develop a strategy for the documentation and dissemination of lessons learned, good practices, and project-led/related innovations (in line with Recommendation 14 under Section 6.3.2 above).
17) AFB to allocate a larger budget for Project Execution Cost––which includes M&E budget, for the documentation and dissemination of lessons learned, good practices, and project-led/related innovations.

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ANNEXES

[AF Evaluation Guideline: In addition to other technical annexes, the final evaluation report should include the following two annexes: (i) Official response from the project/programme management team regarding the evaluation findings or conclusions; and (ii) Terms of reference for conducting the evaluation.]

ANNEX 1. OFFICIAL RESPONSE FROM THE FRUGA PROJECT MANAGEMENT TEAM REGARDING THE EVALUATION FINDINGS OR CONCLUSIONS

ANNEX 2. TOR FOR THE END-TERM EVALUATION

TERMS OF REFERENCE FOR THE END-TERM EVALUATION OF THE FLOOD RESILIENCE IN ULAANBAATAR GER-AREAS (FRUGA) – CLIMATE CHANGE ADAPTATION THROUGH COMMUNITY-DRIVEN SMALL-SCALE PROTECTIVE AND BASIC SERVICES INTERVENTIONS, MONGOLIA

Job Opening Number:	24-United Nations Human Settlements Programme-226572-Consultant
Job Title:	Evaluation Consultant for the Flood Resilience in Ulaanbaatar Ger Areas Project
General Expertise:	Inspection and Evaluation
Category:	Evaluation
Department/Office:	United Nations Human Settlements Programme
Organizational Unit:	UNHABITAT EO EVALN

Purpose

The final evaluation serves both accountability and learning purposes. Regarding accountability, it is intended to provide independent evidence on the performance of the project and what it achieved at objectives, expected accomplishment (outcomes) and output levels. It is also intended to enhance learning by generating insights, lessons learned and recommendations to inform management decision-making for future programming and funding, and implementation modalities. More specifically, the evaluation will inform the development of the future portfolio, with specific attention to identifying opportunities and areas of future action that will strengthen the results and contribute further to the disaster and climate change effects mitigation in Mongolia and to leverage influence strategies, opportunities for scaling-up and replicating the implementation approach used.

Duties and Responsibilities

The United Nations Human Settlements Programme (UN-Habitat) is the specialized programme for sustainable urbanization and human settlements in the United Nations system. Its mission is to promote socially and environmentally sustainable human settlements development and the achievement of adequate shelter for all. Pursuant to its mandate, UN-Habitat aims to achieve impact at two levels. At the operational level, it undertakes technical cooperation projects. At the normative level, it seeks to influence governments and non-governmental actors in formulating, adopting, implementing and enforcing policies, norms and standards conducive to sustainable human settlements and sustainable urbanization.

The current UN-Habitat strategic plan for 2020-2025 is in line with its new vision of "a better quality of life for all in an urbanizing world". The vision is encapsulated in the Plan's four Domains of Change namely:

1. Reduced spatial inequality and poverty in communities across the urban - rural continuum.
2. Enhanced shared prosperity of cities and regions.
3. Strengthened climate action and improved urban environment.
4. Effective urban crisis prevention and response.

UN-Habitat also leads and coordinates the monitoring of and reporting on global progress in the implementation of the New Urban Agenda and Sustainable Development Goal (SDG 11) of making cities and human settlements inclusive, safer, resilient and sustainable. Other global agreements support UN-Habitat's work including the Paris Agreement on Climate Change.

The Conference of the Parties (COP) of the UN Framework Convention on Climate Change (UNFCCC) established and launched the Adaptation Fund in 2007. The fund is to finance concrete adoption projects and programmes in developing countries that are particularly vulnerable to adverse effects of climate change. The fund's projects and activities aim at building national and local adaptation capacities while reaching and engaging with the most vulnerable groups.

Mongolia is a land locked developing country, and Ulaanbaatar, surrounded by high mountains, is the coldest capital city in the world. High rural-urban immigration rates to Ulaanbaatar city has increased urban poor, who mostly reside in informal Ger settlements. In addition, as a consequence of increased warm summer days and nights in Central Mongolia, there has been more frequent flooding in the city, which affects the unplanned Ger areas, in which residents reside in high risk areas, around gullies at the bottom of mountains and around riverbeds.

Whereas government efforts to create appropriate policy and planning framework to address climate change issues are evident, the resources to prepare and plan for climate change impacts are limited and requires support. In this context, the project proposed by UN-Habitat and funded by the Adaption Fund, was more intended to promote and improve collaboration, particularly by facilitating engagement between the Ministry of Environment and Tourism; and the Municipal authorities at all levels; and through the National Emergency Management Agency (NEMA), to harness existing capacities by strengthening institutional capacities and sharing information to enhance the climate change resilience of the seven most vulnerable Ger Khoroo settlements and people, focusing on flooding in Ulaanbaatar city.

In September 2018 UN-Habitat signed an agreement with the Adaptation Fund for Climate Change to implement the project on Flood Resilience in Ulaanbaatar Ger-Areas (FRUGA) - Climate Change Adaptation through community-driven small-scale protective and basic services interventions – in the seven most-vulnerable and high-risk ger-areas of Ulaanbaatar Mongolia. The project was originally planned to be implemented from December 2018 through September 2022. Due to Covid breakout and restrictions to prevent the spread of Covid, the project implementation has experienced some delays and was extended by the Donor until 31 December 2023. The total project budget is US$4,495,235. It was funded as part of the US$23.8 million approved by Adaption Fund Board, for funding of projects and programmes for developing countries to build resilience and capacity to adapt to climate change, during the implementation of the five-year Adaption Fund Strategy for 2018-2022.

The main objective of the project is to enhance the climate change resilience of the seven most vulnerable Ger khoroo settlements focusing on flooding in Ulaanbaatar City. The objective was to be achieved through four components/expected accomplishments:

- Improving the knowledge on flood hazard and risk exposure and vulnerability of the targeted areas.
- Improving the resilience and adaptive capacity of the Ger settlements through a Community-Based and gender-responsive approach (i.e., building social cohesion per Khoroo).
- Increasing resilience ger area physical infrastructure and services, supported by enhanced capacities of responsible district level and khoroo authorities.
- Strengthening institutional capacity to reduce risks and capture and replicate lessons and good practices.

The target beneficiaries of the project are the seven target Ger communities in Ulaanbaatar, which were characterized by a high exposure to multiple climate hazards ranging from wind and dust storms, air pollution, and particularly by floods.

Duties and Responsibilities

Under the supervision of the Chief, Independent Evaluation Unit, UN-Habitat, Mr. Martin Barugahare, the Evaluation Expert will:

(i) To assess the performance of the project in terms of achievement of the results at objective, expected accomplishment (outcome) and output levels.
(ii) To assess the relevance, efficiency, effectiveness, sustainability, impact and coherence of the project in improving conditions of the target communities in terms of flood resilience building.
(iii) To assess project management modalities, appropriateness of partnerships, working arrangements, adequacy of resources and how these may have impacted on the effectiveness of the project.
(iv) Assess the how the Covid-19 affected the performance of the project.
(v) To assess how cross-cutting issues such as gender equality, youth and human rights were integrated in the project.
(vi) To identify lessons learned and make strategic, programmatic and management recommendations on what further needs to be done to effectively promote and improve flood resilience in Ulaanbaatar city.

Ultimate Result of Service

The main purpose of this evaluation is to provide an assessment of the project performance and extent to which the Project's objectives and expected accomplishments were achieved. The evaluation is conducted at the request of UN-Habitat and is part of UN-Habitat's effort to perform systematic and timely evaluations of its projects and to ensure that UN-Habitat evaluations provide full representation of its mandate and activities.

Travel Details

One evaluation mission to Ulaanbaatar, Mongolia.

Output/Work Assignments

The three primary deliverables for this evaluation are:

a) Inception Report with evaluation work plan. Once approved, it will become the key management document for the evaluation, guiding evaluation delivery in accordance with UN-Habitat's expectations throughout the performance of contract. 03 May 2024

b) Draft Evaluation Reports. The evaluator will prepare evaluation report draft(s) to be reviewed by UN-Habitat. The draft should follow UN-Habitat's standard format for evaluation reports and include rating of the evaluation criteria with justification. 31 May 2024

c) Final Evaluation Report will be prepared in English and follow the UN-Habitat's standard format of an evaluation report. The report should not exceed 35 pages (excluding Executive Summary and Appendices). In general, the report should be technically easy to comprehend for non-specialists. 28 June 2024

Contract Duration

Overall Contract Duration:	3 Months
Estimated amount of actual time worked (days, weeks, months):	3 Months
Payment Terms:	Upon delivery of outputs

Qualification Requirements/Evaluation Criteria

Education:

Advanced academic degree in Political Sciences, Project Management, International Development, Program Evaluation, Statistics, Communication, Information Technology, Urban Planning, Economics, Sociology or another relevant field is required. A first-level university degree in combination with two years of qualifying experience may be accepted in lieu of the advanced university degree.
Language:

English and French are the working languages of the United Nations Secretariat. For this post, fluency in written and oral English is required.

JFQ/JSQ:

7 years of project management experience in results-based management working with development projects/ programmes is required.

Extensive evaluation experience. The lead consultant should have the ability to present credible findings derived from evidence and prepare conclusions and recommendations supported by the findings is required.

Knowledge and understanding of UN-Habitat mandate, operations and experience of regional/ multi-country projects is desired. Knowledge and understanding of Adaptation Fund operations and strategy is highly preferred.

Knowledge in climate change issues is desired.

ANNEX 3. PROJECT RESULTS FRAMEWORK

Project results framework with indicators, their baseline, targets, risks & assumptions and verification means.

Expected Result	Indicators	Baseline data	Targets	Risks & assumptions	Data collection method	Frequency	Responsibility
Project objective: enhance the climate change resilience of the seven§ most vulnerable Ger khoroo settlements focusing on flooding in Ulaanbaatar City							
Project component 1: Producing hazard and risk information / evidence for increasing resilience and developing land use plans to increase this resilience at the city, District and Khoroo level.							
Outcome 1.1 Relevant threat, hazard information, evidence and recommendations (on land use and zoning) generated for increasing resilience at the city level	See below outputs (In line with AF outcome 1: reduced exposure at national level (which is also city level in Mongolia) to climate-related hazards and threats)						
Output 1.1. One (1) Ulaanbaatar northern Ger-Area* Territorial Land Use Plan, with zoning, legal framework recommendations and a specific focus on flood risk reduction - building on 1.2 *(includes the three (3) high risk target districts covering the seven (7) most vulnerable khoroos)	Number of Territorial land use plans with identified flood risks developed In line with AF indicator 1.1. No. and type of projects that conduct and update risk and vulnerability assessments Women participating in planning process	0	One (1) > 50 % women	Ensure criteria to assess the plans and model and how they are managed are clear	Compile and analyse data on current threats and hazards information (sector, scale and intervention) as baseline. Collect data from government staff managing the plans and models Participation lists and photos	Baseline, mid-term and end	UN-Habitat
Output 1.2. Simulation model for forecasting future impacts of climate change flooding in UB city & Ger-areas established	Number of flood simulation models developed In line with AF indicator 1.1. No. and type of projects that conduct and update risk and vulnerability assessments	0	One (simulation model			Baseline, mid-term and end	UN-Habitat
Output 1.3. Seven (7) Detailed Ger-khoroo level Land Use Plans with specific focus on flood risk reduction and building resilience of the most vulnerable areas and people	Number of Territorial land use plans with identified flood risks developed In line with AF indicator 1.1. No. and type of projects that conduct and update risk and vulnerability assessments	0	Seven (7)			Baseline, mid-term and end	UN-Habitat

	Women participating in planning process		> 50 % women				
Project Component 2: Participative planning and capacity development for flood resilience in Ger-areas at the district / khoroo and community level (including activities to operate and maintain - and mitigate any potential risks related to - the interventions under component 3).							
Outcome 2.1 Target inhabitants are aware of resilience building and climate risk reduction processes and have ownership over proposed interventions at the District, Khoroo and community level	Percentage of targeted population aware of predicted flood risks and appropriate responses In line with AF indicator 3.1. Percentage of targeted population aware of predicted adverse impacts of climate change, and of appropriate responses	0	Mid-term: 30 % End: 50 % > 50 % women	Active engagement in action planning – to be recorded in community consultations	Surveys: use scale from 1 to 5 to summarize findings of analysis	Baseline, mid-term and end	Executing entities
Output 2.1. Seven (7) Khoroo-level floods resilience action plans to implement the interventions under component 3; A series of District, Khoroo and community level consultations / workshops introducing the People's Process and Community Based Disaster Risk Reduction approach, focused on building social cohesion and consensus on community level implementation of interventions under component 3	Number of Khoroo-level flood resilience action plans In line with AF indicator 3.1.1 No. and type of risk reduction actions or strategies introduced at local level Women participating in planning process	0	Seven (7) > 50 % women	Ensure criteria to assess the plans and how they are managed are clear	Compile and analyse data on current threats and hazards information (sector, scale and intervention) as baseline. Collect data from government staff managing the plans and models Participation lists and photos	Baseline, mid-term and end	Executing entities and UN-Habitat
Output 2.2. Khoroo / community level interventions operation & maintenance* and awareness campaigns and trainings to support the sustainable implementation of interventions under component 3. *(Awareness will also cover potential risks mitigation)	Number of awareness campaigns and trainings In line with AF indicator 3.1.1 No. and type of risk reduction actions or strategies introduced at local level Women participating	0	4 per Khoroo > 50 % women	Awareness raising campaigns and trainings are focused on operation and maintenance needs of concrete interventions and to mitigate potential risks.	Training reports - count of trainings and of response to needs (operation, maintenance and mitigation). Participation lists and photos	Baseline, mid-term and end	UN-Habitat

Output 2.3. Technical studies – Engineering and hydrological - required to implement the interventions under component 3.	Number of studies	0	Four (4) for the flood protection and drainage intervention (1x Khoroo 7, 2x Khoroo 9 and 1 x Khoroo 24)	The studies need to comply to both national and AF requirements for risks assessment	Assess studies with purpose to identify compliance	Baseline, mid-term and end	UN-Habitat
Project component 3: Enhance resilience of community level flood protection assets							
Outcome 3.1 Increased adaptive capacity within prioritized community assets (In line with AF outcome 4: increased adaptive capacity within relevant development and natural resource sectors).	See below outputs In line with AF indicator 4.2. Physical infrastructure improved to withstand climate change and variability-induced stress						
Output 3.1 Physical assets developed or strengthened in response to climate change related flood impacts as prioritized (by Khoroos drainage and sanitation) – implemented through community contracting	Number of physical assets strengthened, constructed, and/or modified. to reduce or withstand floods In line with AF indicator 4.1.2. No. of physical assets strengthened or constructed to withstand conditions resulting from climate variability and change (by asset types) Toilets are appropriate for women, elderly and disabled where required	0	Four (4) for the flood protection and drainage intervention: 1x Khoroo 40 2x Khoroo 9 1 x Khoroo 24 Seven (7) for the sanitation interventions: 7 x in 7 Khoroos (see detailed numbers in budget) >50 % of toilets adapted to specific needs	Interventions will be subdivided into sections manageable by community groups (see budget); these needs to be grouped for monitoring and evaluation Calculate the number of assets that have been fully completed during the	Count the number of assets that the project has strengthened, constructed, and/or modified. Assess appropriateness of assets through surveys	Baseline, mid-term and end	UN-Habitat

				period under review. Criteria to measure appropriateness of toilets for women, elderly and disabled need to be clearly defined			
Output 3.2 Management & operations; design & supervision of assets / physical infrastructure – procured as consulting services	Not relevant						
Project component 4: Awareness raising, knowledge management and communication							
Outcome 4.1 Institutional capacity strengthened to develop and replicate this approach	See output below In line with AF indicator 2: Strengthened institutional capacity to reduce risks associated with climate-induced socioeconomic and environmental losses						
Output 4.1. Lessons learned and best practices regarding flood-resilient urban community development are generated, captured and distributed to other Districts and khoroo communities, civil society, and policy-makers in government appropriate	Number of institutions trained In line with AF indicator 2.1. No. and type of targeted institutions with increased capacity to minimize exposure to climate variability risks	0	>1 municipal >3 districts	Approach to replicate the approach should be agreed upon between the municipality,	Training reports - count of trainings and of response to needs (operation, maintenance and mitigation). Participation lists and photos	Regular	UN-Habitat

mechanisms. Workshops and trainings will be organised targeting city- and district government officials with a focus on replication of processes, land use plans and interventions and to discuss how lessons can be integrated into existing strategies and plans.	Women participating		> 50 % women	districts and Khoroos			

ANNEX 4. LIST OF SEMI-STRUCTURED INTERVIEWS AND FOCUS GROUP DISCUSSIONS CONDUCTED IN MAY 2024

Note: The "Type of Evaluation" (4th column) includes:

- Semi-structured Interview (SSI): For individual officials, consultants, individual beneficiaries, etc.
- Focus Group Discussion (FGD): Group of Individuals (e.g., Social Mobilizers, etc.)

Name	Organization	Designation	Type of Evaluation / Meeting Date, Time & Venue
Multilateral Implementing Entity			
Mr. Laxman Perera Senior Human Settlements Officer	UN-Habitat Regional Office for Asia and the Pacific	Human Settlements Officer In-charge (2019 to May 2024)	8:00 AM May 14, 2024 Online
Ms. Odicea Angelo Barrios Human Settlements Officer	UN-Habitat Regional Office for Asia and the Pacific	Human Settlements Officer In-charge (May 2024 onward)	8:00 AM May 14, 2024 Online
Ms. Enkhtsetseg Shagdarsuren	UN-Habitat Mongolia Country Programme Office	National Project Manager (2019-2024)	10:00 AM, May 17, 2024 UN-Habitat Mongolia Office
Ms. Udval Otgonbayar	UN-Habitat Mongolia Country Programme Office	Finance Officer (2019-2024)	10:00 AM, May 17, 2024 UN-Habitat Mongolia Office
Government Partners			
Dr. Sh. Tserendulam	Ministry of Environment and Tourism	Director General, Climate Change and Policy Planning Department	05:00 PM May 29, 2024 Puma Hotel
Dr. Batjargal Zamba	Ministry of Environment and Tourism	Special Envoy, Climate Change, Focal Point for Adaptation Fund (Former Minister, MOET)	09:00 AM, May 21, 2024 Tuushin Hotel, Ulaanbaatar
Mr. Baldandorj Molomjamts	Mayor's Office of Ulaanbaatar City	Head of Engineering Infrastructure Department	11:00 AM, May 21, 2024 Ulaanbaatar City Mayor's Office
Mr. S. Batsaikhan	Municipality of Ulaanbaatar	Chief Engineer, Company of Geodesy and Water Construction (CGWC) (city owned)	11:00 AM, May 20, 2024 UN-Habitat Mongolia Office, Max Tower
Mr. Shijir	Sukhbaatar District	Vice Governor (2016-2023)	2:00 PM, May 21, 2024 FRUGA Project Office
Mr. Tumurbaatar	Songinokhairkhan District	Head of the Governor's Office	Unwell (at hospital) Not available to meet
Mr. N. Dulguun	Bayanzurkh District	Governor of the 9th khoroo	08:30 AM, May 29, 2024 Khoroo's Governor Office
Mr. L. Sachiikhangai	Songinokhairkhan District	Governor of the 40th khoroo	10:00 AM, May 22, 2024 Khoroo's Governor Office
Ms. R. Batchuluun	Songinokhairkhan District	Governor of the 25th khoroo	2:00 PM, May 27, 2024 Khoroo's Governor Office
Executing Entities			
Ms. G. Enkhzul	World Vision International Mongolia (WVIM), Executing Entity	Director, Grant Acquisition and Management Department	10:00 AM, May 24, 2024 World Vision Mongolia's National Office
Ms. Munkhbayar Bayasaglan	World Vision International Mongolia (WVIM), Executing Entity	Team Leader, World Vision International Mongolia (WVIM) Project Team	4:00 PM, May 24, 2024 World Vision Mongolia's National Office
Ms. N. Zolzaya	WVIM	Social Mobilizer, WVIM Project Team	FGD #1

Ms. Ts. Tsogzolmaa	WVIM	Social Mobilizer, WVIM Project Team	4:00 PM, May 24, 2024 UN-Habitat Mongolia Office FGD #2 09:00 AM, May 31, 2024 UN-Habitat Mongolia Office
Ms. D. Munkhuu	WVIM	Social Mobilizer, WVIM Project Team	
Ms. U. Uranbileg	WVIM	Social Mobilizer, WVIM Project Team	
Mr. N. Naranbat	WVIM	Social Mobilizer, WVIM Project Team	
Mr. Batbold	BD Engineering LLC (Design Company)	Director	2:00 PM, May 22, 2024 UN-Habitat Mongolia Office
Mr. Myagmarsuren Mr. Tsogtdelger	Khangiltsag LLC (Construction Company)	General Director Field Engineer	9:00 AM, May 30, 2024 Office of Khangiltsag LLC
Mr. P. Gomboluudev	Climate Change on Nature and Society (CCNS)	Project Lead	2:00 PM, May 24, 2024 UN-Habitat Mongolia Office
Project Beneficiaries – Local Community in Selected Ger Khoroos			
1st Community Meeting: Ms. Otgonbat, Primary Group Member	Community Representatives of Project Area 1: Songinokhairkhan district, 40th khoroo	Discussion and Feedback on People's Process and Flood Resilient Infrastructure and Toilets and their Sustainability	4:00 PM, May 29, 2024, UN-Habitat Mongolia Office Max Tower
2nd Community Meeting: Mr. Bukhbold, Chief Leader, Community Development Council, Songinokhairkhan District	Community Representatives of Project Area 2: Songinokhairkhan district, 24th khoroo	Discussion and Feedback on People's Process and Flood Resilient Infrastructure and Toilets and their Sustainability	10:00 AM, May 19, 2024 In the field
3rd Community Meeting: Ms. Lkhagvasuren (Chief Leader of Primary Group), and Ms. Handaa, Community Member	Community Representatives of Project Area 3: Songinokhairkhan district, 25th khoroo	Discussion and Feedback on People's Process and Flood Resilient Infrastructure and Toilets and their Sustainability	12:00 Noon, May 22, 2024 In the field
4th Community Meeting: Mr. Bat-Erdene Community Development Council's Chief Leader	Community Representatives of Project Area 4: Sukhbaatar district, 12th khoroo	Discussion and Feedback on People's Process and Flood Resilient Infrastructure and Toilets and their Sustainability	4:30 PM May 20, 2024 In the field
5th Community Meeting: Ms. Oyunchimeg, Primary Group Leader	Community Representatives of Project Area 5: Bayanzurkh district 9th khoroo	Discussion and Feedback on People's Process and Flood Resilient Infrastructure and Toilets and their Sustainability	12:00 Noon, May 18, 2024 In the field
Project Beneficiaries – Flood Resilient Toilets			
Ms. Tuya, Primary Group Leader	Songinokhairkhan district, 7, 24, 25, 40, 41, 42 khoroo	Feedback on Flood Resilient Toilet	10:00 AM May 19, 2024 In the field
Ms. Dorjkhand, Primary Group Leader	Sukhbaatar district, 12, 13, 16th khoroo	Feedback on Flood Resilient Toilet	4:30 PM, May 20, 2024 In the field
Ms. Dogsmaa, Primary Group Leader	Bayanzurkh district 9th khoroo	Feedback on Flood Resilient Toilet	10:00 AM May 18, 2024 In the field
Other Stakeholders			
Mr. Tapan Mishra	United Nations Resident Coordinator's Office, Mongolia	United Nations Resident Coordinator	5:00 PM, May 21, 2024 UN Resident Coordinator's Office
Dr. Munkhnaran Sugar	National University of Mongolia, Department of Geography	Academic and Researcher	9:00 AM, May 26, 2024 Tuushin Hotel, Ulaanbaatar

Mr. T. Tumentsogt	The Business Council of Mongolia (Private Sector)	Chief, Board of Directors	3:00 PM, May 26, 2024 Tuushin Hotel, Ulaanbaatar
Dr. Purev-Erdene Ershuu	Mongolian University of Science and Technology, Faculty of Architecture	Academic and Researcher	5:00 PM, May 27, 2024 Tuushin Hotel, Ulaanbaatar
Mr. Delgerbayar	UNIDO	Former Consultant to UNIDO	2:00 PM, May 20, 2024 FRUGA Project Office

Evaluation Reference Group

Full Name	Organization	Position	Contact information
Mr. Batjargal Zamba	Special Envoy for Climate Change, Focal Point for Adaptation Fund	Special Envoy, Climate Change, Focal Point for Adaptation Fund, National Designated Authority (Former Minister, MOET)	z_batjargal@yahoo.com
Ms. Tserendulam Shagdarsuren	Ministry of Environment and Tourism	Director General, Climate Change and Policy Planning Department	tserendulamsh@yahoo.com
Mr. Baldandorj Molomjamts	Ulaanbaatar City Mayor's Office	Head of Engineering Infrastructure Department	Bayka0624@gmail.com
Mr. Tumurbaatar	Songinokhairkhan District	Head of the Governor's Office	tumurbaatar5532@gmail.com
Ms. Enkhtsetseg Shagdarsuren	UN-Habitat	Project Manager	Enkhtsetseg.shagdarsuren@un.org
Ms. Munkhbayar Bayasgalan	World Vision International Mongolia (WVIM), Executing Entity	Team Leader, World Vision International Mongolia (WVIM) Project Team	Munkhbayar.habitat@gmail.com

ANNEX 5. SEMI-STRUCTURED INTERVIEW GUIDANCE AND QUESTIONNAIRES

Mongolia: Flood Resilience in Ulaanbaatar Ger-Areas (FRUGA) – Climate Change Adaptation through Community-Driven Small-scale Protective and Basic Services Interventions

This evaluation survey is developed for the purpose of evaluating the UN-Habitat – Flood Resilience in Ulaanbaatar Ger-Areas (FRUGA) – Climate Change Adaptation through Community-Driven Small-scale Protective and Basic Services Interventions" (the FRUGA project) in Mongolia.

This semi-structured interview is part of the external end-term evaluation of the FRUGA project, which is implemented by the Independent Evaluation Unit, UN-Habitat. This external end-term evaluation is initiated by UN-Habitat as the Multilateral Implementing Entity (MIE) of this Adaptation Fund supported project and will provide an independent and neutral viewpoint on the project's achievements and deliverables, together with recommendations to be considered by UN-Habitat when planning for the next cycle of technical assistance activities.

My name is Bharat Dahiya, and I was selected to conduct the external end-term evaluation on behalf of UN-Habitat.

The purpose of the external end-term evaluation is to assess the (i) relevance, (ii) effectiveness, (iii) efficiency, (iv) coherence, (v) sustainability, and (vi) impact of the FRUGA project. The evaluation will assess:

- *The overall progress* towards achieving the overall objectives and expected outcomes of the project and will also consider the extent to which the project has built the capacity of the nominated final beneficiaries and target groups.
- *The cross-cutting issues*, namely, social inclusion issues of gender equality, youth, and human rights as well as social and environmental safeguards.

Our interview will last approximately 45-60 minutes. The information you provide will be used solely for evaluation purposes and will be handled considering principles of confidentiality. Before we continue, please feel free to ask any questions that you may have?

Part A. Questions for Implementing Agency/Partners (i.e., UN-Habitat, Government partners, and Executing Agencies)

Implementing Agency / Government partner / Executing Agency	
Name:	
Male:	
Female:	
Role:	

Context

How did you get involved in the FRUGA project? What was your role in the FRUGA project? Looking back, how do you see your participation in the FRUGA project?

Relevance

1) Was the FRUGA project and its objectives relevant (i.e., contributing) to national goals, country and city needs, beneficiaries' requirements, policies, strategies, urban development plans, and UN-Habitat goals?

2) Was the implementation strategy in line with and responsive to SDG 11 and New Urban Agenda (NUA)?

3) Was the implementation strategy in line with and responsive to the Adaptation Fund Mid-Term Strategy 2018-2022?

4) Do you consider enough planning and needs assessment activities were conducted for FRUGA the project's design?

5) How were the needs of the FRUGA project identified and developed, and were they properly reflected?

6) What criteria were used in selecting the target Ger area communities and individual beneficiaries?

7) Where/are there contingency plans designed in the project to take into consideration possible problems and difficulties that the project managers might face during its implementation?

Effectiveness

8) Have the FRUGA project's objectives, and planned outcomes and outputs (as set out in the project's log frame) been adequately achieved and utilised?

9) Within the context of the United Nations' current engagement principles in Mongolia, how effectively did the FRUGA project engage with countries and cities to achieve desired outcomes of the project?

10) Did the Government partner organizations work together effectively? Was the partnership structure effective in helping to achieve the FRUGA project's results?

11) Do you feel the beneficiaries and target groups have acquired new skills which they can utilize in their work?

12) To what extent has monitoring and reporting on the implementation of the project been timely, meaningful and adequate? Did UN-Habitat, national and local partners, and executing partners and stakeholders credibly monitor the implementation of the FRUGA project, using the indicators of achievements on outcomes to provide evidence on performance and flag any necessary adjustments to improve delivery of the project?

13) What are the levels of awareness amongst the FRUGA project beneficiaries regarding the contribution of the Adaptation Fund (i.e., funding partner), visibility materials in the field and other communication material?

14) At this stage, what are the lessons learned from the implementation of the FRUGA project?

Efficiency

15) Did you observe any challenges/ obstacles/ problems to the successful implementation of the project and how did you address them? Lessons learned? *[Consider, organizational/administrative; political (Governmental, stakeholders); policy/ regulatory; capacity issues; budgetary; other linked to the specific activities you are involved with.]*

16) Have resources and funds been used efficiently, leveraging in-house and other United Nations' expertise, technical assistance, and other resources to optimize the project outcomes?

    a) Correlation between costs and results.
    b) Percentage and cost of personnel time allocated to programme management.
    c) Adequacy of management expenses vs. operational expenses.
    d) Which other United Nations (and other) agencies collaborated with the FRUGA project team? How has the partnership with other United Nations agencies for implementing the project worked? Any problems?

e) What are the project team's routine responsibilities, apart from the management of the FRUGA project? Are there any issues with their other UN-Habitat responsibilities?

17) Did UN-Habitat demonstrate to have adequate capacity to design and implement the FRUGA project?

18) Were institutional arrangements adequate for implementing the FRUGA project and for delivery of expected outputs and outcomes?

19) How did the Covid-19 pandemic affect the FRUGA project implementation?

20) Do you consider that the reporting (internal and external) and monitoring was sufficient and of good quality? What could be done differently or better?

Coherence

21) Was the project coherent with other interventions of similar nature funded by the Adaptation Fund in the country?

22) Does the project have connections with other interventions of the UN-Habitat relating to building urban climate resilience?

Sustainability

23) In your opinion, to what extent did the FRUGA project build capacity of the beneficiaries and stakeholders? What mechanisms are put in place to ensure sustainability of the results and benefits achieved?

24) How did the project engage beneficiaries in the design, implementation, monitoring and building ownership of the beneficiaries?

25) In your opinion will the FRUGA project stakeholders' engagement and cooperation be likely to continue?

26) Do you have any suggestions and/or recommendations for further support in strengthening the technical capacities to further improve urban climate resilience in your organization/country (*other than that already planned by UN-Habitat and/or Adaptation Fund*)?

27) Can, should and will the FRUGA project be replicated or scaled up in Ulaanbaatar and/or Mongolia?

28) Would it be useful if UN-Habitat supported such initiatives? How would financing be secured?

Impact outlook

29) Did the project attain its objective and anticipated impact on partners and targeted beneficiaries, whether stakeholders or communities?

30) What positive and/or transformative changes have occurred because of the FRUGA project?

Cross-cutting issues

31) Were the social inclusion issues of gender equality, youth and human rights as well as social and environmental safeguards considerations adequately integrated into the design, implementation, monitoring and reporting on the project, were relevant?
Gender:
Youth:

Human Rights:
Social Safeguards:
Environmental Safeguards:

32) How were these issues successfully applied in the project? Please provide some examples.

[End of Semi-structured Interview Questions for Implementing Agencies/Partners]

Part B. Questions for Targeted Ger Area Community / Beneficiary

Main Beneficiary / Local Community:	
Name:	
Male:	
Female:	
Role:	

Context

How did you get involved in the FRUGA project? What was your role in the FRUGA project? Looking back, how do you see your participation in the FRUGA project?

Relevance

1) What do you know about the FRUGA project?

2) Were you given the chance to express your needs and/or the needs of your institution during the FRUGA project's design/implementation? Project activities preparation? How were you involved in the project?

3) To what extent are you satisfied with the FRUGA project's design? Is it aligned with the needs of your khoroo (sub-district) and kheseg (neighbourhood)?

4) Do you know how the needs of the FRUGA project were identified and developed. Were they properly reflected? What criteria were used in selecting the beneficiaries?

Effectiveness

5) In your opinion, were the FRUGA project's objectives, and planned outcomes and outputs (as set out in the project's log frame) adequately achieved and utilized?

6) Did the partner organizations work together effectively? Do you think the partnership structure was effective in helping to achieve the project's results?

7) Do you feel the beneficiaries and target groups have acquired new skills which they can utilize in their work?

8) What are the levels of awareness amongst beneficiaries regarding the contribution of the funding partner, visibility materials in the field and other communication material?

9) At this stage, what are the lessons learned from the implementation of this project?

Efficiency

10) Did you observe any challenges/ obstacles/ problems to the successful implementation of the FRUGA project, if so, how were they addressed? *[Consider, organizational/administrative; political (Governmental, stakeholders); policy/regulatory; capacity issues; budgetary; other linked to the specific activities you are involved with.]*

11) In your opinion, have resources and funds been used efficiently, leveraging in-house and other United Nations' expertise, technical assistance, and other resources to optimize the FRUGA project outcomes?

12) Were institutional arrangements adequate for implementing the FRUGA project and for delivery of expected outputs and outcomes?

13) How did the Covid-19 pandemic affect the FRUGA project implementation?

Coherence

14) Did you observe any collaboration with other entities in the United Nations system and other international organizations in the country? If so, how coherent was the collaboration with other entities in the United Nations system and other international organizations?

15) To what extent was the FRUGA project coherent with other interventions of similar nature funded by the Adaptation Fund in Mongolia?

16) How does the FRUGA project compare with other similar efforts from other actors in the United Nations System (if any)?

Sustainability

17) In your opinion, to what extent did the FRUGA project build capacity of the beneficiaries and stakeholders? What mechanisms are put in place to ensure sustainability of the results and benefits achieved?

18) How did the FRUGA project engage beneficiaries in the design, implementation, monitoring, and building ownership of the beneficiaries?

19) In your opinion will the FRUGA project stakeholders' engagement and cooperation be likely to continue?

20) Do you have any suggestions and/or recommendations for further support in strengthening the technical capacities to further improve urban climate resilience in your organization/ country (other than that already planned by UN-Habitat and/or the Adaptation Fund)?

21) Can, should and will the project be replicated or scaled up in Ulaanbaatar and/or Mongolia?

22) How would financing be secured? Would it be useful if UN-Habitat supported such initiatives?

Impact outlook

23) Do you feel the FRUGA project attained its objective and anticipated impact to partners and targeted beneficiaries, whether stakeholders or Ger area communities?

24) What positive and/or transformative changes have occurred because of the FRUGA project?

Cross-cutting issues

25) Were the social inclusion issues of gender equality, youth, and human rights as well as social and environmental safeguards considerations adequately integrated into the design, implementation, monitoring and reporting on the project, were relevant?
Gender:
Youth:
Human Rights:

Social Safeguards:
Environmental Safeguards:

26) How were these issues successfully applied in the FRUGA project? Please provide some examples.

[End of Semi-structured Interview Questions for Targeted Local Community / Beneficiary]

[End of Evaluation Report]