Ministry of Construction and Urban Development (MCUD)

National Development Agency (NDA)

Japan International Cooperation Agency (JICA)

Report on Pilot Projects and Supplemental Surveys for The Project for Formulation of National Comprehensive Development Plan

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

Chapter 1 Formulation and Selection of Pilot Projects

1.1 Overview

The JICA Project Team (JPT) examined pilot projects (PPs) to be implemented as part of the NCDP Project since December 2019 in consultation with JICA. Profiles were prepared for 17 candidate PPs proposed based mainly on ideas of JPT experts. They were discussed with the Mongolian counterparts (CPs) and JICA, and four of them were approved by JICA in April 2020 and one additional PP was approved in October 2020.

The objectives of implementing PPs were to: 1) prepare for early implementation of the projects proposed in the NCDP and; 2) publicize the NCDP with PPs related particularly to anchor projects to a wide range of stakeholders to build momentum for the overall implementation of the NCDP. The five PPs implemented fully are as follows:

(a) New Ulaanbaatar International Airport (NUBIA) freight terminal development promotion,

(b) Survey on establishment of "Urtuu" service stop areas,

(c) Strengthening distance learning,

(d) Establishing linkage between industry sector and universities, research institutes and academia, and

(e) Study on establishment of dinosaur museum.

In the process of examining the PPs, additional issues were identified that should be incorporated in the NCDP. The following are now included in the NCDP:

(a) Public-private partnership capacity development,

(b) Survey on establishment roadmap of local information platform, and

(c) Strengthening historical and cultural buildings and structures.

For the PPs, a participatory approach is essential in the process from planning to implementation, involving the related agencies and other stakeholders. Since the participatory process of project implementation is considered to be relatively new and therefore challenging in Mongolia, the JPT has taken a practical approach to involve the relevant stakeholders comprehensively to provide a useful reference for the future implementation of the NCDP projects. Therefore, the process of the PPs planning through implementation has been compiled.

The PPs were implemented through April 2021 and the final report of each PP was submitted with the updated information for inclusion in the Draft Final Report 3 submitted in June 2021.

1.2 Selection of Pilot Project

All the proposed PPs were pre-evaluated by a modified JICA's evaluation system for PP evaluation, and also relationships with other existing or planned projects were clarified. Based on the results, the PPs to be implemented were selected in coordination with JICA and the Mongolian CPs.

The evaluation indices were set as shown below. Based on the rating chart shown in Figure 1.2.1, the projects were categorized as A (highly satisfactory), B (satisfactory), C (partially satisfactory), and D (unsatisfactory), respectively. Table 1.2.1 shows the results of the selection process, taking into account the pre-evaluation and the check on duplication with other projects.

Relevance

- The PP is consistent with Japan's Overseas Development Assistance policy (achieving sustainable economic growth and stable social development).
- The PP is consistent with the NCDP's development paradigm, vision and development strategy.
- The PP is consistent with the Mongolian Long-Term Development Policy 2050.

Effectiveness

- Outcomes of the PP are clear and verifiable.
- Beneficiaries and target area are clearly identified.
- Outcomes are consistent with the timeframe of the NCDP's development scenario.

Impact

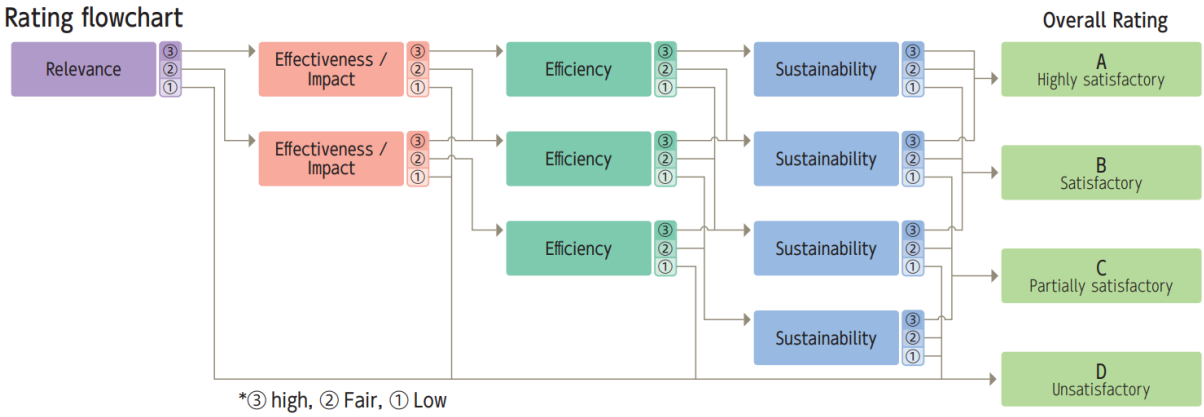
- Momentum for NCDP implementation can be increased.
- Outcomes can be obtained during the implementation of the PP.
- The PP can be expected to contribute to structural changes.

Efficiency

- Implementation can be completed with the planned input as the PP.
- Cost-effective outputs can be obtained.
- Implementation is likely to be completed by March 2021.

Sustainability

- Measures for dissemination of the PP outcome during and after implementation are appropriate.
- Support from Japan and other countries can be expected after the implementation of the PP.
- The logic behind the dissemination of the PP is appropriate.



Source: JICA, Annual Evaluation Report 2019

Figure 1.2.1 Rating Flowchart for the Project Evaluation

Table 1.2.1 Propose Pilot Projects and Result of the Evaluation

No.	Pilot project name	Evaluation rate	Duplication with existing projects and other PP	Implementation as PP	Additional survey in NCDP main report
1	Survey on the accessibility of the new airport to UB city (the title changed) New Ulaanbaatar International Airport (NUBIA) freight terminal development promotion	A		✔	
2	Survey on establishment of "Urtuu" Service Stop Areas	B		✔	
3	Establishment of Soum development hub	B	duplicated		
4	Metal mineral resources market exploration	D	duplicated		
5	Public-private partnership capacity development	B			✔
6	Automobile recycling park	A	duplicated		
7	Strengthening communication in local administrations	B			✔
8	New generation herders' upbringing program	B	duplicated		
9	Small wastewater treatment plants in a cold district	C	duplicated		
10	Strengthening distance learning	A		✔	
11	Establishing linkage between industry sector and universities, research institutes and academia	A		✔	
12	Creation of a tourism platform in the cold season	C	duplicated		
13	Local tourism sector capacity development	A	duplicated		
14	Study on establishment of dinosaur museum	B		✔	
15	Rare earth resource exploration	B	duplicated		
16	Promotion of a master plan to build coal-related industrial chains	C	duplicated		
17	Optimization of coal sorting operations	B	duplicated		
added	Strengthening historical and cultural buildings and structures	B			✔

Source: JICA Project Team

1.3 Identification of Pilot Projects

The proposed projects in the NCDP are packaged into four development initiatives for policy aims to clarify characteristics of different projects and programs and facilitate coordination between them. Of all the proposed projects, anchor projects have been selected as priority projects instrumental in causing favorable economic and/or spatial structural changes. Furthermore, integrated regional development programs (IRDPs) have been formulated with a package of projects related to a specific region for more effective implementation. The relevance of the PP with respective the initiatives, anchor projects and the IRDPs is examined as shown in Table 1.3.1.

Table 1.3.1 Relevance of the Pilot Projects with Respect to the Development Initiatives and IRDPs Proposed by NCDP

No.	Name of the PP	Related anchor project	Development Initiative	IRDP
1	New Ulaanbaatar International Airport (NUBIA) Freight Terminal Development Promotion	III8	Spatial structure strengthening initiative	Capital Region advanced processing and logistic base development program
2	Survey on establishment of "Urtuu" Service Stop Areas	I10.4	Economic and export diversification initiative	Nationwide Tourism corridor/areas, community development program
3	Strengthening distance learning	II6	Broad-based empowerment initiative	Applicable to all the Regions
4	Establishing linkage between industry sector and universities, research institutes and academia	II3	Broad-based empowerment initiative	Applicable to all the Regions
5	Study on establishment of dinosaur museum	I10.1	Economic and export diversification initiative	Southern Region responsible mining and community development program

Source: JICA Project Team

Chapter 2 Conditions for Pilot Project Implementation and Evaluation

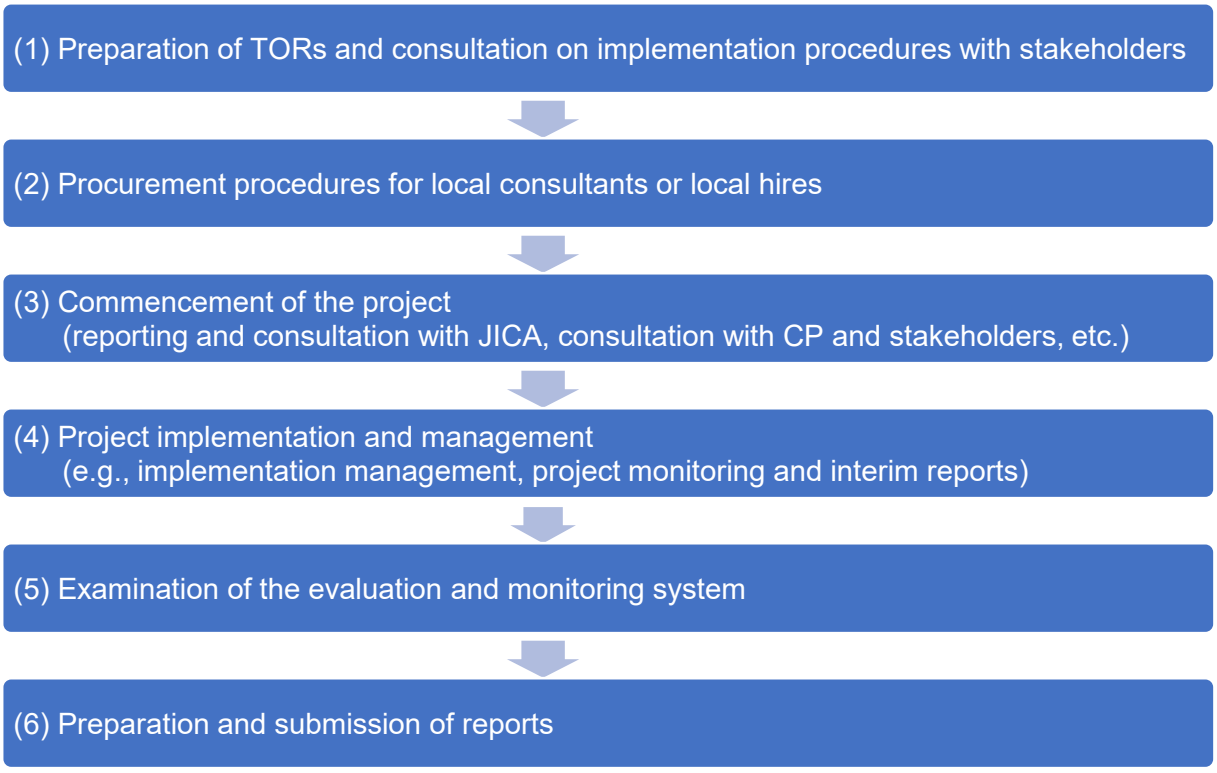
2.1 Premises and Points to Note for Pilot Projects

(1) Countermeasure of COVID-19

Due to the COVID-19 outbreak, no prospects were seen for the JPT to enter Mongolia at the time of PP selection. Therefore, ways to maximize the use of JPT's local personnel to carry out operations were discussed in cooperation with the JICA Mongolia.

(2) Task Flow

The flow of PP implementation was established as shown in Figure 2.1.1, although the details vary slightly for each PP.



Source: JICA Project Team

Figure 2.1.1 Implementation Flow of the Pilot Project

2.2 Evaluation System of Pilot Projects

In accordance with the project evaluation method of the NCDP, the PPs were evaluated after the implementation of each PP (Chapter 9 of the NCDP for details). The evaluation could be reflected in each of related anchor projects, which would contribute to more focused preliminary evaluation of the NCDP. Results are shown in Table 2.1.1 as rating of each PP.

Table 2.2.1 Overall Rating of Pilot Projects

Project title	Relevance	Effectiveness and impact	Efficiency	Sustainability	Rating
New Ulaanbaatar International Airport (NUBIA) Freight Terminal Development Promotion	3	3	3	2	A: High Satisfactory
Survey on establishment of “Urtuu” Service Stop Areas	3	2	2	3	B: Satisfactory
Strengthening distance learning	3	2	3	3	A: High Satisfactory
Establishing linkage between industry sector and universities, research institutes and academia	3	3	3	3	A: High Satisfactory
Study on establishment of dinosaur museum	2	3	3	3	A: High Satisfactory

Source: JICA Project Team
Note: Rating:1 = Low; 2 = Fair; 3 = High

Chapter 3 Overview and Achievement of the Pilot Projects

3.1 New Ulaanbaatar International Airport (NUBIA) Freight Terminal Development Promotion

(1) Background

The NCDP advocates "the network of transport and logistic infrastructure of high quality linking Ulaanbaatar and major regional cities to neighboring countries" as a means of realizing the NCDP's regional development vision. Ensuring both passenger and freight connectivity between the New Ulaanbaatar International Airport (NUBIA) and the City of Ulaanbaatar is a necessary condition to ensure the above means.

The PP was formulated initially to promote the NUBIA access buses, monitor their operation and propose operational improvements by utilizing ICT. However, as the opening of the airport and bus services had been postponed due to the COVID-19 outbreak, the main focus of the PP was changed to promoting the development of NUBIA freight terminal.

(2) Objective

The objective of the PP was to identify potential operators for the NUBIA freight terminal and propose a business model for them. For the purpose, the level of interests in the freight terminal by domestic operators were pursued.

(3) Implementation procedure and achievement to date

Project preparation

Scope of works for the PP was finalized based on interviews with stakeholders. The Federation of Mongolian Freight Forwarders (FMFF) and the JPT agreed on the cooperation.

Identification of stakeholders and potential users of NUBIA logistics hubs

A review of basic information on FMFF members was conducted via Google Forms covering such information as company name, size, main commodities, transport modes, transitions for freight transportation, and in addition an open question was asked to identify main challenges. As the result, FMFF members revealed their concerns on customs and terminal service at the existing terminals/hubs/transits, and suggested countermeasures.

Initial questionnaire surveys and needs identification

A questionnaire survey was designed to identify local freight forwarders' needs and expectations on the NUBIA logistics hub. The questionnaire was distributed to FMFF members and local freight operators (including DHL, Mongol post, etc.), with both English and Mongolian versions. Responses were collected and analyzed.

Group discussion with major stakeholders

Based on the questionnaire result, the development plans focused on three major topics: 1) relationship of UB congestion with NUBIA logistics hub, 2) modernization of NUBIA logistics hub, and 3) the coordination of the planned hubs. The NCDP team proposed the concept of ECO station, and reviewed the related planning of logistics hubs surrounding the Ulaanbaatar City. Relevant stakeholders, including FMFF, MRTD, MCUD, Ulaanbaatar City Transport Office, Urban Planning Research Institute, Ministry of Foreign Affairs, as well as JICA Mongolian Office participated in the group discussion. The group discussion enhanced the understanding of current situation of logistics development in Mongolia and development plans related to the NUBIA freight PP. The result is summarized in the

present report.

(4) **Management and implementation structure**

The PP proceeded with the cooperation of FMFF and other agencies with the JPT and local staff facilitating as follows.

(a) FMFF as the supporting agency, and

(b) JPT as facilitators with the road planning expert supported by national staff of the JPT.

(c) Main outcomes

New export products for international markets

The survey identified the new export-oriented products fit to air freight created by the rapid development of the Mongolian economy and the improvement of quality of life. Goods such as pharmaceuticals, electronics, fresh grass-fed lamb meat, sea buckthorn, cashmere products are suitable to be carried by air freight to international markets. The implementation of NUBIA logistics hub will increase the capacity of the logistics system and address the demand on air freight. The participants shared the idea of NCDP, and importance of the freight terminal development oriented to export.

Modernization of logistics service

The participants of the questionnaire expected improvements on the logistics service, among which cargo handling and operations and its related regulation are the top concern. The informal handling of goods in the local market has been an issue for years, which affects quality of service for international logistics chain development for export products and workers' safety. The modernization of the logistics service would enhance the operation safety, promote the standardization of operational procedures, and reduce the operation cost at the same time. The participants agreed that institutional arrangements to ensure implementation for modernization for industrial regulation, including operational procedure and safety are essential.

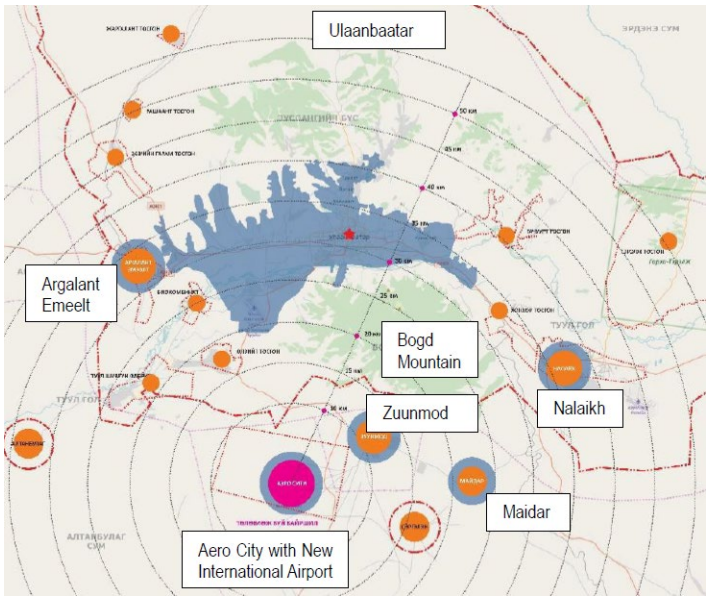
Source: JICA Project Team

Figure 3.1.1 Annual Handling Operation in Private Logistics Yards in Ulaanbaatar (2019)

Coordination of the planned hubs surrounding Ulaanbaatar City

Through the interviews during the PP, JPT identified several logistics hub development plans had been proposed by several agencies and groups without coordination. Figure 3.1.2 shows the planned

logistics hubs surrounding the Ulaanbaatar City. The pink one is the location of NUBIA hub. Other than NUBIA hub, there are seven proposed logistics hubs around Ulaanbaatar. To name a few, one is the logistics center (occupying 130 ha land) between Bumbat and Bayan station of existing railway main line, which has good access with railway and road. Another one is close to the industrial area of Baganuur and Bagahangai, and it is expected to connect with the new airport by an access road.



Source: Aero City M/P

Figure 3.1.2 Planned Logistics Hubs Surrounding Ulaanbaatar City

The coordination of the logistics hubs requires the planning at the high level. The rail-based logistics is the priority at current stage as suggested by the group discussion, considering the high-cost of air freight and the role of rail as the traditional mode. It would be better to separate the rail, road, and air freight modes for different hubs, to take advantages of proximity to airports or railway stations. The participants agreed that the separation would ensure the operation safety as well.

Freight logistics and congestion in Ulaanbaatar City

Congestion in Ulaanbaatar City is a major issue for the logistics development. Approximately 40% of the participants had a negative view on the location of existing terminals in and around the City, and more than half believed that the logistics hub in the suburbs would alleviate traffic congestion in the City. In terms of solution for traffic congestion of Ulaanbaatar in the master plan 2040, the separation of rail-based passenger and freight transport was proposed so that current railway will be for the passenger-oriented transport and the future Bogdkhaan railway will be more on freight and commodity based. As for the freight delivery in the dense CBD area, the proposed ECO-station that solves the last mile delivery with designated consolidation points and small scale carts and smart logistics concept that utilizes ICT and robots and drones were well received by local freight forwarders in the group meeting. The concept of the ECO-station is illustrated in Figure 3.1.3.

Source: Good Practice Guide on Urban Freight Transport, BESTUFS

Figure 3.1.3 Concept of ECO-Station

(5) Result of evaluation

The 2-step evaluation system proposed in the NCDP (Chapter 9 of the NCDP for details) is applied to all proposed projects including pilot projects. Table 3.1.1 shows step 1 evaluation result of this pilot project. Results of step 2 evaluation are shown in Table 3.1.2.

Table 3.1.1 Step 1 Evaluation of Projects in Freight Terminal Development Promotion

Account/Initiative		Score	Description
1. National economy: NE			
	1.1 Economic efficiency	2	NUBIA freight terminal can be a hub for export delivery, domestic distribution, rail-truck and flight-truck logistics integration. The freight delivery can replace existing terminal in congested UB.
	1.2 Contribution to economic diversification	2	This may promote the export-oriented sector in the rural area, which was minor in current Mongolia market.
	1.3 Contribution to foreign exchange earnings	2	This may promote the export-oriented sector in the rural area, which was minor in current Mongolia market.
	1.4 Appropriate technology promotion	1	This may improve the logistics work environment and quality of services. At present, manual handling can be seen.
Sub-Total		7	
2.Regional development: RD			
	2.1 Improvement of income disparities	2	This may promote the export-oriented sector in the rural area, which will directly earn foreign currency.
	2.2 Vitalization of local SMEs	2	This may promote the export-oriented sector in the rural area, which was minor in current Mongolia market.
	2.3 Community development	0	Indirect influence can be expected.
	2.4 Use of local/indigenous resources	1	The export-oriented commodities are Mongolian indigenous resources.
Sub-Total		5	
3. Social development: SD			
	3.1 Employment generation	1	This may promote the export-oriented sector in the rural area.
	3.2 Improvement of social services	0	--
	3.3 Effects on local culture	0	--
	3.4 Poverty alleviation	1	This may promote the export-oriented sector in the rural area, which was minor in current Mongolia market.
Sub-Total		2	
4. Environmental quality: EQ			
	4.1 Adaptability to natural conditions	1	The logistics hub itself will be developed in the NUBIA surrounding industrial area, which is fully environmentally controlled.
	4.2 Land requirements and suitability	1	The logistics hub itself will be developed in the NUBIA surrounding industrial area, which is fully environmentally controlled.

	4.3 Water use and management	0	--
	4.4 Reduction of environmental	1	The NUBIA logistics hub may substitute the existing logistics functions located in UB, and strength regional logistics chain.
Sub-Total		3	

Note: (1) = Highly positive, (2) = Positive, (3) = Negative
Source: JICA Project Team

Table 3.1.2 Step 2 Evaluation of Projects in Freight Terminal Development Promotion

Criteria/Infrastructure	Description
Investment cost	US$50 million, tentative
O&M cost	US$5 million, tentative
Employment generation	100-200 persons in full scale operation
Economic rate of return or B/C ratio	Not yet estimated
Foreign exchange earning	Not yet estimated

Source: JICA Project Team

(6) Recommendation and lessons learned

Recommendation for promotion of anchor project (III7: Ulaanbaatar urban redevelopment utilizing freight terminal land)

This NUBIA logistics hub development shall be a trigger to implement the project III7, expecting that renovation of existing rail-based logistics yards. The project III7 needs substitutional function of the existing yard, and the Bogdkhan railway development and NUBIA logistics hub function can be an alternative for the existing freight functions. According to MRTD and MCUD, currently the priority of logistics development is the rail-based logistics. The NUBIA logistics hub should focus on air freight provided that the high cost can be justified with the project III7. This may not solve the total congestion of the Ulaanbaatar City transport; however, there will be the positive impact on freight delivery efficiency to Ulaanbaatar and regional hub from/to NUBIA logistics hub, and innovative solutions such as ECO stations and smart logistics should be considered.

Recommendation for promotion of anchor project (III9: Ulaanbaatar airport satellite city development)

The NUBIA logistics hub is a part of the project III9, expecting to develop secondary urban core, and the logistics hub will serve the logistics function and industrial development. The internationalization, standardization and modernization of the NUBIA logistics hub are the key topics, and lessons should be learned from development cases of successful international air freight terminals.

Lessons learned

The online survey and questionnaire have been proved to be effective tools for the participatory approach even during the COVID-19. The distribution of sheets, collection of response, and visualization of the result can be carried out remotely and efficiently. It would be more desirable if more participants can be invited so that the results can better reflect the actual situation. However, this may increase the PP cost and take longer time for implementation.

The NUBIA site visit is to provide FMFF members a tangible understanding of the new NUBIA logistics hub and was originally planned for the latter half of November. However, due to the lockdown in Ulaanbaatar City, the site visit was cancelled.

(7) Future orientation

Concrete plan/recommendation to roll out

The NUBIA logistics hub development should be planned in detail with operation strategy, business development with international investors, promotion of the export commodity among producers, exporters and importers, facility development, incentives by the Government, and modernization of the regulation for export product handling quality.

Implementation/monitoring structure

Another ongoing JICA project formulation study for the NUBIA logistics terminal is expected to suggest the way for implementation structures.

Possibility of cooperating with other projects

ADB is going to conduct a feasibility study for the Bogdkhan railway development project in 2021, and therefore, a series of close coordination with the ADB F/S is needed.

Fund raising method

Another ongoing JICA project formulation study for the NUBIA logistics terminal is expected to suggest the way for fund raising.

(8) Notes on effects of COVID-19

Initially, the NCDP PP team planned to implement a PP for the NUBIA access bus service improvement; however, the NUBIA opening, and the bus operation were postponed due to the COVID-19 situation, and the PP team changed to focus on the NUBIA logistics hub concept development with FMFF. The expected implementation schemes for the access bus service can be summarized as follows:

- Step 1: Review on planned bus operation routes by UB Municipality Transport Office;
- Step 2: Promotion of the NUBIA bus access, including the design and distribution of bus operation flyers with cooperation and support from relevant stakeholders and potential sponsors;
- Step 3: Passenger Assessment, including assessment of passengers' preference and transport service performance, and revision of the transport services for further accessibility improvement;
- Step 4: Data collection on bus operators' operation and performance, including GPS monitoring data to assess the passenger demand, passenger fluctuation with the actual traffic situation, so as to improve the NUBIA access bus service; and
- Step 5: Reporting on PP team's summary of the passenger inquiry and operational results and proposals on the revisional activities of the accessibility improvement, and presentation to JICA and UB transport office, and other stakeholders of NCDP to report the assessment results and further action proposals.

It is expected that the NUBIA access bus service improvement PP would be resumed when the pandemic is over.

3.2 Establishment of "Urtuu" Service Stop Areas

(1) Background

The unspoiled nature existing in the vastness of Mongolia is a unique tourism resource. Although tourists are expected to make vehicle trips over long distance to visit these natural tourism resources, there are currently no facilities along the roads to meet the demands of tourists for sanitary toilets, road traffic information and local product sales facilities.

As the Mongolian Government is working towards establishing service facilities along the major tour routes, it is important to reconsider the premises of what kind of establishments would be the most desirable and fulfilling of the needs. According to the travel and tourism competitiveness index (TTCI),

Mongolia is ranked 105th out of 111 countries in terms of tourist service infrastructure. Improving the tourism infrastructure is listed as a top priority in the policy documents.

It is important to recognize that Mongolia is a country with great history, that once established one of the first and most efficient postal systems in the world that also had characteristics of modern-day roadside stations that serve road users. The need to recuperate the history and the ability to connect to the past roots seem to represent an important endeavor in order to restore the local pride and to create something that is long-lasting for future generations. There is a unique opportunity to utilize the historical brand of "Urtuu" and revive the cultural significance and authenticity of these service facilities, as some of the elements of these historical Urtuu facilities are relevant and timely as ever. Also, in terms of branding perspectives, the historical Urtuu system has a lot to offer.

It is quite important to draw examples of successful cases and adopt a personalized approach, in order to learn from what works and finding out what is applicable. An attractive case is that of Japanese "Michi-no-Eki" or roadside stations that fulfil two basic roles: 1) provision of safe and comfortable road traffic service to road users, and 2) promotion of local development by road users visiting Michi-no-Eki, in which local communities participate.

(2) Importance of the pilot project

The Ministry of Environment and Tourism (MET) and the Ministry of Road and Transport Development (MRTD) are working on developing a conceptual framework for the establishment of roadside facilities. It is of utmost importance to consider the impact of such service facilities on the livelihoods of the locals and the local economy as well as their overall role in the tourism development of the country for generations to come.

In this context, the NCDP highlighted the "Urtuu", a traditional Mongolian roadside facility, and proposed a plan to establish the Urtuu as a roadside hub that draws from the example of the Japanese roadside station system while retaining the Mongolian traditions of the historical Urtuu as the anchor project. This concept is in line with the Mongolian Government's vision of fostering national pride through the tradition of history, culture and nomadic lifestyle, set by the Vision2050. This pilot survey explores the importance of developing a network of Urtuu service stop areas.

Urtuu is expected to improve the image of Mongolia's tourism sector by providing a comfortable and safe facilities to all the passengers through the expansion of information sharing and resting functions, while improving the tourism infrastructure. At the same time, Urtuu is expected to become a transit point between regions and the outside world.

In addition, one of the key and essential roles of Urtuu is to serve as a marketplace for existing and potential goods and services provided by locals while positively impacting the livelihoods of the locals and the local economy and creating further linkages in the local industry. This attempt is expected to serve as a bridge between various local stakeholders, and Urtuu could become a center for future regional development.

The objective of creating a safe and comfortable road traffic environment along with contributing to the promotion of local regions fits the current necessity of Mongolia's case, where the Country is trying to redefine its way out of the resource consumptive approaches, while stepping more towards preservation of natural and cultural heritages. Additionally, the competitiveness of the industry, which goes hand-in-hand with the industry's sustainability, is highly influenced by the quality of tourist destinations, that takes into consideration the natural and cultural environment while ensuring that local communities are well integrated.

One of the shortcomings of the current tourism development initiatives underlies in the fact that local communities and tourism development are oftentimes considered separately. Therefore, it is taking a lot of efforts and outcomes are inefficient. Even examples of the most successful service facilities operated by the private sector are driven by economic efficiency and profitability, and do not consider the development of local economies to the extent possible. Therefore, it is very critical for the Government to set up the directions and necessary guidelines for establishing such service facilities.

(3) Objectives

The objectives of the PP are as follows.

(a) The concept of Urtuu that draws from the example of Japanese Michi-no-Eki (roadside stations) will be established, coupled with the traditional Urtuu system, and

(b) Directions of capacity development for the operational structure of Urtuu will be clarified.

(4) Management and implementation structure

The JPT facilitated cross-agency collaboration; MCUD supervised to ensure consistency with the NCDP.

(a) Coordinating agency: MRTD, MET, MCUD

(b) JPT: Expert of tourism development, local staff

(5) Implementation procedure

Project preparation

Following coordination between the ministries, a formal letter of request for work was issued by MET to the JPT. The PP was briefed and accordingly the activities of the PP were agreed upon at a meeting of the JPT, MET and MRTD on August 26, 2020.

Survey on south-north economic corridor (MR 100)

Within the framework of this pilot project, JPT assisted the Mongolian Government with the field survey of identifying the potential locations for establishing these service facilities. A survey along the north-south economic corridor, which is also the main tour route MR100 was conducted from September 27 to October 6, 2020. Initially the plan included to survey only MR100. However, the survey was expanded to include additional routes of MR 400 and MR 450. The study aimed to assist the ministries to identify priority locations for Urtuu through a survey of all the service facilities along these main tour routes. Participants in the survey included two experts from MRTD, one from National Road Transport Center (NRTC), two from MET, and two JPT local staff. The results of the survey were stored in the Arc GIS data cloud, and further interviews were conducted with the officers in each Aimag.

1)	MR100 (North part)	UB – Darkhan – Altanbulag
2)	MR450	Darkhan – Erdenet – Tarialan (Khuvsgul) soum – Murun – Khatgal village
	MR400	Khatgal village – Murun soum – Ikh Uul soum – Khutag-Undur soum – Bulgan soum – Dashinchilen soum – Lun soum – UB
3)	MR100 (South part)	UB – Sainshand – Zamiin-Uud

Training and workshop for Urtuu formulation to CPs and stakeholders

Capacity building is important for the establishment of the Urtuu service stop system. The training provided an overview of the Japanese roadside station system and its practices and was useful for the discussion on the establishment of Urtuu. Taking into account the impact of COVID-19, the training was conducted in a hybrid way combining a session in a large conference room and an online session. The target participants were officials from MET, MRTD, MCUD, Aimags and related people from private companies, the national university and the Mongolian National Chamber of Commerce and Industry (MNCCI).

<1st Training and Workshop>

Date:	22nd October, 2020
Participants:	43 (including 10 online participants)
Trainer:	Research Institute for Road and Street

Training contents:	Standard system of Japanese roadside station
Workshop contents	Identifying the issue and key point of Mongolian Urtuu (standard)

<2nd Training and Workshop>

Date:	29th October, 2020
Participants:	52 (including 12 online participants)
Trainer:	Civil engineering research institute for cold region
Training contents:	Regional Development based on Japan's Model of "Roadside Stations"
Workshop contents:	Identifying the issue and key point of Mongolian Urtuu (Management system)

Identification of the candidate places

Based on the above research and discussions, candidate sites on north-south corridor (MR100) and to the Khuvsgul directions (MR450 and MR400) were identified as shown in Figure 3.2.1 and Figure 3.2.2.

Source: MET and JICA Project Team

Figure 3.2.1 Urtuu Candidate Sites

Source: JICA Project Team

Figure 3.2.2 Photo of the Survey

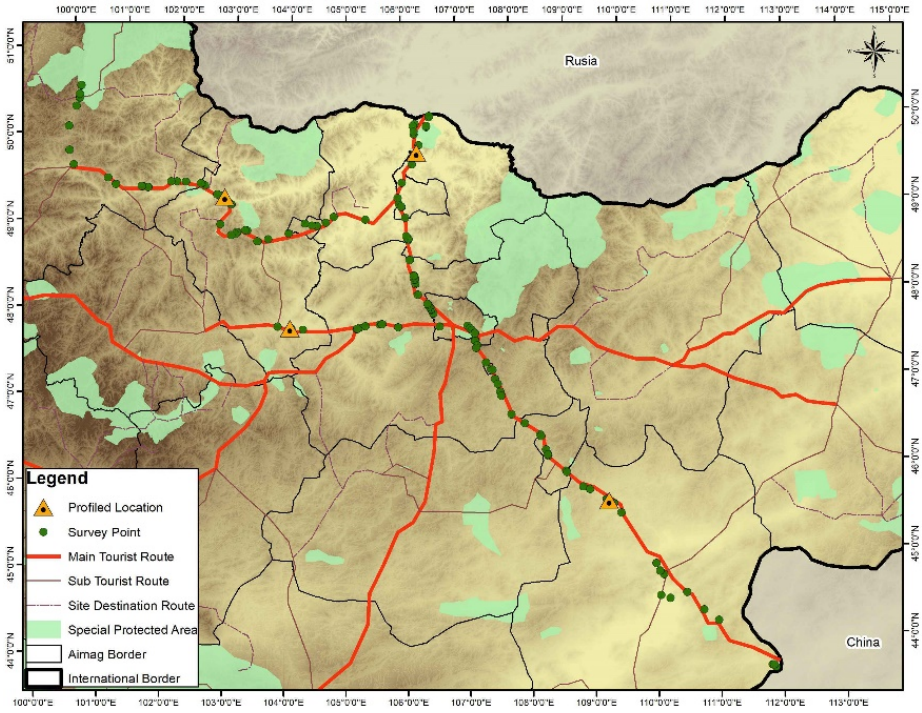
Survey on the candidate Soums' potential

With regard to the candidate places (Soums) identified above, the potential of the Soums for Urtuu had been investigated and the features of the Soums had been identified and summarized. Taking into account of the COVID-19 pandemic, the tasks were conducted in collaboration with experts in the region and tourism sector instead of conducting 2nd site visit survey.

Within the framework of the pilot project, the initial plan was to meet with the locals and visit the designated Soums for in-depth survey. However, due to COVID-19 related lockdowns and travel restrictions this part could not be carried out. For this stage of surveys, a profiling of these Soums was conducted. However, in the future planning, discussions with the locals and their involvement are an important step that cannot be overlooked.

Conceptual model of Urtuu and additions to the existing standards

A conceptual model for Urtuu service facilities is introduced based on the example of the Michi-no-Eki model, while retaining the cultural and traditional significance of historical Urtuu structures. The current standards are insufficient in terms of determining the role of such service facilities for local development. The current standards do not emphasize the importance of this point and there are some inconsistencies and contradictions in the document that need to be mended. The draft standards can be utilized to serve as the supporting document for setting the national standards of Urtuu establishment.



Source: JICA Project Team

Figure 3.2.3 Pilot Project Surveyed Locations

(6) **Main outcomes**

Concept of Urtuu that draws from the example of Japanese Michi-no-eki roadside stations, coupled with the traditional Urtuu system

Mongolia has a history of establishing one of the first and most efficient postal systems in the world during the Great Mongol Empire 800 years ago. The so called "Urtuu" stations were located at discrete intervals of every 40-50 km (55-65 km through a roadless tract), which served as a service stop for changing the horses, resting and getting supply for the King's messengers. These stations were equipped with the same things everywhere to ensure that the messengers find everything ready for them regardless of where they are. Each station had "large and handsome building, in which all the rooms were furnished with fine beds and all other necessary articles in rich silk", and most importantly 200-400 horses were readily available.

The ultimate objective of the JICA's "Urtuu" PP is to reintroduce the historical Urtuu networks according to the Japanese Michi-no-eki standards while retaining the traditional and historic image of Urtuus. The system would be an effective way of marketing the network of Urtuus with historical significance, where anybody traveling would have access to information, rest areas and information about local cultural resources at these designated stations, while engaging with the respective local communities. These stations would further enhance both safety and access for travelers. In order to regain the local pride and to create something that is long-lasting for future generations, it is important to recuperate and reconnect with history, memory and common past roots.

It is important to draw examples of successful cases and adopt a personalized approach. In the Guiding Principles, "Michi-no-eki" are defined as "facilities that offer comfortable rest opportunities in addition to a variety of high-quality services for road users, through the creativity and innovation of the locality, and fundamentally, shall be a facility that provides the services and other features mentioned herein".

In this description, the importance is to shift the focus on the following description "through the creativity and innovation of the locality". In a sense, through empowering and fostering the creativity and innovation of the locals with the appropriate support, the outcome will outweigh any development solutions that are coming from the outside. The communities are transformed from within and can only succeed when they are imaginative. This is the fundamental key of local development.

The simplicity of Japanese "Michi-no-Eki" model is very suitable not only for improving the tourist service infrastructure, but it would also tremendously help support the livelihoods of rural communities, reviving the local economy and act as a development hub for rural areas.

Requirements set by the Ministry of Land, Infrastructure, Transport and Tourism (MLIT) for the "Michi-no-eki" are comparatively loose. This simplicity of the Michi-no-eki model is what makes the model attractive. Also, the concept has been proven to be an effective community development hub.

The problem with the current standards lies in the fact that feasibility studies make uniform designs. However, it was suggested during the training that the facilities should each reflect the specific characteristics of each area/region and not be homogenous.

It is deemed not necessary to apply a uniform building and facility design for roadside "rest stations" in Mongolia. About 20 ethnic groups reside in the Country leading varying lifestyles and featuring different customs. Geographic location also dictates differences in their lifestyle and natural surroundings. For example, in northern Mongolia, crop farming and vegetable cultivation prevail over animal husbandry. Cattle farming is more common in the steppes and arid grasslands of eastern Mongolia, whereas the southern region is distinct for camel breeding and relies on the mining industry for the bulk of the regional revenue. It is also a repository of paleontological riches. Western Mongolia, home to a multi-ethnic population is a land of high mountains, rivers, and numerous lakes.

Construction designs reflecting unique features of each region and differences of local cultures will be appreciated by foreign tourists. Another significance of such a solution is the cognitive experience that allows domestic tourists to learn about their homeland and its many cultures. In terms of service facility composition, according to international practice, the "rest station" should consist of six main services: a restaurant, a store, an information desk, a sanitary facility, a greenery, and a parking space. It is recommended to have the sanitary facility in a separate building.

In order to gain long-term success and sustainable operations, thorough and well-considered planning is important. The building by itself is not a solution, and more importantly the drive and readiness of the locals, cooperation and understanding among stakeholders are what will determine the success of such initiatives. Also, if planned and executed well, it has the potential to fulfill such a role that will take the brand of these service facilities to an international level.

In Japan, dominant majority of "Michi-no-Eki" are established by local governments or municipalities as shown in Table 3.2.1.

Table 3.2.1 Type of Establishers of "Michi-no-Eki"

Establisher/Installer	Number of stations	Composition ratio	Remarks
Local government (municipality)	985	98.1%	
Local government (prefecture)	6	0.6%	
Third sector	8	0.8%	
Public-service corporation	5	0.5%	
Total	1004		

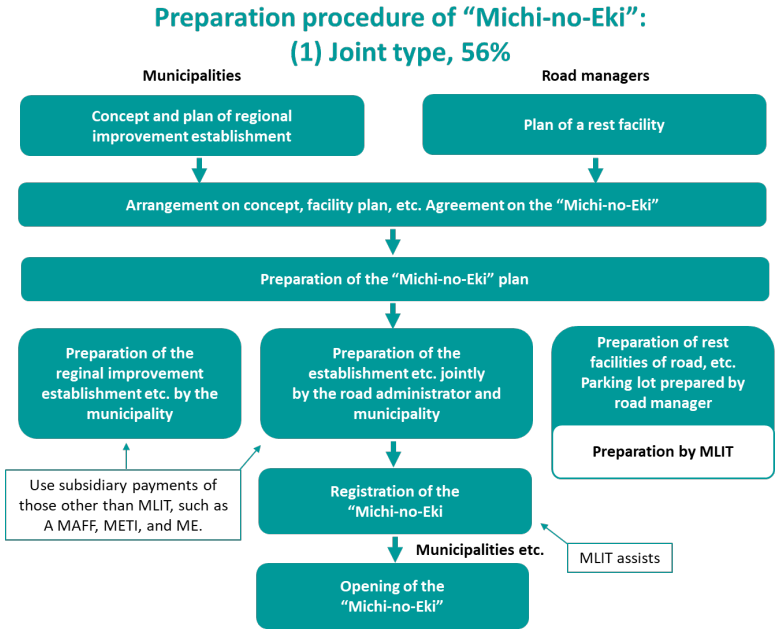
Source: MLIT, Japan (https://www5.cao.go.jp/keizai-shimon/kaigi/special/local_economy/04/haifu_04_1.pdf)

Table 3.2.2 Type of Management/Operators for "Michi-no-Eki"

Manager/Operator	Number of stations	Composition ratio	Remarks
Local government	158	15.7%	
Third sector	312	31.1%	
Outsourced to foundations, etc.	89	8.9%	Tourism Facility Management Association, Regional Development Foundation etc.
Designated managers, etc.	445	44.3%	JA, private sector etc.
Total	1004		

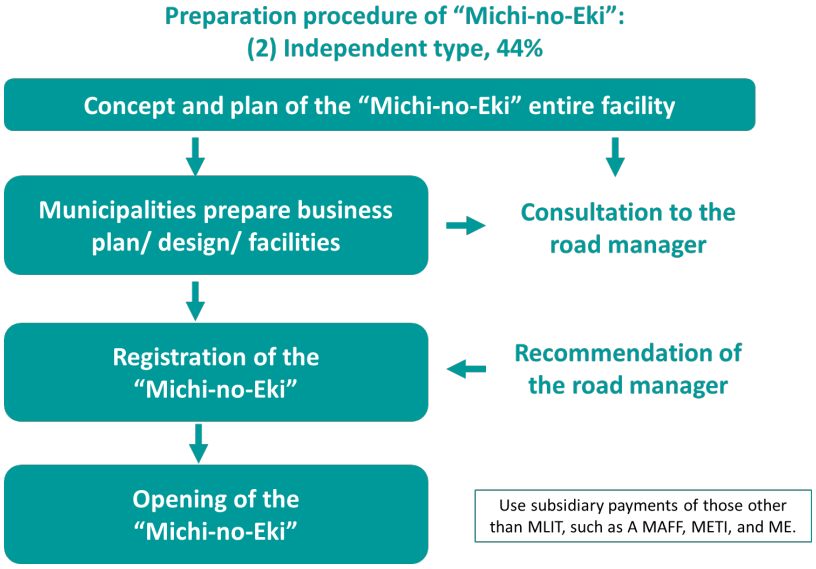
Source: MLIT, Japan (https://www5.cao.go.jp/keizai-shimon/kaigi/special/local_economy/04/haifu_04_1.pdf)

For instance, in Japan the establisher is mainly the municipality, whereas the type of management/operator can vary significantly. Designated managers comprising 44.3%, while third sector accounting for 31.1%, local government 15.7%, and the least number being managed by outsourced foundations (Table 3.2.2).



Source: CERI, JICA (https://scenic.ceri.go.jp/michi_no_eki_handbook/pdf/michi-no-eki-handbook202002en.pdf)

Figure 3.2.4 Preparation Procedure of "Michi-no-Eki": (1) Joint Type



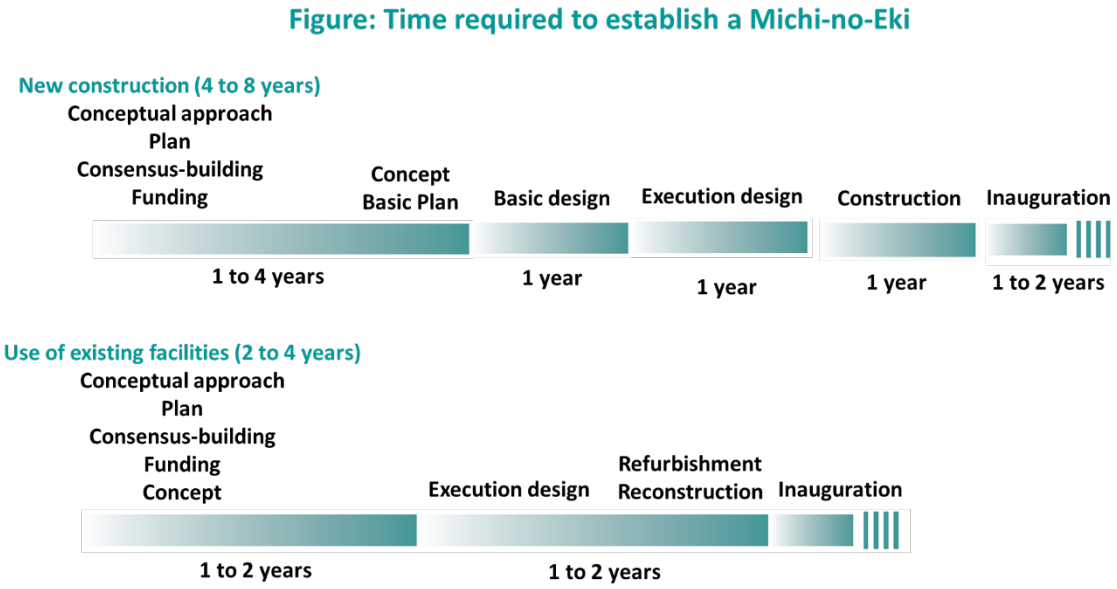
Source: CERI, JICA (https://scenic.ceri.go.jp/michi_no_eki_handbook/pdf/michi-no-eki-handbook202002en.pdf)

Figure 3.2.5 Preparation Procedure of "Michi-no-Eki": (2) Independent Type

The model procedure of "Michi-no-Eki" should be adopted accordingly to Mongolia's conditions and circumstances. In Mongolia, the establisher will most likely be a combination of local municipality with/or the third sector, especially working with start-ups. In terms of management/operator it can be varied as well.

Time required to establish a Michi-no-Eki with new construction requires 4~8 years, while the use of existing facilities takes 2~4 years. The whole process involves careful planning and constant

discussion with the locals. For Mongolia, the planning process in most cases lacks sufficient and necessary steps. It is in no way implying that it should take fixed certain amount of time. Nonetheless, it is essential to do all the necessary prerequisites, for instance, involving all the stakeholders, informing and having constant discussions with the locals.



Source: CERI, JICA (https://scenic.ceri.go.jp/michi_no_eki_handbook/pdf/michi-no-eki-handbook202002en.pdf)

Figure 3.2.6 Time Required to Establish a Michi-no-Eki

Requisite and optional services: The "rest station" will play three different roles: "a place for resting" for road users, "a place to provide information" and "a place to facilitate local cooperation". Requisite services and amenities of the "rest station" include car parking, catering, toilets, self-service grocery stores, locker rooms, baby care rooms, fire extinguishers, green areas, and ATMs. Optional services that can be added are coffee shops, pharmacies, a tourist information center, motels, gas stations, souvenir shops, museums, a communal bath, a post office and a travel store.

Requisite services:

- Parking
- Catering services
- Mini supermarket
- Sanitation facilities
- Tourist information center and postal service
- Self-service room
- Green facilities and landscaping
- ATM
- Fire safety equipment

Additional services:

- Coffee shop
- Free internet environment
- Souvenir store: national
- Motel
- Car repair shop

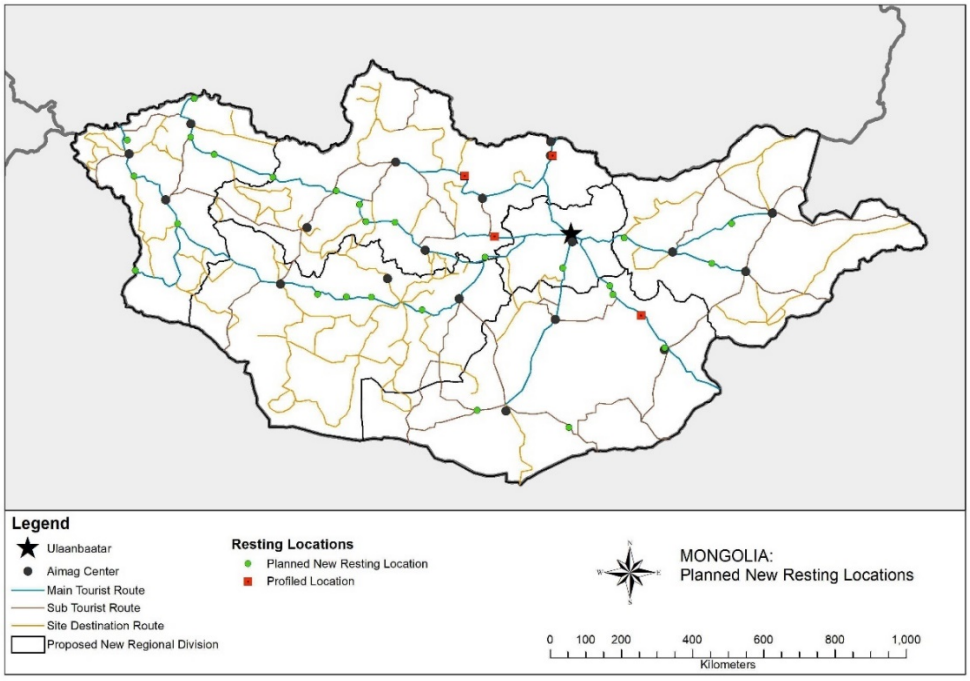
- Park
- Mini-museum

Urtuu candidate Soums and potentials thereof

The original plan was to conduct surveys in each of selected Soums and organize seminars and have discussions with the locals, which is considered most important aspect of the plan. Due to the COVID-19 related lockdowns and travel restrictions, this portion of the survey was not realized. However, in the future such kind of actions need to be planned with in person visits or via online meetings depending on the prospect and further development of local and international travel. The importance of this step cannot be over emphasized.

A preliminary list of 30 locations were prepared by MET and MRTD (Figure 3.2.7). Out of seven points along the survey routes of the pilot project, four priority locations were chosen. Out of seven tentative locations proposed in the framework of the current research assignment, Sainshand and Choir stand out due to various conditions that differ them from the rest as these are relatively large and more developed settlements owing to their location on the trans-Mongolian railway route. Also being the site of Mongolia's "industrial park", the region is the target location of numerous large-scale projects, loans and construction initiatives.

It is predictable that in addition to already existing facilities, hotels, restaurants, grocery stores, banking and financial organizations will naturally thrive in these two locations to fulfill the demands of the oncoming business travel traffic. Therefore, the need and necessity for establishing "rest stations" here are not pressing. Instead, it is more appropriate to target other high-traffic locations that have low economic indicators.



Source: MET and JICA Project Team

Figure 3.2.7 Planned New Resting Locations

In according with information by MET and MRTD, as well as analysis done by the JPT, the candidate places of Urtuu are identified. By the comprehensive analysis, four Soums were prioritize among all the candidate Soums: 1) Bulgan-Khutag Undur, 2) Dornogovi-Airag 3) Bulgan-Dashinchlen, and 4) Selenge-Shaamar.

The detailed information is summarized in the following to clarify their tourism potential, and furthermore, the recommendations are also proposed. The information would contribute to

determining the location of Urtuu.

Khutag-Undur Soum, Bulgan Province

The Soum is 600km from the capital Ulaanbaatar by the northern route (state highway) and 468km by the southern route, respectively. The tourism development potentials identified in the survey are below:

- Biibulag or Baibalik city,
- Uran Togoo volcano,
- Khailant Monastery/Khuree,
- Shagain Toirom,
- "Khatanbaatar" (valiant hero) Magsarjav, and
- Farming tourism.

Source: Mongolian Guide School LLC (https://www.mongolianguideschool.com/news/detail/13)

Figure 3.2.8 Farming Tourism

Source: JICA Project Team

Figure 3.2.9 Uran Togoo Volcano

Dashinchilen Soum, Bulgan Province

The Soum is 227km west of the capital Ulaanbaatar and 147km south of the provincial capital, Bulgan city. The tourism development potentials identified in the survey are below:

- Lakh Bayan Mountain,
- Urkhtii Uul,
- Khar Bukh fortress ruins,
- White Palace of Tsogt taij, and
- Chin Tolgoy fortress ruins.

Source: Mongolian Guide School LLC

Figure 3.2.10 Lakh Bayan Mountain

Source: JICA Project Team

Figure 3.2.11 Khar Bukh Fortress Ruins

Airag Soum, Dornogovi Province

The Soum is located 124km northwest of the provincial capital of Sainshand and 330km southeast of the national capital, Ulaanbaatar. The main tourism resources are below:

- Tsagaan Del cave,
- Nudengiin Khonkhor,
- Ikh Nart Nature Reserve,
- White Palace of Tsogt taij,
- Chin Tolgoy fortress ruins, and
- Mining tourism.

Source: MONTSAME News Agency
(https://www.montsame.mn/mn/read/186933)

Figure 3.2.12 Tsagaan Del Cave

Source: JICA Project Team

Figure 3.2.13 Mining Tourism

Shaamar Soum, Selenge Province

The Soum is located in the confluence zone of Selenge and Orkhon rivers, 330km north of Ulaanbaatar and 22km from the provincial capital of Sukhbaatar. The main tourism natural resources are listed below:

- Statue of Bumtsend G. - public figure and statesman,
- Statue of Tsend L,
- Eej Mod, and
- Tujiin Nars pine grove.

Source: JICA Project Team

Figure 3.2.14 Eej Mod

Source: JICA Project Team

Figure 3.2.15 Tujiin Nars Pine Grove

Urtuu draft standard

Mongolian national standard for roadside service complex: Classification and general requirements: MNS 5537 of 2016. The standard was approved in 2016 and it is evident that a good amount of research and elaboration was conducted. The objective of this standard is to develop the roadside stations (roadside service complexes) that will ensure proper work and rest regimen of drivers, provide comfortable traveling conditions for the passengers, enable technical safety operations of the vehicles and ensure traffic safety, and identify necessary conditions and requirements. However, it does not specify the involvement of locals or supporting the local economy, which should be one of the core components of such service facilities.

In addition to the descriptions of MNS 5537 of 2016, Urtuu service facilities would also fulfill a role of supporting the local economy and the livelihoods of the locals through creating further linkages in the local industry and creating a marketplace for the locals to sell their products and services. The Urtuu facility would become a gateway to interacting with the locals.

The current standard also does not specify how to establish a registration system for vehicles using the "temporary rest station" on the road. Likewise, no provisions have been made on the issuance of permits for establishing and operating the "rest station". General standards of services to be provided by "rest stations" are clearly specified and no content is overlooked except for just 4-5 articles that may require minor amendment such as the following.

- 5.8 The layout of the service complex and signage of service facilities shall be marked in the Mongolian language. This clause should include a statement on the use of international signage and English sign messages parallel to their Mongolian equivalents, because the numbers of tourists traveling in Mongolia by own car, bicycle, motorcycle and camper vans have been rapidly increasing in recent years. In many countries, such as China and Japan, the international road signage symbols and English language is used on highways and roadside rest stations to inform about the distances between and proximity to them.
- 6.1 Column "C" of Table 1 (Classification of roadside services complexes) of article 6.1 (Depending on the intensity of the international and intercity road traffic, roadside service complexes shall be classified as the following) stating that "public toilets shall be located separately and at an appropriate distance" needs to be articulated and the desired technology specified to exclude a potential disadvantage of permitting traditional toilets with exposed waste pits.
- The "Hotel Services" field of the same table, under column B, states that "hotels with at least 10 beds" shall be present at "rest stations" located on Class I, II and III roads thus implying that a hotel must be there essentially. It is recommendable to make this strict condition optional by using the term "may". The current provisions for the roads of these classes suggest an essential construction of hotels at "rest stations".
- The accompanying facilities field under A, B conditions of the Main services in Table 2 (Services provided at the roadside service complex) of article 6.5 includes only "restaurants and hotels" as requisite facilities. However, grocery stores and supermarkets need to be added to the clause as sales of food, local brand products and souvenirs is more important than hotels.
- 7.3.11 Public toilets shall be equipped with special cubicles and accessories to accommodate the needs of disabled people. To these, a condition to install "accessories for people traveling with young children and the elderly" can be added because some guests may need to keep their young children with them even when using a bathroom. In Japan, for instance, child-proof seats are placed inside the cubicle. Toilets are also equipped with wall-mounted handles to help elderly and handicapped people to sit on and stand up from the toilet seat.

The following points also have been identified for consideration:

- Subject matter,
- Location requirements and standards,
- Structure of buildings and facilities,
- Requisite and optional services,
- Establishing body and administrative structure,
- Important issues,
- Issuance of registration certificate,
- Licensing of operations,
- Submitting amendments to registry,
- Guidance and promotion,
- Rules and procedures to comply with,
- Cancellation of license, and
- Urtuu management.

Recommendation of capacity development for Urtuu implementation

Training sessions and workshops were held as described above for Urtuu formulation to CPs and stakeholders. Through workshop series, active discussions took place between MET, MRTD and other government officials, as well as those from the travel sector. The main issues identified for the management of Urtuu are summarized in Table 3.2.3. The outcomes of this discussion are included in the Urtuu standards described above.

Table 3.2.3 Main Issued for Urtuu Management Identified in the Workshop

Type of management issue	Need to be considered
Governmental support	- Human resource management - Provision of infrastructure - Designation of areas - Support for businesses - Ensuring traffic safety - Environmentally friendly solutions - Encouraging local brand/production
Toilet related issues	- Toilet type (pump toilet, bio toilet and so on) - Initial and running cost - Least maintenance/care
Waste management	- Way to transport wastes - Institutional structure
Facilities management	- Different type of facilities in winter and summer - Local participation: - Customer's attitude and culture:

Source: Result of the workshop analyzed by JICA Project Team

It is desirable that the following contents are included for capacity development for Urtuu management, according to the questionnaire and the analysis of the current situation. Particularly in Mongolia, the geographical situation varies greatly from place to place, and therefore it is essential to consider how to tailor the operation to each location. It is worthwhile to examine management methods in candidate Soums with very similar geographical characteristics. Likewise, it is necessary to include as many participants as possible from the private sector, which will contribute to deepening the knowledge among the participants.

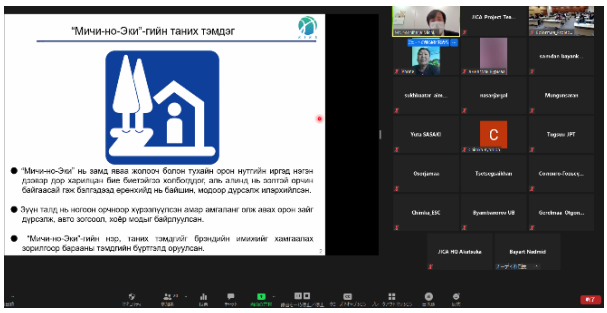
(a) Specific methods of operation of the Urtuu that respond to specific land characteristics;

(b) Collaborative approaches, including the involvement of the private sector where possible;

(c) Specific measures for waste management;

(d) Seasonal management of the Urtuu for each season of tourism; and

(e) Measures to adapt advanced technology to the challenges posed by water shortages (e.g. difficulty in accessing toilets).



Source: JICA Project Team

Figure 3.2.16 Online Training

Source: JICA Project Team

Figure 3.2.17 Workshop for Urtuu

(7) Result of evaluation

The PP is evaluated by the NCDP 2-step evaluation system. Results of step 1 and step 2 are summarized in Table 3.2.4 and Table 3.2.5, respectively. The step 2 evaluation for the Urtuu varies depending on the scale, location and required function of Urtuu. Therefore, step 2 is limited only to the expected function without qualitative measurement.

Table 3.2.4 Step 1 Evaluation of Establishment of "Urtuu" Service Stop Areas

Account/Initiative		Score*	Functions which contribute the score
1. National economy: NE			
	1.1 Economic efficiency	1	Medium economic rate of return Mini supermarket Marketplace for selling the goods and services of the locals
	1.2 Contribution to economic diversification	1	Some contribution Mini supermarket The marketplace would encourage further linkages in the local industry
	1.3 Contribution to foreign exchange earnings	0	No or little contribution
	1.4 Appropriate technology promotion	1	Possible/likely Green facilities and landscaping
Sub-Total		3	
2.Regional development: RD			
	2.1 Improvement of income disparities	1	Possible/likely All the neighboring Soums' and local communities will have the opportunity to create and supply goods and services
	2.2 Vitalization of local SMEs	2	Significant contribution Catering services Local brand development Mini supermarket Marketplace for goods and services provided by the locals
	2.3 Community development	2	Important objective Gateway to interact with the locals

			Supporting the local development Park Mini-museum
	2.4 Use of local/indigenous resources	2	Significant use Local brand product development Mini supermarket Mini-museum
Sub-Total		7	
3. Social development: SD			
	3.1 Employment generation	1	Sizeable employment to be generated All industries related to Urtuu
	3.2 Improvement of social services	0	No or little improvement
	3.3 Effects on local culture	2	Positive effects Revitalization of the local region Souvenir store Mini-museum
	3.4 Poverty alleviation	2	Important objective Supporting the local economy through creating linkages in the local industry Creation of new jobs Mini supermarket Souvenir store
Sub-Total		5	
4. Environmental quality: EQ			
	4.1 Adaptability to natural conditions	2	Adaptable to local natural conditions Parking Landscaping Scenic area Sanitation facilities
	4.2 Land requirements and suitability	2	Adaptable to local land conditions Traffic safety Parking Park
	4.3 Water use and management	1	Some stress on local water balance Sanitation facilities
	4.4 Reduction of environmental vulnerability	1	Some contribution Sanitation facilities
Sub-Total		6	
5. Institutions: IN			
	5.1 Implementing arrangements	1	Possible implementors existing Local ownership Tourist information center PPP enhancement
	5.2 Participation of local community and people	2	Local participation as project components Gateway to interacting with the locals Marketplace for the goods and services of the locals Tourist information center Mini-museum Supporting the creativity of the locals
	5.3 Promotion of localization	2	Significant contribution Gateway to interacting with the locals Marketplace for the goods and services of the locals Tourist information center Mini-museum
	5.4 Local ownership and public	2	Direct effects expected

	acceptance		Regional revitalization Local pride Community development Tourist information center Park
Sub-total		7	

Note*: 2 = Highly positive, 1 = Positive, 0 = Negative
Source: JICA Project Team

Table 3.2.5 Subjects for Step 2 Evaluation of Establishment of "Urtuu" Service Stop Areas

Evaluation criteria	Subjects for evaluation
1) Investment cost	- Establishment of the related facilities - Human resources involved - System construction
2) O&M cost	- Related facilities - Water, electricity and gas - Human resources
3) Employment generation 4) Economic rate of return or B/C ratio	- Parking - Mini supermarket - Sanitation facilities - ATM (public business) - Coffee shop - Free internet environment (public business) - Souvenir store - Motel - Car repair shop - Tourist information center (public service) - Postal service (public service) - Marketplace - Mini-museum (public business)
5) Foreign exchange earning	NA

Source: JICA Project Team

(8) **Recommendation and lessons learned**

Recommendation for promotion of anchor project (I10.4: establishment of "Urtuu" rest stop and service areas)

It is important to recognize the potential of such roadside stations, particularly their role and contribution to local development and regional revitalization aspects that need to be fully recognized and taken into consideration. The Government of Mongolia (MET and MRTD) has finalized studies on the primary 30 locations for establishing rest stops and service areas. The requirements and basic conditions for establishing these roadside stations are being considered. Therefore, it is very critical to make thorough plans for setting the direction and guidelines.

For instance, the Michi-no-eki model's case is an attractive example, as the requirements are quite loose, while the objectives and the direction of these facilities are very clear.

Lessons learned for reflection in development strategy of NCDP)

Some of the most successful service facilities are run by the private sector. However, the Government should be very clear about the directions and roles of these roadside stations, especially regarding the involvement of local communities and supporting the local economy. These service facilities should also serve the locals as much as they will serve road users and passengers. Without setting these guidelines, this important factor will be lost and it will take more efforts to do such kind of local development work separately.

The initial plan of the pilot project was to meet with the locals and visit the designated Soums for in-

depth survey. Due to the COVID-19 related lockdowns and travel restrictions this part could not be carried out. For this stage of surveys, a profiling of these Soums have been conducted. In the future planning, discussions with the locals and their involvement are an important step that cannot be overlooked.

Challenges and findings through the implementation under the COVID-19

Due to the COVID 19, the field survey was temporarily not possible and the survey of the target Soum was carried out on the Internet/literature basis, but it was confirmed that the necessary and sufficient data could be obtained. On the other hand, it is still necessary to work with the local authorities to ensure the authenticity of the data.

For the workshops and lectures, it was possible to invite people living in remote areas by using online meetings. Since many participants from the private sector are also required, online courses, which can be accessible from anywhere, are also seen to have certain advantages. As real gatherings are also important for decision-making and for strengthening links between stakeholders, the combination of online and real gatherings is expected to have a synergistic effect.

(9) **Future orientation**

Concrete plan/recommendation to roll out

MET and MRTD are currently planning the necessary requirements for the roadside facilities and have identified the primary locations for 30 roadside stations along the major tour routes. However, it is critical to agree upon the future direction and role of these roadside stations. The current standards do not emphasize the local development, and mainly describe the rest and traffic components and related requirements. Without coming to an agreed upon vision and mutual understanding, a unified roadside stations' plan for Mongolia as a whole may be obstructed. Therefore, a closer dialogue between the two sides is required.

A comprehensive research should be done to define the prospective location of a roadside "rest station". Availability of electric power, water supply and sufficient passenger traffic are the main requisites for a suitable location.

In Japan, the establishers are mainly municipalities, whereas the type of management/operator can vary significantly. About 40% of "Michi-no-eki" are managed and operated by designated managers, and about 30% by the third sector. This model should be adopted accordingly to Mongolia's conditions and circumstances. Establishers in Mongolia will most likely be a combination of local municipality with/or the third sector. In terms of management/operator it can be varied as well. Working with start-ups should also be another option to explore.

A "rest station" personnel should consist of a director, an operations manager, a guard, a gardener, and a cleaner at the minimum. The rest of the service facilities should be managed by private businesses certified to run the corresponding operations at the given "rest station". An estimated 30-40 jobs can be created at "rest stations" to provide a wide range of services.

An issue of paramount importance on the way to establishing "rest stations" is the lack of qualified human resources. In recent years the rural population of Mongolia has fallen behind the modern socio-economic developments, a still-ongoing process. This problem may pose a primary obstacle to the successful operation of the "rest stations". Therefore, prospective staff should be trained to receive tourism education and service skills.

Acquisition of land-use rights is another important issue due to the potential objection of local citizens engaged in small-scale trading b alongside the highways, selling wild berries, vegetables, and fermented horse milk in predominantly unsanitary conditions. A management plan/concession that excludes competition or implies support of the traders should be developed.

Implementation/monitoring structure

It would be ideal for the Government to set up the guiding principles and additional requirements to the existing standards. It is also important to involve all the stakeholders, including the local communities

and the private sector, NGOs and donor organizations. It would be useful to have a model Urtuu developed through collaboration and cooperation of all the relevant stakeholders. Once the concept is proven, it could be expanded in all the other areas.

Possibility of cooperating with other projects

Due to the limited scope of the PP implemented at this time, a further detailed study needs to be conducted in order to determine the next steps. For instance, the proper PPP scheme for the Urtuu establishments need to be explored. As part of the additional surveys within the framework of NCDP, a survey was conducted on the PPP promotions in Aimag administrations to support the private sector for investments and business development, and this may be continued and extended for further clarifying the scheme for the Urtuu developments.

Another related pilot project of "Establishing linkage between industry sector and universities, research institutes and academia" is a potential one that is also applicable to the Urtuu initiatives. The tourism sector was one of the selected fields. Furthermore, the Urtuu initiative is an important contributor to the overall tourism sector and could act as a starting point for further collaboration of the various stakeholders. It can especially kickstart a joint research that is fundamental for planning and it can also encourage the Mongolian side to take ownership and the implementation initiative. This will also help develop capacity of the Mongolian side's counterparts when they are closely involved in the research and planning phase.

Fund raising method

The nature of these roadside facilities is very critical not only for the transport or tourism sectors separately, but these facilities have also essential role for the local economy as well as playing an important role for the image of Mongolia in the international level. These facilities significantly contribute to the overall tourist service infrastructure and connectivity. There should be significant consideration to support these service facilities through a variety of public and private funding, including the state budget investment program, sufficient funds to be allocated from the local government's tax income, foreign direct investment, funding from the private sector etc.

It is far more important to recognize the potential of such service facilities. During the discussion sessions, it was stated that solutions for sanitary facilities have long been available and can be utilized for these service facilities. There are a lot of cases, where some types of solutions for bio toilets etc. were proven to be not sustainable such as examples of such toilets being locked and not used due to some operations difficulties.

Finding donor or organization appropriate for implementation

There are several donor organizations that are supporting sustainable tourism projects and community development initiatives. It is important to exchange ideas and inform about the project development to get further support from these donor organizations, as well as the private sector representatives.

3.3 Strengthening Distance Learning

(1) Introduction

Mongolian people are familiar with a traditional nomadic lifestyle, and in most Aimags about 25%-60% of the population derive their income from nomadic livestock production. Children of all ages, from primary school age to adolescents, move with their families' nomadic activities, and boys, in particular, are frequently considered to have to participate in nomadic activities as a matter of course. Nomadic activities have seasonal constraints that make it difficult for many students to go to school during the semester.

Many children do not continue to attend school and drop out because their place of residence is remote, school facilities are not adequate due to extreme population shrinkage, or they spend their early years in boarding schools in larger municipalities. There are also children with disabilities and children who are unable to attend school due to various family circumstances.

(2) Policy background

The NCDP supports the Mongolian Government in their education sector strategy in the Vision2050, following the previous goals including SDV2030 responding to the SDGs, and the process of Education Sector Mid-Term Development Plan (ESMDP)[1]. In the assessment leading to the ESMDP, the shortcomings of the quality of education and insufficient degree of digitization is mentioned, as well as the adequacy of educational facilities especially in remote Aimags.

SDG goals and the Vision2050 goals emphasize having all citizens covered by basic education, and free education up to high school. The current children out of school and drop-outs at primary level are estimated to be 8992. The total number of students who have not completed secondary school is 3,486 according to the NLEC. While Mongolia's school enrolment rate and literacy rate are outstanding and impressive, the continued number of students who have dropped out, or out of school will exacerbate the marginalization of these youth, and have an impact on the future of households and community.

The draft ESMTDP proposes that children out of school may continue learning through online learning with the aim of reaching the equivalency program. These recommendations presented an opportunity for the NCDP to formulate a pilot project, to conduct a feasibility study if online learning would be appropriate for this target group. The pilot project builds upon the study by JICA in 2019 called 'Data Collection Survey on Possibilities of Educational Support with ICT and Japanese Companies Promotion in Mongolia March 2019' i which details the ICT infrastructure and status of digitization in the education sector in Mongolia and capacity of educational institutions.

(3) Importance of the pilot project

Distance learning is being looked at as an alternative to regular schooling, and it would be worthwhile to implement a pre-feasibility study as a preparatory step for a full-scale rollout. The start of the pilot project (PP) coincided with the outbreak of COVID19 globally, followed by the closure of schools in Mongolia, and switching of all school curricula to TV learning. It was decided that the PP should employ existing systems, curricula and educational materials as much as possible, and at the same time not duplicate efforts being made by other donor programs in the education sector, including support to children with disability.

(4) Objectives

A pre-feasibility study will be conducted to determine if distance learning is appropriate in Mongolia. The target group will be children who have not been able to go to school due to nomadic lifestyle or other reasons, or children who have dropped out of school.

(5) Management and implementation structure

Selection of counterpart institution

It was determined that the National Lifelong Learning Centre (NCLE), which is responsible for informal education of adults as well as equivalency programs of children out of school, with its wide network of informal learning support in all Aimags and Soums, would be a suitable counterpart to support the PP. NLCE had been one of the four education institutes that participated in the assessment of education sector under UNESCO[3] as well as supporting both the EMTDP formulation process, and the development of TV curriculum for regular schools during the COVID-19 outbreak. NCLE had agreed to provide support to the NCDP PP on distance education, and its designation as counterpart was endorsed by the relevant departments of the Ministry of Education and Culture.

During the formulation phase of the PP, a decision was made not to exclude children with disability, but to work with children with light motor disability who were not able to attend school due to their physical disability. The children with severe disability including mental disability were not included in the PP,

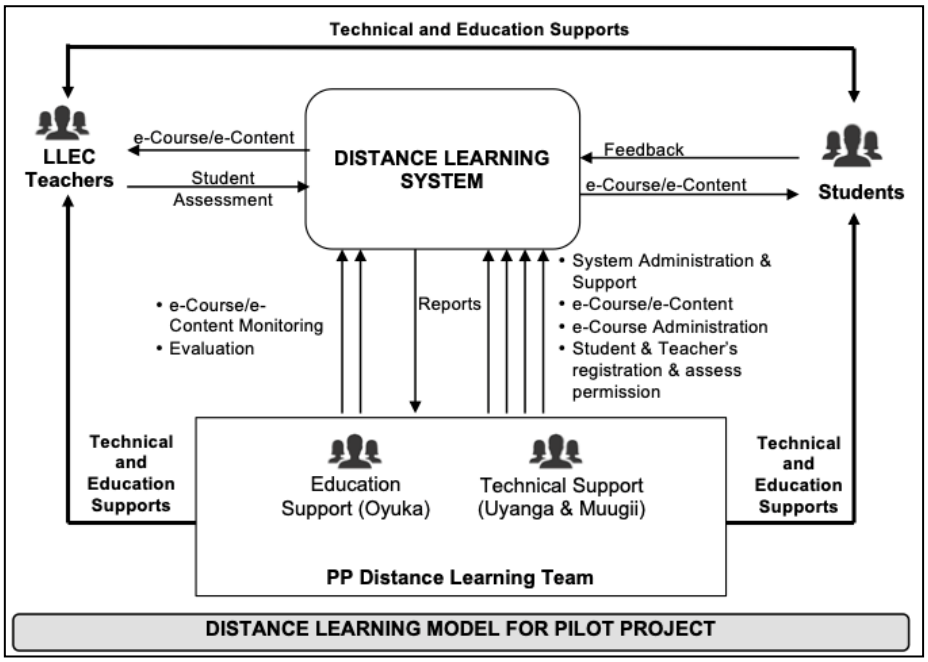
[1] Ministry of Education and Culture, ADB, Japan Fund for Poverty Reduction, Education Sector Mid-Term Development Plan 2021 – 2030
[2] NCLE data, for the scholastic year 2020-21
[3] Education Sector Country Report

considering that there are on-going programs addressing this target group.

Management and implementation structure

(a) Executing agency: Ministry of Education
(b) Cooperating organization: National Lifelong Education Center (NLEC; commonly known as the Informal Education Center), Government of Aimag
(c) CP agency: NDA
(d) JPT: Expert of social development

A consultant team was formed under the JPT social development expert, consisting of an expert of distance education, IT, and basic education. The consultant team was responsible for the preparation of teaching materials and implementation of the distance education, while teachers from Ulaanbaatar and NLEC provided on-site support. The teaching materials were developed using existing materials and the free education platform "Google Class" was used to create a curriculum that could be used on any device, including PCs, smartphones, and tablets. Figure 3.3.1 shows an image of the management and implementation system.



Source: JICA Project Team

Figure 3.3.1 Distance Learning Model for the Pilot Project

(6) Implementation procedure

Target group selection

According to government data, there are several reasons for children not to enroll in school, or to drop out after enrolment: living hardship and poverty, reluctance to study, employment, illness, disability, and others4. Based on the preparatory phase of the PP, it was seen that in some households, poverty was an over-riding and composite factor, and not limited to monetary poverty. It is often combined with parents' lack of interest in education, illiteracy or low education of parents, alcohol dependency and abuse. Problems related to household and status of guardians including divorce, or death of one or both parents were also among the reasons for not attending school.

Illness of the child or family member was another factor, and perhaps once out of school, it may become

[4] Inception Report, NCDP Pilot Project Consultant Team 2020

difficult for the child to return back to school. Disability was also one of the major factors for not attending school, either because the school was not adapted to the type of disability, or lack of transport or logistics facility. In all the factors, stigma and bulling may be another detrimental factor.

In nomadic households, not necessarily associated with poverty, children were often pulled out of school to help the family and to travel with the herd. This occurred in medium to large sized herding households with large number of livestock and limited number of family members or labor.

In Selenge, there were specific cases of children studying Buddhism in monasteries. These are children, who for various reasons are accommodated at the monasteries to follow Buddhist teachings. Generally speaking, they may include orphans or children from poor households, but also others where parents choose the child to enter the monastery5. The children in monasteries visited during the PP were well looked after and had regular schedule of studying Buddhist religion; however the regular academic studies were limited to seasonal classes, and also some monasteries are in extreme remote location, with the roads sometimes impassable in winter. Some of the monk students may continue to stay at the monastery or join a monastery in India after completing their studies at 18 years old. However, in 2019-2020, majority of the graduates returned to their families to look for employment. Given these conditions, it seems imperative that the basic education of these children be continued.

The data maintained by LLEC cover all the known cases of children not attending school, as the performance of LLEC staff are dependent on identifying and enrolling all such children from the respective catchment area. Although there may be some discrepancy to the number of children not attending school with NSO data, it is considered that NCLE has the most updated data on children out of school. UNESCO, for example places the number of children out of school at 1,948 at primary level, and 14,681 at adolescent level.6

Selection of Aimags

Several rounds of filtering of the Aimags for the PP implementation were made, based on following criteria: reasonable travelling distance from the capital Ulaanbaatar for the team to implement and monitor the PP, result of the NCDP Aimag diagnostics indicating gaps and needs in the education sector, presence of nomadic population, no duplication with other on-going donor projects, and capacity of LLEC to support the PP. Selenge Aimag, with nomadic population, some monasteries housing children, and prisons was selected, and Bulgan Aimag was added on recommendation by NDA as an Aimag which is often overlooked in donor assistance programs.

It was reported during the PP that the number of children with disability seem to be increasingly recognized. Overall, there are 193 children and youth up to 18 years old with disabilities registered at LLECs nationwide. Out of this group, there are 103 students with disability in Selenge, and 31 in Bulgan which seem to be high numbers. The types of disability are divided into visual, hearing, speech and language, physical, mental, pluralistic.

Preparatory works

The consultant team conducted preparatory works in Ulaanbaatar, through literature review and discussions with relevant institutions including the Ministry of Education, NLEC, and telecommunications authorities, followed by a preparatory mission to the two selected Aimags. They conducted following tasks:

- Assessment of the connections and Internet infrastructure at LLEC, in the Aimag centre and Soums, and at households;
- Briefing, and training of LLEC teachers, and
- Interview and selection of children for the PP.

[5] The team met one boy from the capital city whose parents decided to enrol him in the monastery because of his excessive playing of computer games.

[6] http://uis.unesco.org/en/country/mn

Selection of students and operating mode

In the PP, a total of 31 students were selected, out of which 16 were from Selenge and 15 from Bulgan. The breakdown is shown in Table 3.3.1.

Table 3.3.1 Summary of Selected Students

		Bulgan Aimag	Selenge Aimag
Total number of participating students		Total 15 students: 9 students in Aimag center; 6 students from Soums.	Total 16 students: 5 students in Aimag center; 11 students from Soums.
Age		9 -15	9 -17
Number of students:	male	12	14
	female	3	2
	herder children	6	3
	monk children	-	6
	with disabilities	2	7
	orphan	2	6 (one of them is full orphan)
Drop-out reasons:		Migration, poverty, disability, and parents' alcoholic addiction.	Studying at monasteries, migration, poverty, disability, and parents' alcoholic addiction.

Source: JICA Project Team

Initially, the PP had foreseen installation of desktop computers at LLEC and conducting distance learning in the school building; however, it was determined that the mobile connectivity was sufficiently robust at household level to conduct distance learning through mobile devices. Therefore, it was decided to purchase and distribute tablet computers to the students. There were some connectivity concerns for the nomadic children, but they participated in the PP until the end of the program. Children in monasteries had access to tablet computers at the monastery, therefore no new tablets were distributed to them.

(7) Distance learning model

In implementing the PP, care was taken to introduce the distance learning step by step. The entire program was supported by the team of consultants which provided support in following areas: on the distance learning, technical aspects of Internet and connectivity, and the learning content. This is indicated as the 'pilot model' which relies on implementation by a team of specialists, without direct involvement of the teachers of LLEC. The teachers provided indirect support and follow up on the learning after the completion of each segment of the program.[7]

During the first half of the distance learning, students commuted to the LLEC facility at Aimag centers, or to Soum to participate in the distance learning in a classroom setting, except for the students at the monastery. After one or two weeks of satisfactory implementation and participation, most students took the tablets home to continue the on-line study. There were a few exceptional cases at the Aimag center in Selenge, where the LLEC teachers judged that the household conditions were too precarious for safe keeping of the tablets, through alcoholism or abusive behavior of the adults and guardians. However, during the second half, all children were eventually able to bring the tablets home. With the group of nomadic children, contact and follow up were at times difficult, as obtaining regular feedback was not possible at all times.

All guardians had signed a contract guaranteeing the safe return of the tablets and equipment at the end of distance learning. To monitor the usage of tablets and software by students, the consultant team installed the Kasperski security software for kids, which allowed the monitoring of the use of tablets and controlled children's access to unwanted websites and social media, with games and adult content. The children were regularly shown result of monitoring on their use of tablets, including use of the SIM card for calls, games and for accessing websites which were not permitted.

7During implementation of distance learning, the teachers' access to the learning software was removed to avoid accidental deletion and changes to the DL program by LLEC teachers. There was no option to provide 'read only' access.

(8) Implementation by stage

The first stage of the distance learning was successfully concluded in six weeks starting on September 21, 2020 and concluded on October 30, 2020. Details of the program can be found in the consultant team report.[8]

Distance learning class of Mongolian literature and mathematics was conducted in Burgan and Selenge Aimag. The first half of the distance learning class was carried out in schools and monasteries, and the latter half of the distance learning was conducted at each child's home. In addition, the consultant team and students reviewed the results of the lessons every Saturday. As an assessment of the results of the distance learning class, the students were given a test for their academic achievement.

Based on the outcome and lessons from Stage 1, discussions took place among the JPT, the consultant team and the donor for expansion of the distance learning PP to complete the pre-feasibility study, and the second stage was implemented with some delays from the end of February through the beginning of April in the two Aimags, with addition of a remote district of Ulaanbaatar. Because of the shortage of time, the program was implemented for five weeks instead of nine weeks as originally planned.

From January, with the re-surgency of COVID19 cases, the Government of Mongolia implemented strict lock down with restrictions of travel outside of the districts and Aimags. It was significant that the entire distance learning program of Stage 2 was thus implemented remotely with the consultant team based in Ulaanbaatar without preparatory travel or direct monitoring in the Aimags. As a result, some bottlenecks were assessed such as for the teachers to be able to manage the distance learning independently. There were a range of issues, from the use of tablet and technology, to actual running of the distance learning.

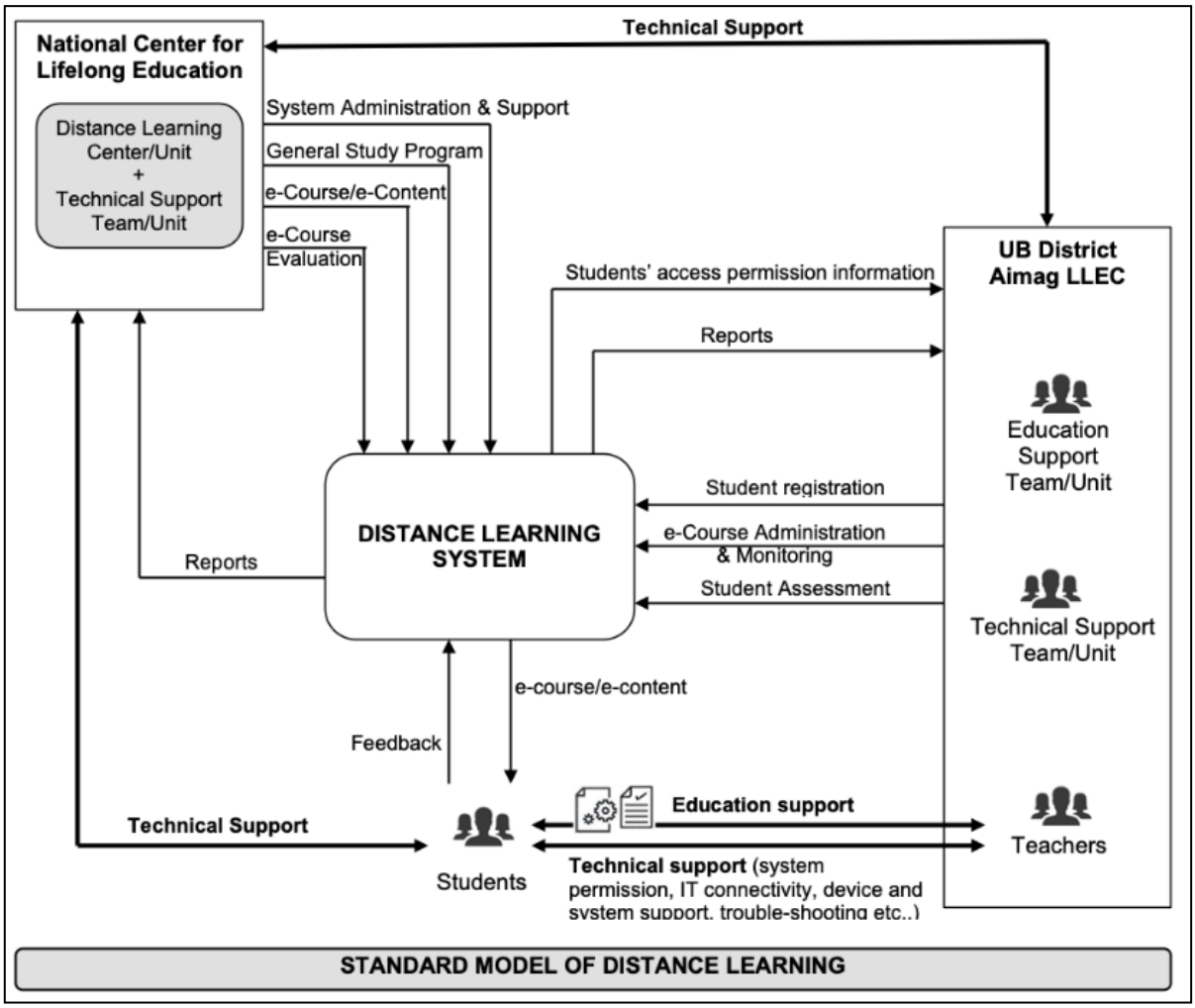
Also, the distance learning was implemented in Ulaanbaatar, at remote Nalaikh district for the first time. The result of implementation in Ulaanbaatar was mixed; there seems to be a marked difference in the motivation of students and also the ability of the teachers to actively intervene to support the implementation. This may be the result of availability of opportunities and other engagements in the capital city, both for study and leisure. The abuse of equipment was also more rampant, including intentional deletion of study software and pawning of the tablet by siblings. From the limited PP, it may be concluded that the PP appears more effective and conducive in the Aimags than at the capital.

(9) Development of a draft standard model for distance learning

The diagram in Figure 3.3.2 shows organizational structure of the distance learning and the roles of each stakeholder. During the pilot distance learning class, the consultant team supported both the students and the Aimag Lifelong Learning Center (LLEC) teachers.

There were three types of support contents: curriculum content, technical aspects such as Internet access, and subject matter content. Although the curriculum was developed for this distance learning project, in the standard model, the Aimag LLEC teachers will support the progress of the technology and content. NCLE will also oversee all aspects of distance education. The details of the standard model, including content creation, will continue to be refined.

8 NCDP Pilot Project: Strengthening Distance Learning Consultants' Final Report, April 2021 (draft, to be finalized)



Source: JICA Project Team

Figure 3.3.2 Draft Standard Model of Distance Learning

(10) **Results and findings**

Assessment of students, and ability of teachers to conduct distance education

At the beginning of the PP, knowledge level of the students was assessed, to form two levels for the lower and higher age groups. The results are shown in Table 3.3.2.

Table 3.3.2 Assessment of Students' Levels and Grouping

Aimag	Total	Selenge			Bulgan		
Soums		Sukhbaatar	Sant	Baruunburen	Bulgan	Saikhan	Gurvanbulag
Total number of students	31	5	5	6	8	5	2
Mongolian Language: Level I							
Group A: Primary	15	3	1	1	6	2	2
Group B: Advanced	3	-	2	1	-	-	-
Mongolian Language: Level II							
Group A: Primary	4	1	1	1	1	-	-
Group B: Advanced	9	1	1	3	1	3	-
Math: Level I							
Group A: Primary	3	-	1	1	-	-	1
Group B: Advanced	15	3	2	1	6	2	1
Math: Level II							
Group A: Primary	7	1	1	2	2	1	-

Group B: Advanced	6	1	1	2	-	2	-

Source: JICA Project Team

The lower level was for the children who needed to learn to read and write, and to add and subtract. The higher level children were able to use their knowledge at higher primary grade level.

At the end of Stage 2, assessment of the students' knowledge was conducted, as well as a survey of children, parents, and teachers. Scores of children at the two grade levels are summarized in Table 3.3.3 and Table 3.3.4.

Table 3.3.3 Grade I: Final Exam's Score by Student

#	Student ID	Student type	Location	Mongolian language (Total score: 27)	Mathematics (Total score: 15)
1	Learner2	Orphan	Bulgan: center	23/27	14/15
2	Learner6	Normal	Bulgan: center	26/27	15/15
3	Learner14	Herder	Bulgan: Saikhan	22/27	13/15
4	Learner21	Normal	Selenge: center	10/27	5/15
5	Learner18	Children with disability	Selenge: Sant	26/27	14/15
6	Learner22	Normal	Selenge: center	22/27	6/15
7	Learner27	Monk	Selenge: Baruunburen	11/27	15/15
8	Learner1	Children with disability	Bulgan: center	25/27	6/15
9	Learner17	Children with disability	Selenge: Sant	0/27	0/15
10	Learner20	Children with disability	Selenge: Sant	23/27	13.8/15
11	Learner15	Herder	Bulgan: Saikhan	26/27	9/15
12	Learner8	Normal	Bulgan: center	9/27	9/15
13	Learner23	Normal	Selenge: Sant	27/27	14/15
14	Learner11	Herder	Bulgan: Gurvanbulag	23/27	6/15
15	Learner7	Normal	Bulgan: center	26/27	13/15
16	Learner10	Children with disability	Bulgan: Gurvanbulag	25/27	4.2/15
17	Learner4	Orphan	Bulgan: center	26/27	13/15
18	Learner26	Monk	Selenge: Baruunburen	24/27	12.6/15

Source: JICA Project Team

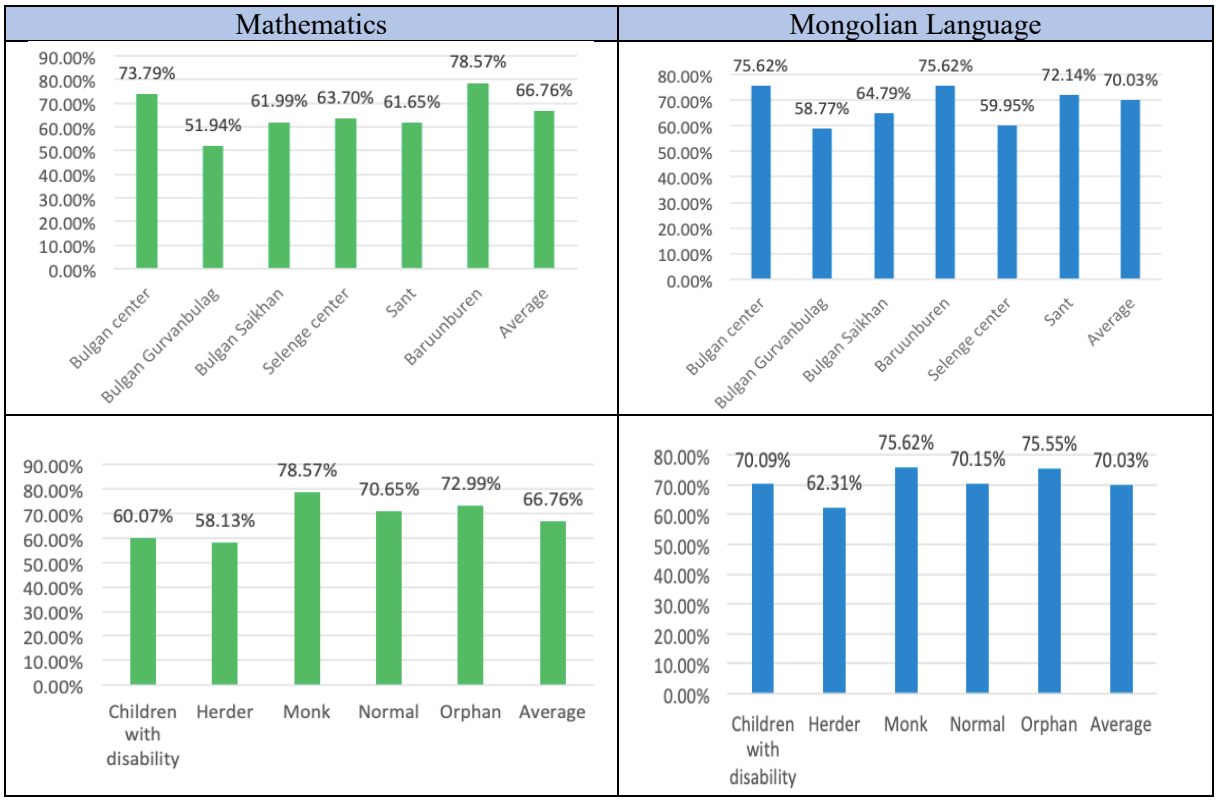
Table 3.3.4 Grade II: Final Exam's Score by Student

#	Student ID	Student type	Location	Mongolian language (Total score: 15)	Mathematics (Total score: 52)
1	Learner9	Normal	Bulgan: center	15/15	46/52
2	Learner13	Herder	Bulgan: Saikhan	10/15	52/52
3	Learner3	Normal	Bulgan: center	12/15	44/52
4	Learner5	Herder	Bulgan: Saikhan	13/15	38/52
5	Learner28	Monk	Selenge: Baruunburen	12/15	42/52
6	Learner30	Monk	Selenge: Baruunburen	15/15	43/52
7	Learner19	Children with disability	Selenge: Sant	12/15	6/52
8	Learner24	Children with disability	Selenge: center	12/15	42/52

9	Learner29	Monk	Selenge: Baruunburen	15/15	33/52
10	Learner31	Monk	Selenge: Baruunburen	15/15	45/52
11	Learner12	Herder	Bulgan: Saikhan	9/15	6/52
12	Learner25	Children with disability	Selenge: center	15/15	51/52
13	Learner16	Full-orphan	Selenge: Sant	14/15	52/52

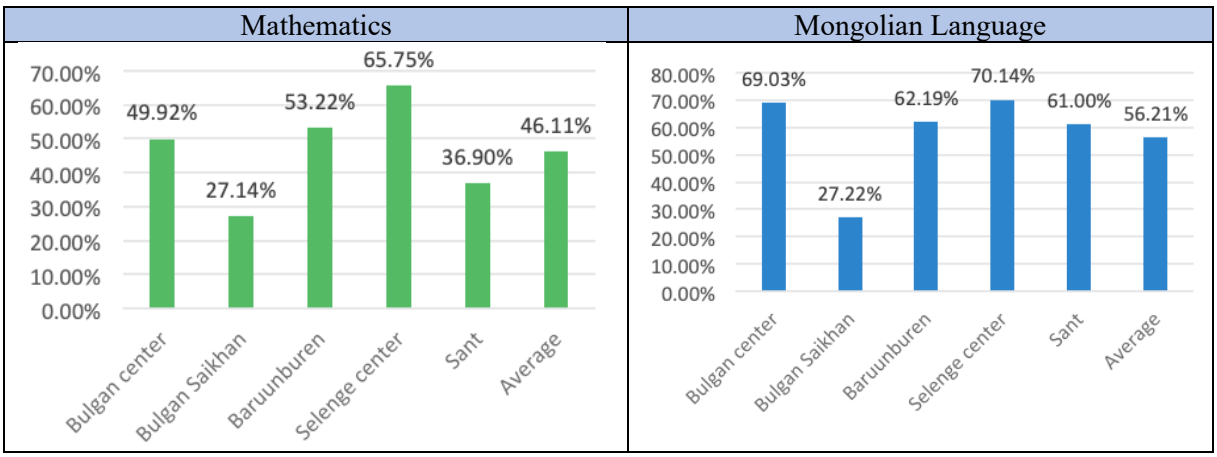
Source: JICA Project Team

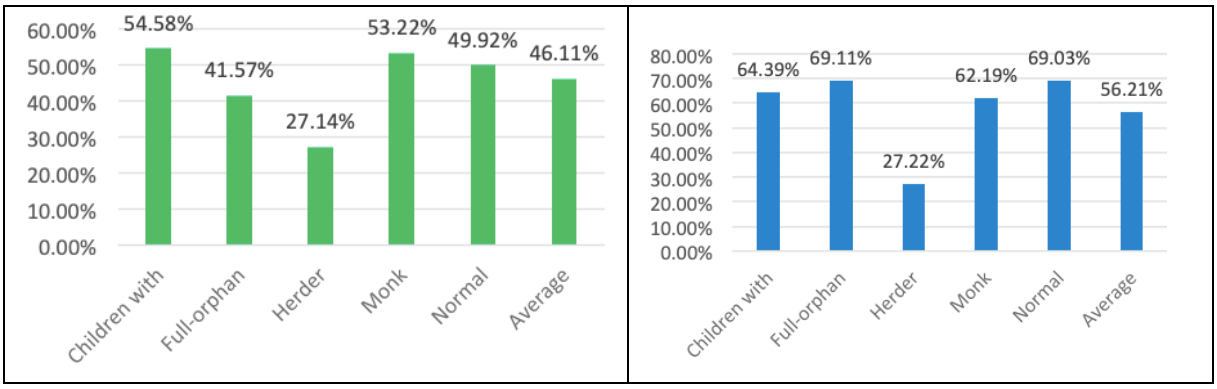
It is observed that most children scored in the upper quarter, with a few students scoring low, or very low grades. The breakdown of final grades by types of children are indicated in Figure 3.3.3 and Figure 3.3.4.



Source: JICA Project Team

Figure 3.3.3 Grade I: Total Score of Students by Location and Student Type





Source: JICA Project Team

Figure 3.3.4 Grade II: Total Score of Students by Location and Student Type

Overall, the result of participating children's learning was found satisfactory after six weeks of distance learning and the distribution of grades may be found reasonable for this group of children. The herder children scored somewhat lower, perhaps as a result of more irregular attendance to on-line classes[9]. Detailed breakdown and analysis of student performance by geographic location and other indicators are found in the consultant's report.

The teachers' participation especially in Stage 1 was commendable and much dedication was shown in visiting students and following up. As for conducting the actual distance learning, some teachers had difficulty in ICT and capacity building will be needed, while others have managed in problem solving for students by working remotely with the ICT expert.

Findings

The two stages of the PP presented valuable lessons as follows.

(a) Children of all situations adapt and use the simple ICT very well, including some children with disability

(b) There are various reasons that parents or the children may hesitate to participate in distance learning, and in-person discussion with LLEC teachers who are familiar with the living conditions of families will be critical. Lack of awareness of the value of education online was one cause as well as fear of losing or breaking the tablets and having to reimburse the cost.

(c) In agricultural and herding communities such as in Selenge and Bulgan, it is critical to adapt the school calendar to the agricultural calendar to enable children to participate.

(d) It is important to conduct an assessment and enhance as necessary the Internet access capacity especially, at the Soum level

(e) Most students, parents, and teachers are enthusiastic about participating in the distance learning. Attention to the children paid through distance education also seems to have anecdotal evidence of parents correcting their behavior towards education, and to their children.

(f) Attention needs to be paid to the reasons for children not to attend schools, including poverty, household abuse, lack of food and nutrition for children, and to coordinate with relevant social services.

[9] It was noted that unfortunately, the pilot coincided with the herding period.

(g) Cases of teenage children who are still not able to read and write have been noted in the PP. Although the number of out-of-school children appears small, there may be silent illiteracy which could affect the generations of Mongolians in the future. It will be important for Mongolia to maintain the impressive enrolment and literacy rates, to avoid further marginalization of such youths and related negative impact such as unemployment and poor economic outcomes.

(h) Some children with light motor disability showed remarkable capacity to respond to distance education and improved opportunity for socialization and networking with peers.

(i) Distance education could be a particularly suitable tool to support the basic education of children living in monasteries. Support and cooperation received from the monks at monastery and openness to distance education had been outstanding. In the PP, 100% of participants from monasteries were boys; however there are female children at some monasteries.

(j) For some children living in remote conditions and also with cases of disability, distance learning creates an opportunity to meet other children and create friendships which will be a valuable process of socialization for these children.

Requirements for national roll out

The current PP was limited in size of the participating students, duration, and also in the grade level/study subjects. The total cumulative number of students participated was 48, which is 0.53% of primary school children at LLECs. When considering applying the result of the PP to national level scale up, following requirements need to be considered:

- The proportion of out-of-school children in Ulaanbaatar[10] at basic education level is 28%, and at general education level up to 18 years of age[11] is 19% according to data at NLCE. The implementation at Aimags and in the nine districts in Ulaanbaatar city may require differentiated design and approach.
- The PP had focused on two subjects, Mongolian language and mathematics: A full-scale program will require multiple subjects and support from specialists, and especially if the program is expanded to cover lower and higher secondary school.
- Most significantly, substantive capacity building and on-going support to the teaching staff at LLEC will be required for the national scale program to be successful, as the human element will be critical in addition to the equipment and technology. To implement the Standard Model of Distance Education, some facilities need to be installed at NCLE, including Distance Learning Unit and Technical Support Unit. There will be extensive use or adaptation of a selected learning management system such as Google Classroom, and development or compilation of education material for the entire school year in multiple subjects. Functions required at the central level will include: system administration, support to general study, e-content, evaluation, and supervision of the e-learning conducted at the network of Aimag and Soum LLECs.
- On the positive note, teaching materials for all school years have now been produced as the Ministry of Education and Science has approved an equivalency curriculum in 2021, and it can be used for distance education for this age group.

[10] Total number 899, which includes 193 children with disabilities.
[11] Total number of children and youth out of school registered at NLCE nationwide is 3,486.

- Although the lessons for out-of-school children may require more time to reach equivalency, currently the requirement of time spent at LLEC programs is minimum of 70% of regular schools. The advantage of on-line learning is that the materials may be used repeatedly until children is able to learn the content.
- There are added difficulties for children from nomadic families to access distance education. However, in such case, the e-learning content may be loaded onto their devices in advance so that off-line learning may be continued in self-paced mode. The students need to reach the Soum or Aimag center every one or two months, to load the program and to send in their work.
- To avoid the misuse of tablets and devices, in future implementation, the devices may be marked as 'property of NLCE and not for sale' to avoid them going into the second-hand market.
- In some urban areas, on-line learning as stand-alone methodology of equivalency program may not be suitable. It may be complemented by training requiring presence in classrooms and with other programs for disadvantaged children, with closer supervision.

NLEC views on harmonization with basic education sector

Given that Mongolia has gone through a full year of education through TV lessons, it will present an opportunity to gradually harmonize the learning through lessons at LLEC with the regular schools. During the PP, it was observed that it is suitable for the children at LLEC to watch and follow the TV lessons for regular school as well. It will be appropriate to use the archives of TV lessons for the children at LLEC as well, either in classroom or remotely, utilizing existing equipment and devices

Also, while children registered at LLEC follow the distance education for out-of-school children, it will be recommended for them to participate in selected classes in regular school through video link, to gradually enable the inclusion of LLEC children in the regular classroom.

Following additional information was obtained from NLEC:

- The equivalency program training is organized under the Order A/168 of the Minister of Education, Culture and Science dated April 3, 2018. In 2020, the Ministry of Education and Science re-developed an information technology-based education compensation program. A training plan should be developed according to this program, but there are no plans yet. To fully involve students in training, it is necessary to build the capacity of teachers in the field of distance learning, develop a distance learning platform, develop materials suitable for students' age and mentality, and create a learning environment for students.
- Mongolia's long-term development policy "Vision-2050", five-year guidelines for Mongolia's development in 2021-2025, the medium-term development plan of the education sector 2021-2030, and the Government of Mongolia's action plan for 2020-2024 defined goals to strengthen the education system, develop e-learning platforms, and develop programs and content to support lifelong learning for people of all ages.
- The equivalency program in Selenge12 for example provides 100% of the content specified in the annual time plan. Children in the equivalency program attend classes twice a year in April and November, and the rest of the time, they study independently. When children learn their homework in the classroom, they show it to the teachers and confirm their assessment. If students are unaware of the assignments given during their independent study, they contact their teachers for advice.
- According to Parliament Resolution 46, NLEC is responsible for providing literacy and primary education to children with bedridden and severe disabilities.

12 The equivalency program is adapted to conditions in Aimags and Soums

Implications for secondary education

It is recommended to conduct an assessment, if not a full pilot, of the out-of-school and drop out situation of the lower and higher secondary school students. It is noted that the number of out-of-school students dramatically increases to 3,486 for this age group. This number is significant, as it is 0.1% of Mongolian population, and 0.51% of the students enrolled in primary or secondary school in this age group13. It is assumed that majority of this group may not have completed lower secondary school. Completion of the compulsory lower secondary school will open options, such as enrolment in vocational or technical training and opportunity for wider range of life options and employment with expectation of a minimum wage.

It may also be assumed that the reasons for drop out, or not continuing education may become complex for this group, including the need to work or for migration. While a major driver for migration to urban centers is for the education of children at the primary level, the students at the secondary level may become the main actor for labor migration themselves. It will be a worthwhile investment to study the root causes of school dropout at the lower secondary school and older. This age group may also be able to handle the technology in distance learning more independently than children at the primary level.

(11) **Evaluation**

The PP has been evaluated by the NCDP two step evaluation system. Table 3.3.5 shows Step 1 evaluation result. Also, Step 2 evaluation result is shown in Table 3.3.6.

Table 3.3.5 Step 1 Evaluation of Project in Strengthening Distance Learning

Account/Initiative	Description
1. National economy: NE	
1.1 Economic efficiency	Method: The hypothetical national roll out of Distance Learning (DL) is compared with scenario of not implementing DL. The estimated costs are compared between enrolling 876 students who are not in school in either normal schools, or boarding schools, and covering them in DL. Scenario A: DL is rolled out nationally, with an estimated budget of MNT 2,140,124,18514 (US$750,000) Assumption 1: Young people who have completed basic education can find employment with payment of minimum wage. *876 primary level students x minimum wage: MNT 420,000 (US$147) = MNT 367,920,000 (US$1,764) x 12 month = MNT 44,150,040,000 (US$1,548 ,791) contribution to economy in the year of graduation Cost of DL per student: US$856.2 Earning per student based on minimum wage: US$1,764 per year Return on the investment: 206% Scenario B: DL is not implemented, and 876 students need to be enrolled in normal schools. 193 students have disabilities. 193 x standard cost of enrolment in basic education 15 MNT 1,592,465 (US$558)16 = 305,753,424 (US$107,282) Students without disability : 876 – 193 = 683 683 x 530,821 = MNT 362,550,743 (US$127,219) a + b = MNT 668,304,167 (US$234,427) Cost of DL compared with cost of regular school enrolment: US$750,000 to US$234,427 = US$515,573 [17] Additional considerations: Cost of transport, rehabilitation of school to

[13] 680,837, NSO March 2021
[14] This includes extensive training of LLEC teachers, additional computer and network focal points at LLEC. Initial estimation by DL team was USD 500,000 which only includes the consultants' fees. The cost of 5 days training
[15] Here, no difference is made between mild and severe disabilities.
[16] Standard cost of education for children with disability is calculated at 3 times the average cost of children without disability
[17] This may be equivalent to a medium-sized technical assistance program

	accommodate additional students, risk of adverse weather conditions, influenza epidemic, drop-out, non-regular attendance.
1.2 Contribution to economic diversification	There may be limited introduction of new technology at Aimag level. a. The effect of involving LLEC teachers in using the internet technology, connecting LLECs, and activating fiber optic cable capacity, considering the relatively low level of ICT usage at Aimag level. b. Having young people trained in Mongolian language, mathematics, literacy will contribute to the economy in different sectors.
1.3 Contribution to foreign exchange earnings	Negligible. There will be traded to purchase the tablets and accessories which are imported, but not as foreign exchange earnings.
1.4 Appropriate technology promotion	It will contribute to promotion of basic ICT technology at both the teachers' level, and especially at people of young age. Namely, 876 students acquire basic ICT knowledge and at least 30 teachers in the 21 Aimags and nine UB districts will gain the ability to organize distance learning.
2.Regional development:	
2.1 Improvement of income disparities	Providing basic education to disadvantaged population is expected to have some impact on preventing the poor to fall below the poverty line. Having basic education should improve the income and economic situation of the poorer household, therefore the gap between these households, and those above the poverty line, should decrease. It may have some impact on decreasing income inequality because educated disadvantaged populations will earn higher when they were uneducated in the future. According to the World Bank, the Gini coefficient was 32.7 in Mongolia as of 2018, and some nominal change to the gap may be expected.
2.2 Vitalization of local SMEs	Not directly but having the online learning activity during the school year could have positive impact on the local economy, which will involve SMEs. If online learning covers all disadvantaged children, then it has direct impact on the local SMEs through the procurement.
2.3 Community development	Through the involvement of school age children and older children in education, it may free up time of the parents, especially mothers for activities outside of the household. When out-of-school children are involved in online learning activities, some children living in remote conditions, or with disability can create their own networking and make friends, which will help with their social development.
2.4 Use of local/indigenous	Locally hired LLEC teachers will be employed, and their capacity to operate online teaching will be improved.
3. Social development:	
3.1 Employment generation	Through children's basic education and future access to equivalency program, their chance of employment will be improved. For example, 15 out of 17 Monastery children have returned to local communities at 18 years old to look for employment. Without basic education, their opportunity for well-paid employment will be limited.
3.2 Improvement of social services	Through the Distance Education, LLEC, Aimag Education departments, and MLSP offices assisting disadvantaged children and children with disabilities will be involved and their experience and capacity will be improved.
3.3 Effects on local culture	Not directly, however young people having basic education will improve the awareness on local environment and culture.
3.4 Poverty alleviation	Same as 2.1, above. As of 2020, unemployed persons with basic education are 5% of total unemployed persons, and unemployed persons with no education are 4.5%, in formal statistics.
4. Environmental	
4.1 Adaptability to natural conditions	The distance education will be adapted to local climatic conditions, transport and distance factors which hamper commuting to schools.

4.2 Land requirements and suitability	No impact and pressure on the limited space at schools.
4.3 Water use and management	No additional use of water is foreseen
4.4 Reduction of environmental vulnerability	N.A.

Source: JICA Project Team

Table 3.3.6 Step 2 Evaluation of Projects in Distance Education

Criteria/Infrastructure	Description
1) Investment cost	For national roll-out, equipment, internet connections, materials, extensive training of LLEC teachers, support to LLECs and teachers, overtime payment to subject and informatics teachers. Estimated total of less than US$750,000 for the first year.
2) O&M cost	Expert team to support and troubleshoot during implementation, maintenance and replacement of damaged equipment.
3) Employment generation	Employment of LLEC Teachers
4) Economic rate of return or B/C ratio	N.A.
5) Foreign exchange earning	N.A.

Source: JICA Project Team

(12) **Recommendation and lessons learned**

Recommendation for promotion of anchor project (II6: Comprehensive Education Reform Program)

The strategy in the anchor project will cover the full spectrum of education from pre-school, basic and secondary education, higher education, research, and informal education as well as lifelong education in an inclusive manner. It is recommended for the Ministry of Education to evaluate how online and distance education can be employed to address the goal of 100 % coverage for all citizens of Mongolia. For children with disability, even as the Mongolian Government has adopted the policy to include all children with disability in regular schools, this goal will require a period of progressive transition, as the capacity of regular schools need to be updated to accommodate children with disabilities.

Lessons learned

It is felt that online classes and distance learning, if implemented properly, will be a powerful tool to complement existing modalities, and to ensure full coverage of all Mongolian children in basic and free education. However, it may not be considered as a separate and only tool. It will be recommended to integrate, as much as possible the regular track of basic education, distance education for out-of-school children, and education for the children with disability.

At the moment, basic education in regular schools is conducted through the school and basic education facilities, and education for out-of-school children are managed by NLEC, with limited schedule and curriculum although both tracks may share the same school building. It was noted through the pilot activity that some children, for example children with minor disability are capable of successfully completing distance education. Although there may be limited capacity to accommodate children from LLEC into regular schools, some of the lessons could be merged so that the children out of school may be able to experience a regular school environment, and thus reduce the stigma.

Online learning is effective, and children of all socio-economic level are found to adapt extremely well to using tablets. Internet capacity in the two pilot Aimags was satisfactory, although more problematic at some Soum level.

Capacity building of teachers at LLEC would require substantive time and support, and it could have the positive impact of teachers' computer literacy and use of the ESIS.

The technology itself will not replace the support and interaction with teachers. The online learning is only effective when full time support can be provided by dedicated teachers. The technology will be effective in overcoming physical barriers such as inclement weather conditions and epidemic outbreaks, including seasonal influenza, as well as remote distance and inadequate road conditions to commute to schools. It may also overcome the situation of either over-crowding or isolation of particular schools on a temporary basis, although long term solution will need to be found for such conditions.

The online learning is effective for children with mild disabilities who are facing difficulties enrolling or commuting to schools. The Mongolian Government has adopted a policy to include all children with disability into regular schools. However, until the facilities and capacities of current schools are updated, online education will fill the gap in lack of educational opportunities for such children.

Although the current PP was of limited coverage and duration, a noted difference in program effectiveness was observed between the Aimags and the capital. The motivation of the students and families was much higher in the Aimags than in the capital, where many competing programs, interest, and entertainment may exist. It may be recommended that out of school children in the capital may be accommodated by preference by other programs, rather than distance learning. Also, more abuse of the software prepared on the tablet was observed at the capital, including playing of games, to removal of the security and monitoring software by children or other members of the household.

Challenges and findings through the implementation under the COVID-19

COVID-19 pandemic has been a challenge as well as a window of opportunity, as TV lessons and online classes have become more mainstreamed. There has been challenges in organization and preparation of the pilot project, particularly for Stage 2 since preparatory field missions to Aimags could not be organized, and the implementation model of pilot was revised, to have fully remote implementation by the consultant team.

(13) **Future orientation**

Concrete plan/recommendation to roll out

Interest and policy on introducing distance learning needs to be discussed between MES and NLCE to agree on the scale and objective of distance learning: whether it will be rolled out for entire student population, or implemented in a hybrid manner. Implementation plan and training program of teachers need to be drafted, and LLEC teachers may be trained at the Aimag centers or at regional centers. On the other hand, a tremendous level of enthusiasm was received both from the students in general, and from LLEC teachers who responded to the challenge to learn and support distance education by dedicating their own time, for example by tracking the students during implementation of the PP. It was perceived as a relatively simple manner to update their ability to use ICT and to become proficient.

Also support and updating the connectivity and ICT infrastructure at LLEC is needed, including a budget separate from the regular school with which many share the premises. Ideally, each Aimag should secure the support of ICT focal point and the informatic teachers who will troubleshoot and support each LLEC.

Implementation/monitoring structure

NLCE will be required to put in place a comprehensive monitoring structure.

Possibility of cooperating with other projects

It is recommended to cooperate with the basic education, education support projects under COVID-9 response, and assistance programs for children with disabilities.

Fund raising method

Funding could be requested from multi- or bilateral sources, and also from private companies in the IT

sector. Samsung is known to support education programs, and if the program extensively uses Samsung tablets, it could be approached. Also, both Microsoft and Google may represent companies with philanthropic interest in supporting education. It will be worthwhile approaching the management of these companies, with the distance learning proposal, not only for direct support, but in seeking advice about use of their equipment and platform.

Finding donor or organization appropriate for implementation

It is important to inform, exchange information and consult partners with experience in similar projects, in particular UNESCO, UNICEF, Save the Children and other partners which are active in Mongolia.

3.4 Establishing Linkage between Industry Sector and Academia

(1) Background

In Mongolia, the relationship between universities/research institutions and the industrial sector is still tenuous, and no partnerships and cooperation in human resource development have been established. There is still a lack of links in the process of universities contributing to domestic industrial growth. Despite the fact that the past 2006-2015 master plan in education sector recommended for increasing enrolment in departments of science and engineering in universities, the proportion of enrolment in these fields has decreased. As a result, there is a lack of labor force to support Mongolian industry. There may be limited tradition of research universities in Mongolia and it is difficult to train researchers in the Country. There is also a lack of awareness on the part of industry of the need for research and the need to seek intellectual heritage from universities and other institutions.

(2) Importance of the pilot project

It is highly meaningful to establish a permanent forum for interactions between universities and research institutions to assist them in responding to the demands of industry for human resource development and research. This PP is in line with the NCDP's strategy and approach in contributing to the implementation of anchor projects in the education sector and to economic diversification through inter-sectoral collaboration. Moreover, the practice is also in line with the Ministry of Education's Master Plan for 2021-30.

(3) Objectives

Overall objective

The overall objective of the PP is to establish and strengthen links between the industrial sector, universities and research institutions in Mongolia. The practice will promote human resource development required by the Mongolian industry and then encourage research needed by industry.

Project objective

The PP aims at setting up regular meetings for the purpose of exchanging information and discussion among stakeholders, and will share awareness of the human resource development and research needs of the Mongolian industry, in order to continue to carry out human resource development and research in a coordinated manner. The stakeholders are expected to be Mongolian National Chamber of Commerce and Industry (MNCCI), Mongolian industrial and Business Council, or industry-specific producers' associations, trade associations, commercial organizations, universities and research institutes, etc.

(4) Management and implementation structure

(a) Implementing agency: MECSS

(b) Supervisory body: NDA

(c) Cooperating institutions: MOFALI, MMHI and other relevant universities and research institutes, depending on the selected industry

(d) JPT: Expert of social development

(e) Local consultant

The Independent Research Institute of Mongolia LLC, a local consultant in Mongolia, conducted the study under supervision of the JPT's social development experts.

(5) Implementation procedure

Project preparation

Interviews were conducted with key stakeholders, including NDA, MCUD, and the Ministry of Education, MLSP, to gain their support for the PP.

Basic research and strategy setting

Interviews were conducted with CP, JICA, and industry and university officials to discuss sector selection. A shortlist of target sectors was established based on contribution to GDP, growth industries, sectors with sluggish growth, and data from the Ministry of Labor and Social Policy. Initially, three sectors were shortlisted: mining, tourism and IT. Existing conditions of these sectors were reviewed. Through discussions between the JPT, JICA Mongolia office and the Mongolian C/P agencies, the IT sector was selected as priority target for the following reason:

(a) IT technology is effective in covering all the Mongolian people widely distributed in the vast territory of the Country;

(b) Mongolia has highly qualified human resources with multi-language capability suitable to IT application; and

(c) In pursuing the new development paradigm advocated by the NCDP, application of IT technology in various fields is essential.

Preparatory works to establish an industry-academia linkage platform

A consultant team was nominated through a competitive bidding to conduct a basic survey on the IT sector and facilitate meetings with many stakeholders. Individual discussions were conducted with stakeholders including the Ministry of Education and Science (MES) the Communications and Information technology Authority (CITA), the Mongolia Software Industry Association (MOSA), the National University of Mongolia (NUM), the Mongolia University of Science and Technology (MUST) and other institutes and individuals.

Inviting all the stakeholders, consultative meetings were convened by the initiative of the JICA Mongolia office aiming at establishing an industry-academia linkage platform for the IT sector. A preliminary meeting took place on March 10, 2021. The JPT presented results of the survey on existing conditions of research at universities and cooperation with the industry, explaining issues identified and recommendation to address to the issues. Dr. Tengis of MUST made presentation on ongoing education programs, graduation statistics, education program updating process, problems related to R&D activities and collaboration with private firms at a few universities. Issues related to industry-academia collaboration were identified and how to meet the challenges for further collaboration were discussed.

Industry-academia consultative meeting

To promote industry-academia collaboration a step further, the first consultative meeting was convened on March 31, 2021 chaired by Mr. Koizumi of the JICA Mongolia office. Practically all the stakeholders identified through the PP participated in the meeting. Following the introduction and clarification of framework for establishing the linkage, three presentations were made. First, Mr. Mendsaikhan, IT expert of the consultant team engaged by the JPT presented outcomes of the industry-academia linkage study. Second, Dr. Tengis of MUST presented existing conditions and prospects of industry-academia linkages and made requests for further collaboration to the industry. Third, Mr.

Sukhbayar, CEO of MOSA, clarified needs for research and collaboration with universities.

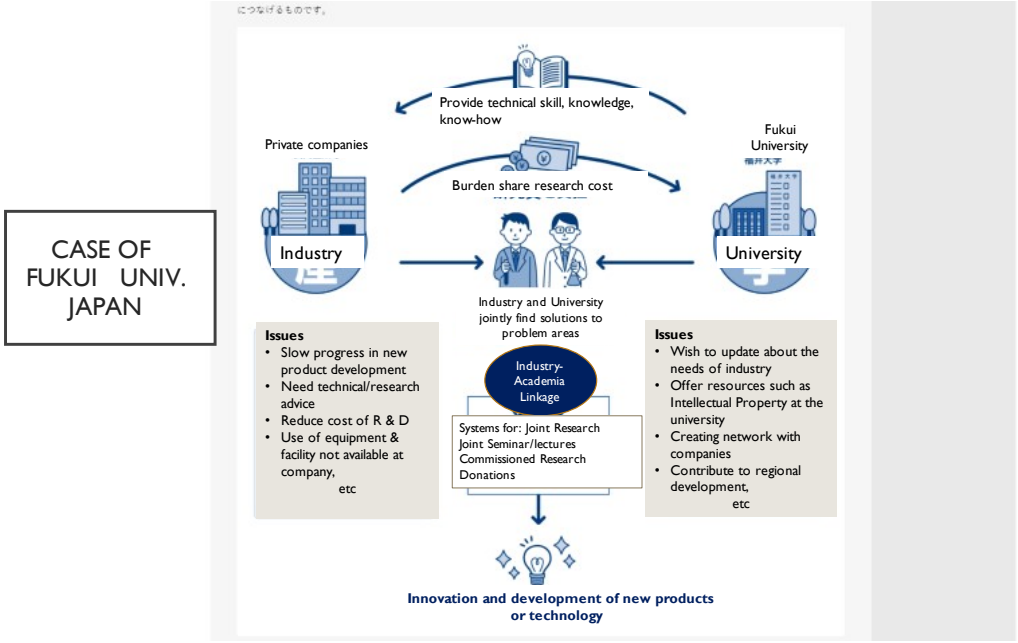
The social sector expert of the JPT presented a model for an industry-academia linkage platform and emphasized needs for regular consultations between the IT industry and universities on R&D collaboration. The JPT proposed establishment of regular consultations between universities and industry in the ICT sector, referring to the successful cases in Japan of Fukui University (Figure 3.4.1) and Osaka University. Discussions followed by representatives of MUST, NUM and the University of Finance and Economics, MES, the Mongolian National Council for Education Accreditation and a few private firms.

As the next step, the following were agreed by participants:

(a) Schedule setting for the next meeting first and further consideration of regular meetings,

(b) Agenda announcement for each meeting in advance such as education curriculum and joint research topics, and

(c) Leadership from the IT industry for continual consultation.



Source: Presentation material made by Pilot Project Team

Figure 3.4.1 Industry-Academia Linkage: Case of Fukui University in Japan

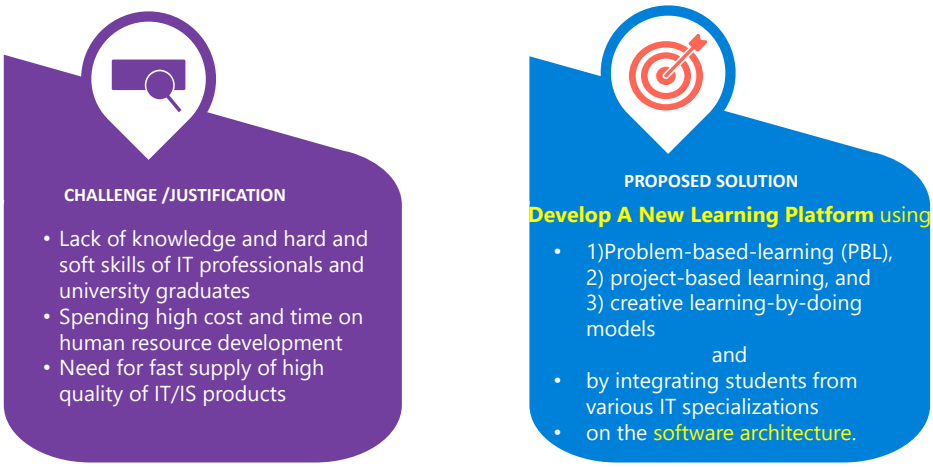
Following the process and discussions clarified during the first meeting, the second consultative meeting was convened on May 5, 2021 chaired by Mr. Sukhbayar, CEO of MOSA. The following contents were presented and discussed:

(a) Findings from the research presented by the pilot project team;

(b) Joint research lab presented by Prof. Bolormaa, University of Finance and Economics;

(c) Experience from Japan presented by Prof. Ariunaa, Osaka University in Japan, and

(d) Introduction to memorandum of understanding (MoU) explained by Mr. Sukhbayar.



Source: Presentation material made by Pilot Project Team

Figure 3.4.2 Current Challenges and Proposed Solution by Joint Research Lab

The purpose of the MoU is to promote cooperation in information and telecommunication technology education and scientific research between representatives from the academia and representatives from the industry with a view to benefitting from each other's initiatives and to contribute to the acceleration of the information and communications technology development in Mongolia. The MoU would be signed in order by the representatives of the academia, the industry, Government authorities and observers as responsible members of this initiative, and also signed by the representatives of JICA and MOSA as a witness.

(6) Result of evaluation

The NCDP has proposed a two-step evaluation system (Chapter 9 of the Main Report for details), which was applied to all projects including pilot projects. Table 3.4.1 shows step 1 evaluation result of this pilot project. Also, step 2 evaluation result is shown in Table 3.4.2.

Table 3.4.1 Step 1 Evaluation of Project in Establishing Linkage between Industry and Academia in ICT Sector

Account/Initiative	Description
1. National economy: NE	
1.1 Economic efficiency	Comparison of 'no intervention' with the scenario 'dialogue between industry and academia' will be made to measure the relevance of university curriculum, skill profile of students (no need to have 12 months OTJ training), reducing loss of inefficient use of equipment, or losing requests for research which are not responded. *400 vacancies x MNT 1,304,000 (average ICT salary) x 12 months = addition of MNT 6,259,200,000 (US$2,194,848) to economy *Reduce 12 to 3 months salary for employees' OJT period, opportunity cost gain of MNT 1,304,000 x 9 months x 675 new employees = saving of MNT 7,921,800,000 or US$2,778,470 in payment of salaries without production * increase of student quota at university by employing additional teaching assistants => investment cost of average MNT 1,190,000[18] salary x 30 disciplines[19] x 2 universities x 12 months= MNT 856,800,000 (US$300,070) is compared with. 60 additional graduates with MNT 1,304,000 average salary = MNT 78,240,000 [20]or US$27,446, x 12 months = MNT 938,880,000 or USD 328,816 as addition to the economy Net gain of US$28,716 Also, industry-oriented research allows using resources in efficient and optimal ways.

[18] Graduate teaching assistants/researcher salary will be closer to the new graduate salary in ICT, therefore the investment and economic gains may become even.
[19] There are currently 30 disciplines under ICT, which is taken as reference number. These may not include the newest topics.
[20] On assumption that industry can absorb 60 jobs in addition to the 400 currently vacant.

1.2 Contribution to economic diversification	Strengthening ICT sector may lead to some diversifying from the mining and extracting industry and production to service sector. Entrepreneur-based universities begin to develop, and industry-oriented research will be intensified, which will help in economic diversification
1.3 Contribution to foreign exchange earnings	Minimal, negligible
1.4 Appropriate technology promotion	high contribution. In the future, additional areas of ICT such as machine learning, AI, IoT, etc. should be introduced. Contribution to technology promotion may be expected for all sectors as ICT is a field which facilitates development of all sectors.
2.Regional development: RD	
2.1 Improvement of income disparities	Better linkage should help with basic to advanced level of skills for employment. Current Income inequality (90:10) is 7.7 [21] percentile, and the income of unskilled worker may increase with additional skill. Better linkage should make the skills training more relevant and increase the wage of previously unskilled workers.
2.2 Vitalization of local SMEs	Support to ICT-related SMEs and SMEs in other sectors which are in need of digitization.
2.3 Community development	Indirect support IT based SMEs/startups can develop IT based business networking
2.4 Use of local/indigenous resources	Use of local expertise
3. Social development: SD	
3.1 Employment generation	High contribution
3.2 Improvement of social services	Indirect contribution to formal and informal employment support, job fairs, internships, etc.
3.3 Effects on local culture	Promotion of local ICT networks, coding workshops, Internet based groups
3.4 Poverty alleviation	Promotion of start-ups, appropriate training in TVET can help with gainful employment
4. Environmental quality: EQ	
4.1 Adaptability to natural conditions	Little negative impact on environment
4.2 Land requirements and suitability	Negligible or no impact
4.3 Water use and management	Negligible or no impact
4.4 Reduction of environmental vulnerability	N.A.

Source: JICA Project Team

Table 3.4.2 Step 2 Evaluation of Project Linkage of Industry and Academia in ICT Sector

Criteria/Infrastructure	Description
1) Investment cost	project budget, + cost of meetings, materials, interpreters
2) O&M cost	support to the Secretariat (maybe additional staff at MOSA?), study tour, Cost of the Joint Research Laboratory activity

[21] In 2016 (it is the latest year calculated). It means that the worker at the 90th percentile of the income distribution earns 7.7 times higher than the worker at the 10th

3) Employment generation	We can calculate the additional students who could become employed: 400 for vacant jobs, or the decrease of IT students who are not employed
4) Economic rate of return or B/C ratio	N.A.
5) Foreign exchange earning	N.A.

Source: JICA Project Team

(7) Recommendation and lessons learned

Recommendation for promotion of anchor project

In the education sector, there is a long-term vision of developing a foundation for research university[22]. By establishing a new linkage between the industry and universities in the ICT sector, a business model may be introduced, where the industry will finance some of the research at universities. Also, close collaboration with the industry should help to reform the university programs and increase their relevance and contribution to meet the needs of the industry market.

The PP may further promote the activities in digital transformation project, by looking at the fundamental strength and weaknesses of specialist training in the ICT sector at higher education level.

Lessons learned

- The awareness about the need to have efficient university programs, relevant for the industry, and to have a close working relationship between universities and the industry could be strengthened. There are continued silo structure between universities and the private sector, and among universities which are not productive for the development of sector as a whole. The mechanisms of cooperation which already exist are recognized, but the degree of implementation needs to be reviewed.
- There is an opportunity in the ICT sector to develop quickly and to high quality outputs, given the growth of the sector, and aptitude of Mongolian youth and emphasis on education.
- The industry support environment is still weak with software side and hardware side not fully represented by industrial organizations. In the example examined as part of the PP, especially from Fukui university, the positive influence of the eco-system around the industry-academia-government linkage. There are various industry-trade groups and alumni associations, which are supporting the academia-industry relationship at different levels. From the perspective of students as well as researchers, there are various support systems they can turn to, for job search, internship, information and networking. In the long run, it would be helpful to encourage multi-faceted support system. For example, the Software Association is the only main organization of the private sector. There could be a subgroup in the MNCCI or BC, or other trade organizations. Connection with the AI Pocket Money could also be an important channel of information exchange.
- It will be helpful to integrate a monitoring and feedback system, both on the industry and university side, by administering user and client satisfaction surveys on a regular basis.

Challenges and findings through the implementation under the COVID-19

- The implementing partner for the PP commented that conducting research under COVID-19 conditions was challenging, but organization and management of attendance at online meetings were not hampered by the COVID-19.
- It may be uncomfortable for new alliances to be formed without having face-to-face meetings

[22] A pre-feasibility study was conducted by ADB in … (to complete)

(8) **Future orientation**

Concrete plan/recommendation to roll out

- In order to establish regular consultative meetings, it will be necessary to identify 1) secretariat and/or 2) leaders. The secretariat such as Mongolia Software Association may need staff and logistics support.
- Rules and regulations including membership of the linkage platform needs to be established.

Implementation/monitoring structure

- It is recommended to carry out regular client consultation or satisfaction surveys, for example at universities, and for the overall sector through private companies in the industry and users. MOSA may be tasked with the survey and publishing of the results.

Possibility of cooperating with other projects

- The linkage concept could be applied to other sectors, depending on the interest. Both the tourism and the transport/logistics sectors would have potential benefit from creation of linkage. The project could cooperate with the research university concept, which is being explored by ADB at a feasibility study level.
- The linkage project can cooperate very well with GIZ platform on human resources needs projection of the mining sector[23], the EU-Erasmus program[24], ICT transformation project of NCDP to share information and experience. It has already conducted a joint event with the AI Pocket Money online group, which is a virtual platform of Mongolian ICT experts and students in Japan, and also around the world.

Fund raising method

- Funding from private sector companies in the ICT sector will be strongly recommended. Also in other sectors, long-term goal should be shifting from public to private funding for university research projects and some support facilities.

Finding donor or organization appropriate for implementation

- In all sectors, there should be opportunities for private sector funding domestically and abroad.
- It is to note that Mongolia scores higher on both ranking on democracy[25] and freedom among its neighbors. There are interesting data indicating that Mongolia is the only 'free' country surrounded by countries which are only partly free[26]. In the rapidly changing geopolitical landscape of recent years, Mongolia may present an attractive environment for donors, for example to support the education sector and social development.

[23] This is an on-going project, to create a platform for projection of HR requirements in the sector
[24] An EU-Erasmus based exchange program may provide opportunities for on-the-job training and exchange
[25] Economist Intelligence Unit, 2020 Democracy Index
[26] Freedom House, Freedom in the World 2021

3.5 Establishment of Dinosaur Museum

(1) Background

The Gobi desert is believed to conserve the largest number of dinosaur fossils in the world, but the infrastructure for tourism and the information provision system for exhibition are lacking. Therefore, visitors to the Gobi desert mainly go on desert tours, and there are few tourists who enjoy dinosaur-related activities. Likewise, local residents do not have any knowledge of dinosaur fossils and leave them in a state of disrepair, and they are not used as a resource for local revitalization. Due to inadequate management and protection systems, the theft and illegal removal of dinosaur fossils are becoming a social problem.

Source: JICA Project Team

Figure 3.5.1 Dr. Bolortsetseg Is Examining Stolen Dinosaurs Fossils from the Gobi Desert.

(2) Importance of the pilot project

The development of the Gobi dinosaur museum will contribute greatly to the revitalization of the local communities and improve their livelihoods. By strengthening the capacity of the local people and educating them about the dinosaur fossils, the local communities can be made more receptive to tourists and thus revitalize the region through tourism. Dinosaur fossils in Mongolia are of world-class value, and local people should recognize this, strengthening their ethnic pride as an important element of Mongolian identity and well-being.

The practice will lead to the realization of the NCDP core concept of the alternative socio-economy for human centered development. SDV2030 aims to increase the number of foreign tourists to 2 million by 2030, which requires aggressive tourism promotion measures. In order to achieve this target, the creation of new tourist hubs as well as the development of existing tourist sites is required, and the development of a tourist hub using dinosaur fossils in the Gobi region is a key strategy.

Source: JICA Project Team

Figure 3.5.2 Students Learning about Velociraptor from the Flaming Cliffs

Source: JICA Project Team

Figure 3.5.3 Class Explores the Flaming Cliffs

(3) Objective

The purpose of the PP is to satisfy the basic requirements for the funding necessary for the implementation thereof. For this purpose, a high-level concept study that includes a preliminary development plan has been prepared through the collection and analysis of basic information about the GDM and related facilities and activities.

The mission of the PP is to engage the communities of the Gobi desert to protect and preserve the dinosaurs of Mongolia, to support these communities through the development of sustainable dinosaur tourism, and to share fossil discoveries of the region with the rest of the world.

In following this mission, the focus is on several key values including:

Community: Valuing local culture, knowledge and heritage.

Excellence: Always aiming to do the best work.

Future: Planning GDM while focusing on the medium and long term as real change takes time.

Equity: Ensuring the local communities, which have traditionally been ignored, will gain the most from GDM.

Diversity: Welcoming diversity of people, knowledge, and opinions and see this diversity as critical to our success.

Inclusion: Aiming to create an inclusive environment, where all are welcome.

The vision is to become an internationally recognized, dinosaur museum that places the hopes, dreams, and future of the local community first.

(4) Management and implementation structure

Under the supervision and guidance of the JPT, a consultant team of PP comprising four experts were formed. The JPT have received expert guidance from Japanese dinosaur experts. Likewise, the JPT received advice from MET and the private sector to compile information necessary for feasible study.

(5) Implementation and main outcomes

MET support ensured

The JPT received a letter from the Ministry of Environment and Tourism (MET) to support the implementation of the PP. MET plans to include a dinosaur museum project in its five-year development plan.

Site selection for the GDM

The museum is not only for tourism development but more importantly for regional development by utilizing indigenous resources by local communities. Therefore, it should be located next to the Flaming cliffs, one of the most famous dinosaur localities in the world. The first dinosaur eggs were found at this place nearly 100 years ago. This site receives the second largest foreign tourists in Mongolia and allows forming a tourism circuit linking other famous tourism spots such as Hongoryn Els. Flaming cliff is unquestionably and by far the most appropriate site for the dinosaur museum. Tourists from across the world visit this site to admire its stunning natural environment, the wildlife that have adapted to the arid landscape, and the new fossils that weather out of the cliffs each year. Despite being a major tourist destination, there is essentially no infrastructure at the site, Mongolians are largely unaware of the site's importance, and local people have reaped little economic benefit. The fossils themselves are threatened by poaching and unregulated traffic across the rock outcrops.

Basic concepts and complementarity with related initiatives

The museum as conceived is unique in the following ways:

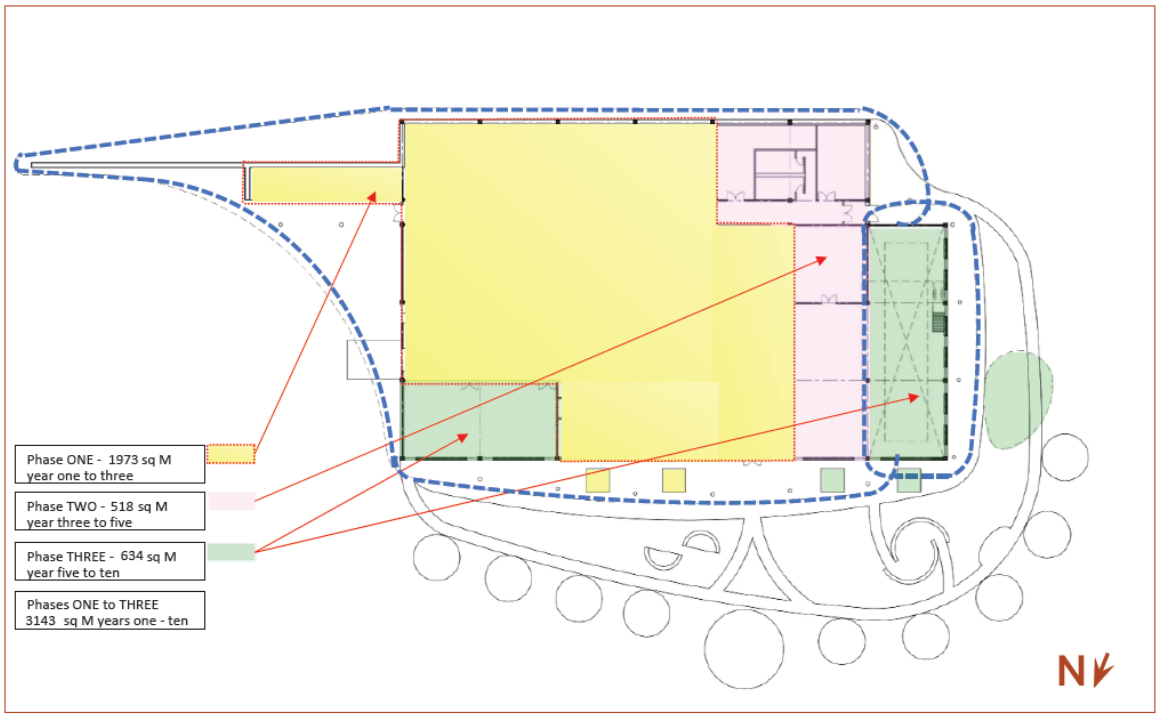
1) It is located in one of the most famous dinosaur localities to attract foreign visitors including many dinosaur freaks;
2) It has a potential to occupy an important position in the future within the world network of dinosaur museums;
3) It will be managed and operated by local communities under the supervision and guidance of world-class experts on dinosaur resources protection and research;
4) It will serve as a research center for dinosaur resources in the world allowing continuous upgrading of exhibition as new discovery is made by world class researchers; and
5) It will help to establish cultural and archaeological identity for Mongolian people.

The museum is different from a museum planned in Dalanzadgad, which is a natural history museum and in fact mutually complementary with the dinosaur museum. The Social Science Academy of Mongolia is planning another natural history museum in Ulaanbaatar focusing on paleontological exhibition not specialized in dinosaur heritage. It is academe oriented, while the dinosaur museum is more dynamic for people and researchers to share the cultural and archaeological heritage widely and communicate with world wide people and researchers with common interests.

Schematic design of the building and related facilities

The museum building has been designed to fit into the natural setting, with gabion walls composed of local sandstone and a long, low-angled roof that mimics the surrounding escarpments. It takes inspiration from an armored dinosaur Pinacosaurus grangeri, one of the first dinosaurs discovered from the Flaming cliffs, with an observation tower forming a "head" and the roof slowly tapering to the ground on the opposite side to create a "tail". Sustainability has informed much of the design, including a crenulated roof that alternates angled solar panels with vertical skylights.

The museum should be developed in stages as collection and preparation of fossils and other exhibits are conducted in steps. The museum would be upgraded as more fossils are found, analysed, classified and researched. Accordingly, construction is planned also in three phases (1991m^2, 518 m^2, then 634m^2) as shown in Figure 3.5.4. The exhibit space of 1,014 m^2 will display fossils of dinosaurs collected through museum run expeditions with explanations in both Mongolian and English. Figure 3.5.5 and Figure 3.5.6 presents a view of the building from northwest and a layout plan of the GDM building.

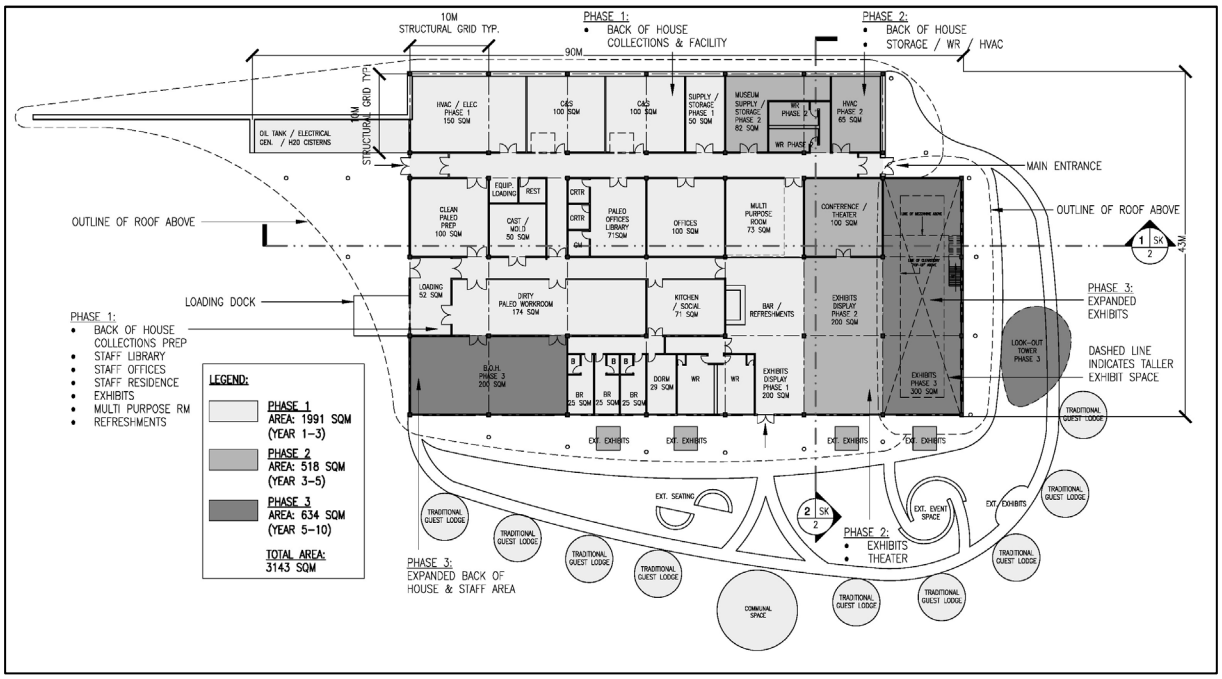


Source: JICA Project Team

Figure 3.5.4 Building Phases of Growth / Layout - Phases 1, 2 & 3

Source: JICA Project Team

Figure 3.5.5 View from Northwest Looking at Visitor Accommodation, Events Space, and Outdoor Exhibits



Source: JICA Project Team

Figure 3.5.6 Museum Schematic Plan - Phase 3

Examination of the contents of the exhibition (dinosaur fossils, fossils of other animals and plants, replicas, etc.)

The GDM would be a 3143 m^2 large facility with spaces for exhibition, collections of dinosaur fossils, scientific study, and educational programs for all ages.

The following programs and activities will be provided:

- Site tours and guided hikes,
- Indoor and outdoor museum exhibitions and multi-lingual interpretation,
- Dino bus travelling display program,
- Supervised fossil digs and preparation, including certified courses,
- Excursions to other fossil sites,
- Outdoor programs for photography and wild- life, falconry, camel tours etc. and
- Local souvenirs and crafts.

Planning of activities related to research, community education, awareness raising and tourism promotion

Although the Gobi Dinosaur Museum will focus as a gathering point for the region and a magnet for domestic and international tourists, it will also engage in educational outreach through several programs, some new and other expansions of existing projects. The museum is envisioned to be a community-center to become a source of local pride, a vehicle for educating Mongolians about the fossil riches in their own backyard, and an engine of regional economic development. The following are its main features:

- Mobile dinosaur museum,
- Mobile science lab,
- Traveling trunks,
- Young scientist program,
- Young scientists summer camp,
- Professional development for school teachers, and
- Dinofest.

Source: JICA Project Team

Figure 3.5.7 Mobile Dinosaurs Exhibit

Source: JICA Project Team

Figure 3.5.8 Local Teachers Group

Consideration of cost estimation and funding methods

It is anticipated that the total cost to start the museum is US$15.4 million, of which US$6.5 million is for construction of the building. The greatest long-term challenge is that projected income from ticket sales, gift shop purchases, and other sources will provide about half of the estimated US$300,000 annual operating budget. These estimates are preliminary, and a full feasibility study is needed to better characterize this gap, identify other funding sources such as grants and government support, and develop management plans that reduce costs by focusing on the seasonal flow of museum activities and visitation. The estimated initial costs, operating expenditure and revenue are summarized in Table 3.5.1 and Table 3.5.2. The revenue is estimated by current levels of admission fees at existing museums and the number of visitors assumed on the basis of visitor statistics to Bulgan Soum and Umnugovi.

Table 3.5.1 Initial Costs of GDM

(Unit: US$ thousand)

Cost Items	Phase 1	Phase 2	Phase 3	Total
Pre-opening	$ 1,263			$ 1,263

operation costs				
Construction costs	$ 6,505	$ 946	$ 1,031	$ 8,483
Exhibit design, fabrication, shipping, installation	$ 6,614	$ 5,299	$ 5,110	$ 17,025
Cost of fund raising	$ 1,057	$ 740	$ 770	$ 2,569
Total	$ 15,440	$ 6,986	$ 6,912	$ 29,340

Source: JICA Project Team

Table 3.5.2 Operating Cost and Revenue

(Unit: US$ thousand)

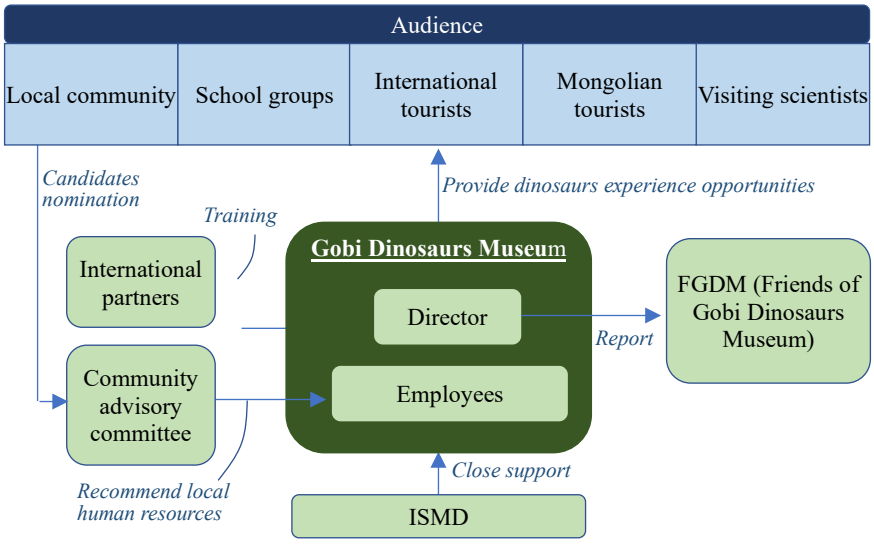
Item	Year 3 (Last year of Phase 1)	Year 5 (Last year of Phase 2)	Year 8 (Last year of Phase 3)	Remarks
Total revenue	$307,167	$368,121	$469,594	
Earned revenue	$83,232	$121,232	$183,790	Administrative, retail, food service, facility rentals, special programming, behind-the-scenes tours, tours of Flaming Hills, travelling exhibits development
Non-earned revenue	$223,935	$246,889	$285,805	Balance of total expenditure and earned revenue (donation, subsidy etc.)
Total expenditure	$292,337	$443,777	$548,977	
Balance	$14,830	-$75,656	-$79,383	
Net Operating Income including NOI (Endowment Proceeds)*	$281,000	$217,000	$20,000	

Source: JICA Project Team

Note:* Balance of the previous year + revenue of this year – expenditure of this year = cumulative balance

Market research for sustainable operation

The museum will be led by a director who reports to a separate non-profit organization, the Friends of the Gobi Dinosaur Museum (FGDM), having a 9-member governing board. Local input will be gathered through a 5-member community advisory committee. Museum activities will be accomplished with 15 employees, most hired from the local region in two phases: initially nine employees, and then six more employees. The museum will work with international partners to provide training for scientists and technical support staff. The GDM will serve several audiences; in addition to the local community, they include school groups, international and domestic tourists, and visiting scientists. Education will be major focus of the museum and programs currently managed by the ISMD (mobile dinosaur museum, teacher training programs) will be expanded upon in addition to the development of new ones such as a summer camp for K-12 and an annual Dinofest celebration.



Source: JICA Project Team

Figure 3.5.9 Relationships among Relevant Groups

(6) Result of evaluation

The PP was evaluated by the two-step evaluation system proposed by the NCDP (Chapter 9 of the Main Report for details). Table 3.5.3 shows step 1 evaluation result of the PP. Also, step 2 evaluation result is shown in Table 3.5.4.

Table 3.5.3 Step 1 Evaluation of the Gobi Dinosaur Museum Establishment

Account/Initiative		Score*	Description
1. National economy: NE			
	1.1 Economic efficiency	1	The Gobi Dinosaur Museum (GDM) can become a major engine for economic advancement of the nearby communities of the Flaming Cliffs.
	1.2 Contribution to economic diversification	1	Protecting and preserving the dinosaurs of Mongolia and supporting the local communities through the development of sustainable dinosaur tourism.
	1.3 Contribution to foreign exchange earnings	1	An establishment of an internationally recognized, dinosaur museum that will be a popular international tourist destination.
	1.4 Appropriate technology promotion	1	Exhibit types can vary from large fossil mounts with interpretive descriptive panels and illustrations of past worlds, media, augmented and virtual reality interactive media devices, graphics and mechanical interactives, interactive menu driven kiosks to dig deeper into subject matter displayed or discussed. Promotion and usage of technology to provide training and collaborative opportunities to Mongolians in remote areas.
Sub-Total		4	
2.Regional development: RD			
	2.1 Improvement of income disparities	1	For every directly created tourism job, nearly one and a half additional jobs are created on an indirect or induced basis.

	2.2 Vitalization of local SMEs	1	The tourism industry also serves as an economic multiplier, which not only helps create job opportunities, but also has indirect impacts to the local economy as a whole.
	2.3 Community development	1	The museum is envisioned to be a community-center to become a source of local pride, a vehicle for educating Mongolians about the fossil riches in their own backyard, and an engine of regional economic development.
	2.4 Use of local/indigenous resources	1	Development of sustainable, paleontology-themed tourism through the protecting and preserving the fossil resources.
Sub-Total		4	
3. Social development: SD			
	3.1 Employment generation	1	An integral part of a training and employment plan involves training locals.
	3.2 Improvement of social services	0	Not relevant
	3.3 Effects on local culture	1	Valuing local culture, knowledge and heritage.
	3.4 Poverty alleviation	1	Creating job opportunities through sustainable, dinosaur-based tourism.
Sub-Total		3	
4. Environmental quality: EQ			
	4.1 Adaptability to natural conditions	1	Tourists from across the world visit this site to admire its stunning natural environment, the wildlife that have adapted to the arid landscape, and the new fossils that weather out of the cliffs each year.
	4.2 Land requirements and suitability	1	The museum would be located next to the Flaming Cliffs, one of the most famous dinosaur localities in the world. The impact of land requirement at 8,000 m^2 would be negligible.
	4.3 Water use and management	1	Deep water wells for fresh drinking water will be investigated, a new sewage treatment plant will be installed.
	4.4 Reduction of environmental vulnerability	0	Conservation of important fossil sites through education and sustainable tourism. GDM would contribute to restraining uncontrolled intrusions by tourists into fossil bearing areas and minimizing damages on dinosaur fossils.
Sub-Total		3	
5. Institutions: IN			
	5.1 Implementing arrangements	1	The GDM should be operated by a non-government, non-profit organization called Friends of the Gobi Dinosaur Museum (FGDM).
	5.2 Participation of local community and people	1	The local community of the GDM is the primary target audience.
	5.3 Promotion of localization	0	The site provides a unique opportunity, not only to reveal the spectacular Flaming Cliffs geologic feature, but to also educate visitors of the science, geology and palaeontology in situ.

	5.4 Local ownership and public acceptance	1	The significance and need to protect and preserve the site for future generations and instilling a sense of pride in the local population who may be unaware of its importance in the world.
Sub-Total		3	

Note*: 2 = Highly positive, 1 = Positive, 0 = Negative
Source: JICA Project Team

Table 3.5.4 Step 2 Evaluation of the Gobi Dinosaur Museum Establishment

Criteria/Infrastructure	Description
1) Investment cost	It is anticipated that the total cost to start the museum is US$15.4 million, of which US$6.5 million is for construction of the building.
2) O&M cost	The estimated annual operating budget $300K
3) Employment generation	Museum activities will be accomplished with 15 employees, most hired from the local region, in two phases (9, then 6 more employees).
4) Economic rate of return or B/C ratio	Not calculated
5) Foreign exchange earning	Not estimated

Source: JICA Project Team

(7) Recommendation and lessons learned

Recommendation for promotion of anchor project (I10.1 Dinosaur museum)

The GDM will be a destination for residents of Umnugovi Aimag, Mongolia as a whole, and for international travelers. The GDM will offer compelling paleontological, archaeological, and geological assets coupled with inspiring cultural offerings. The museum will need to collaborate closely, particularly in the early stages, with the local government to gain proper permits, to minimize the impact of the museum and increased tourism on the local environment, and to provide infrastructure (roads, power, running water) to the museum all year round. Partnerships with the tourism industry's stakeholders is also envisioned including the Tourism Board of Umnugovi, the National Tourism Board of Mongolia, and private tour companies and private lodgings that also run tours. The nearby Three Camel Lodge and Nomadic Expeditions have expressed an interest in collaborating with the GDM.

This combination of attractive and varied experiences with comfortable and efficient infrastructure will create a highly regarded destination for first-time visitors. Importantly, the GDM will have the experiential and amenity offerings to develop a strong repeat visitation pattern especially for the residents of the province.

To successfully promote and raise private funds, the GDM will also need a strong digital presence and a public figure that would help spread the message to a wider audience. It is intended to build on the website on the Flaming cliffs developed by the ISMD (http://www. flamingcliffs.org/).

Lessons learned

A major part of the mission of the GDM will be building a collection of fossils from the local region, with a particular emphasis on dinosaur fossils and specimens from the adjacent Flaming cliffs. According to Mongolian law, the Country of Mongolia retains ownership of all fossils, thus a key early step in the development of the GDM will be an agreement between the museum and the appropriate Mongolian ministries allowing for excavation and collection of specimens in the field, preparation and conservation of such specimens, use of some specimens for education and scientific studies, and exhibition of specimens in the museum for general visitors. As part of this agreement, the GDM will carry insurance to protect the specimens, and when needed, the entire collection will be appraised to

ensure it has an appropriate level of protection.

The strength of the GDM PP is its approach to prioritize community development and mobilization of international standard expertise in museology. By this approach, the GDM PP aims to create a world class museum, which will be the first example in Mongolia in such a way as to enhance the pride of Mongolian people, especially the locals, toward their precious paleontological asset, accelerate science education and upgrade income levels of the local people. Although yet to be seen, this approach would be most appropriate in evoking a feeling of sympathy and enthusiasm among dinosaurs fans all over the world, thus enlarging the chance for fund raising.

Challenges and findings through the implementation under the COVID-19

Due to travel restrictions and border closing, the team has been working remotely. However, for the next stages of planning, site visits need to be conducted by the architects and construction team.

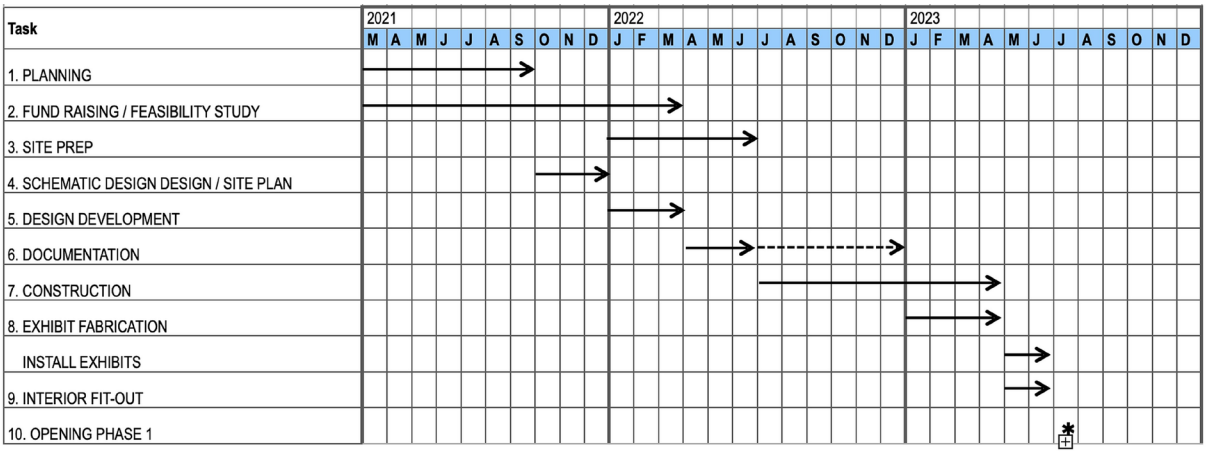
(8) **Future orientation**

Concrete plan/recommendation to roll out

This report provides a firm foundation for the future development of the GDM. The obvious next step would be to use this report to conduct additional research to create a full-scale feasibility study of the GDM. Several key items need additional attention. A more detailed plan needs to be developed to describe the thematic elements that create a cohesive experience for visitors, the balance between permanent and temporary exhibits, and how the exhibits are designed to effectively reach different audiences. Another key aspect will be the integration of technology in the exhibits and how these technologies may affect operating expenses of the museum.

A full feasibility study is needed to further investigate the availability of water resources and reliable supply of electricity, which are critical factors to consider for the regular and stable operations of the museum. Another area that also needs more attention in the feasibility study is the operating budget of the museum and the variability of income from tourism. The usage and primary audiences will differ considerably between the summer and the winter seasons, and facilities expenses will likely greatly increase in the winter. This is not a unique circumstance as many museums in the world are located in high latitudes and/or experience a continental climate with great extremes. Further research to create a more detailed precedent list of similar institutions should be developed, with lessons learned used to develop a more measurable operations plans to achieve the institutions mission, vision, and an efficient operating budget.

A schedule for these next steps has been developed, linking current works to a projected museum opening (Phase I) in January 2023. The initial study ended in March of 2021, and a feasibility study will pick up from there and continue for another year. In terms of fundraising, the ISMD has already had discussions with potential donors, but with this report completed, the pace of fundraising will have to be accelerated, including the creation of accounts to receive funds, an accounting and reporting system for the funds, a set of fundraising goals to keep to this schedule, and an active plan to expand the donor base. Assuming fundraising proceeds quickly, it is planned to start site preparation in January of 2022. In this phase all permits would be completed and have site visits conducted by the architects and construction team. Other details of the proposed schedule are presented in Figure 3.5.10.



Source: JICA Project Team

Figure 3.5.10 Implementation Schedule for Gobi Dinosaur Museum

Implementation/monitoring structure

The museum will be led by a director who reports to a separate non-profit organization, the Friends of the Gobi Dinosaur Museum (FGDM) having a 9-member governing board. Local input will be gathered through a 5-member community advisory committee.

The FGDM will be run by of Board of Trustees; the governing board of nine individuals will have full authority over the FGDM and the Gobi Dinosaur Museum (GDM). Board members will serve three years terms without compensation, and can be reappointed through votes of the other eight members. At least initially, the Board of Trustees will include Dr. Bolortsetseg Minjin as the Chair and will be comprised primarily of donors, individuals with experience in establishing museums, and at least one member from the local community. Representatives from local and/or regional government may also be added to help with permitting issues, funding, and integration with ongoing economic development in the region.

Possibility of cooperating with other projects

The GDM will need to partner with several organizations to effectively fulfill its mission and vision. It will partner with the Mongolian Government and local schools to provide science education to public school students in Mongolia. Another group of potential partners are summer camps for school-aged children.

The GDM can become a major engine for economic advancement of the nearby communities of the Flaming cliffs. It envisages working closely with government entities in the region, including the Parliament of Mongolia and the Parliament of Umnugovi Aimag to further these goals. To be successful, there is a need also to partner with the flourishing and growing tourism industry in Mongolia. Obvious candidates for collaboration are the Tourism Board of Umnugovi and the National Tourism Board of Mongolia. Working closely with private tour companies and private lodgings that also run tours is also envisioned. The nearby Three Camel Lodge and Nomadic Expeditions have expressed an interest in collaborating with the GDM.

Scientific staff of the GDM will need specialized training to be successful in their new professions. Informal expressions of interest to help with this training have been received from the Natural History Museum of Los Angeles County and the Alf Paleontology Museum (Claremont, CA), USA. Another potential partner for training is the American Museum of Natural History. They donated the Mobile Dinosaur Museum to the ISMD in 2013. The GDM will partner with other museum and cultural organizations around the world and in Mongolia to develop joint exhibitions, educational programs, and museum professional training.

The GDM will be an important site for the study of Mongolian dinosaurs and the discovery and collection of new specimens. In these endeavors, it could collaborate with both national and

international partners, including the National University of Mongolia, American Center for Mongolian Studies, Mongolian Academy of Sciences, Ministry of Science and Education, and Ministry of Environment and Tourism. ISMD already has a MOU with the Central Museum of Mongolian Dinosaurs.

The Nomad Friends of Flaming Cliffs is a local NGO composed of volunteer community members who protect the Flaming cliffs. This group is currently not active, but it is anticipated that the GDM will reinvigorate this group and give it new meaning and direction. Another potential partner is Altain Hoilog, a children's nature club in Bulgan.

Fund raising method

Most museum developers rely on a combination of private and public sources for the funding of their projects. The rationale for public funding is based on several benefits that the museums provide. These are economic development, education benefits, conservation, and community development.

Most museums receive some public support, and thus it is imperative that the mission and vision of the GDM are aligned with the ongoing plans for Mongolia's cultural development plans. In 2015, the United Nations announced the "Transforming Our World" plan, with an agenda for the world in 2030 as detailed in 17 Sustainable Development Goals (SDGs). Mongolia adopted this plan and has used the 17 SDGs to help guide Mongolia's development goals. In particular, SDG 11 aims to "make cities and human settlements inclusive, safe, resilient, and sustainable." The project, with its focus on creating a community-centered museum, that relies on sustainable, dinosaur-based tourism is well aligned with this UN goal that Mongolia has already adopted. There is also a more specific roadmap for how museums can contribute to SDG 11 as detailed at 2019 ICOM (International Council of Museums) annual meeting. Together, these will position the GDM to receive support from two existing funding sources in Mongolia: the "Local Development Fund" and the "Gobi Oyu Development Fund".

In addition to pursuing public funding to establish the GDM, it will also need to fundraise from the private sector. Within Mongolia a potential source of private sector funding is the MCS Group "Cultural Treasure" Program. This organization raises capital to support projects that enhance Mongolia's economic development as well as projects that protect Mongolia's unique cultural resources. The MCS has a long and successful track record in Mongolia that dates back to its initial transition to a market-based economy. Recent projects on the "Cultural Treasure" Program include a MNT400 million landscaping project for the Choijin Lama Temple Museum, funded to the Arts Council of Mongolia.

The information on the GDM initiative will be widely disseminated utilizing modern media like You-Tube and other SNS to attract attention of dinosaur freaks all over the world.

Finding donor or organization appropriate for implementation

Taking the lead on fundraising will be Dr. Bolortsetseg Minjin of the ISMD. Already recognized as a leader in developing Mongolian paleontology and protecting its dinosaur fossils (her work was featured in BBC, National Geographic Magazine, The Atlantic, etc.), Dr. Bolortsetseg is also a member of several organizations that connect individuals interested in philanthropic causes with projects that think big and focus on solving Earth's toughest problems. Dr. Bolortsetseg is a fellow and a board member of Wings World Quest, an explorer of National Geographic, and a member of the Explorers Club, and was recently honored by The Explorer Club 50: Fifty People Changing the World the World Needs to Know About. As the founder of ISMD, she has successfully raised private funds to support educational, scientific, and museum related activities in Mongolia.

Chapter 4 Supplemental Surveys

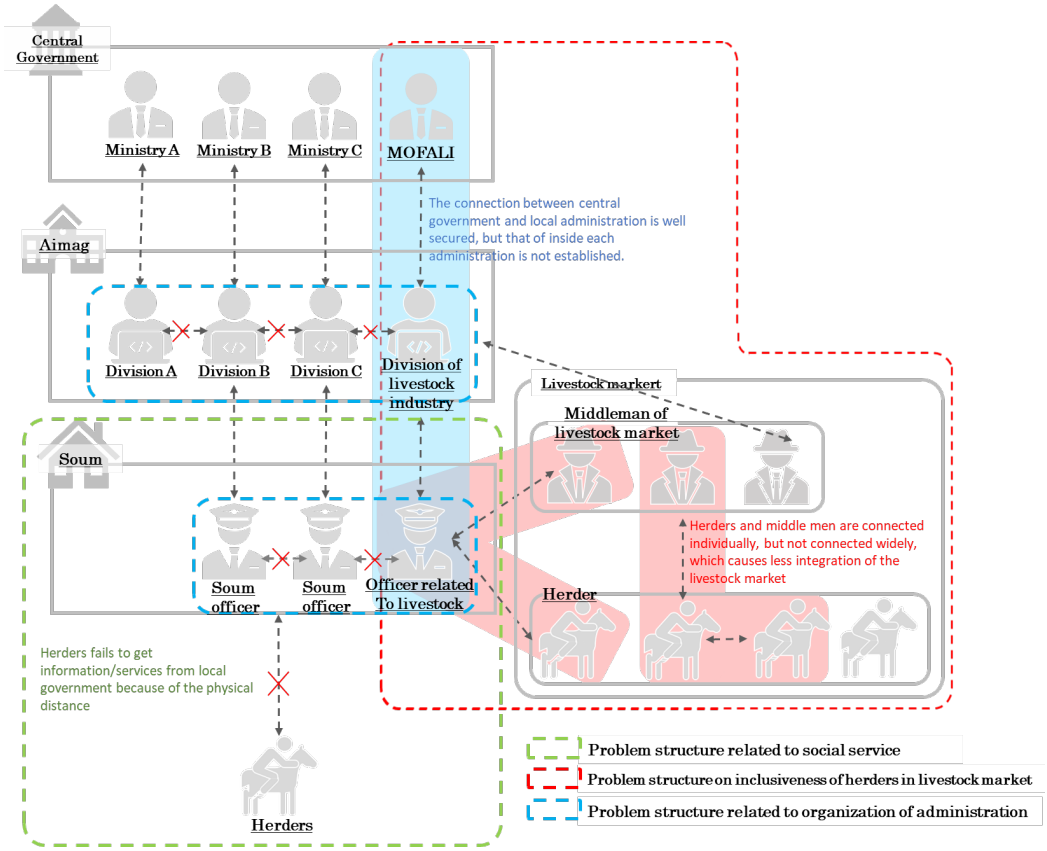
4.1 Survey on Establishment of Roadmap for Local Information Platform

(1) Background

In Mongolia, herders are widely scattered throughout the Country with limited access to livestock business information. This reduces their business opportunities and bargaining power over brokers and even impedes market integration for livestock products. Further, they are not provided with sufficient public services and information compared to those living in urban areas.

Generally, it is hard for the herders to access public services and related information. The problem is caused by the difficulty in information transfer and communications due to physical distance. It is critical to overcome such communication problems in a vast territory like Mongolia for further development. For that, application of information and communication technology (ICT) is essential as a basic infrastructure in Mongolia.

The problem structure for the herders in Mongolia is shown in Figure 4.1.1. Inside the dotted red line is the network of actors related to the livestock market, and interactions between them are shaded in pink. As indicated, most interactions are between two actors and independent of each other, as many of the actors do not interact. Inside the dotted green line, it is shown how the herders interact with administration officers. There is not much interaction between them because the herders live far from the administration office or are away herding depending on the season. A survey is needed to examine this situation and propose a mechanism to enhance communications between herders and administrations.



Source: JICA Project Team

Figure 4.1.1 Problem Structure for Herders

(2) Local information platform

A local information platform (LIP) is an online information platform to be installed as a smartphone application and managed by Aimag administrations under the leadership of NDA. The main functions of the LIP are described below.

1) Provision of public service information

A local administration office is usually staffed with officers dispatched from central government offices and related ministries in charge of the respective area. Because of this, local administrative departments and bureaus are vertically divided with little communication between them. Further, there are Soums without officers in charge of some specific areas. As a result, the Soum administrations are unable to collect or provide sufficient information on those areas.

The LIP will allow integration of information on all Soums in the Aimag. This will allow the herders to access information on public services in their Aimag.

2) Livestock information sharing

Market information on livestock products has yet to be integrated in any Aimag because local markets are scattered over a large area. The LIP will provide the herders with price and logistics information on the respective products in the Aimag; it will also feature a function to match the herders with brokers. In this way, the LIP will integrate scattered and isolated livestock markets online.

(3) Development and management of LIP

Development of LIP

The LIP will be developed for each Aimag as described. It is also expected that an Aimag Hub (AH) will be established at each Aimag administration office with all the necessary tools and equipment (e.g., server, PCs, and Wi-Fi devices) staffed with engineers to manage the LIP and the AH.

Management of LIP

The engineers at each AH will manage the LIP in close collaboration with the relevant divisions of the Aimag administration for frequent and timely information updates. In addition, the AH needs to communicate with NDA and NSO frequently for SDGs monitoring.

(4) Purpose of the survey

The purpose of the survey is to establish the roadmap for the LIP including/based on the following:

(a) Review of the relevant materials (e.g., reports by NDA in the past);
(b) Description of the concept of LIP and discussion on the LIP with every organization involved (e.g., NDA, NSO, and Aimag administration) to further improve the idea proposed by the NCDP;
(c) Survey on the current provision of information on social services, livestock products market and distribution, etc.;
(d) Capacity assessment of selected Aimag administrations on management and maintenance related to ICT and digital technology;
(e) Survey on the current ICT environment (e.g., Internet connection, human resources, etc.) of selected Aimags;
(f) Requirements for the development of the LIP;

(g) Proposal of a feasibility study on the development of the LIP including personnel and institutional requirements (e.g., experts and Mongolian government organizations), work plan, and budget estimate; and

(h) Budget estimate for the development of the LIP including equipment procurement, training for capacity development of administration officers, etc.

(5) Implementation of the survey

The JPT prepared the proposal for the survey and submitted it to NDA. After discussion with the JPT, NDA accepted the proposal as it is in line with NDA's plan for the application of ICT to regional development and livestock market vitalization.

The survey was subcontracted to an IT engineering firm in Ulaanbaatar. The firm implemented the survey according to the terms of reference provided by the JPT under the supervision of NDA and the JPT.

As part of the survey, interviews were conducted (by phone due to nationwide lockdown in Mongolia) with the related ministries, government agencies, local administrations, local private companies, and herders. To NDA and the JPT, the subcontractor reported the progress of the survey periodically, and submitted the progress report and the final report in the middle and at the end of the survey, respectively.

(6) Results of the survey

Purpose and functions of LIP

Based on discussions with NDA and other related organizations such as the Communications and Information Technology Authority (CITA), the purpose and functions of the LIP and the roles of the related organizations for the LIP were clarified. Also, through these discussions, the potential of the LIP to contribute to social and economic inclusion and regional development in Mongolia was recognized.

The Mongolian Government has promoted e-government and established E-Mongolia, an online platform by which people can access administrative information and procedures through the Internet. By providing local residents with access to administrative information, E-Mongolia enhances social inclusion. On the other hand, the LIP is expected to promote economic inclusion of local herders. The LIP and E-Mongolia are complementary in their functions to create a synergy for inclusive development of Mongolia.

In the survey, potential users of the LIP were asked about their needs for an online information platform, including herders, livestock- and tourism-related industries, and governmental organizations such as the Ministry of Food, Agriculture and Light Industry (MOFALI), the National Agency for Meteorology and Environmental Monitoring, and the National Emergency Management Agency. Based on the results, the expected functions of the LIP were clarified. Table 4.1.1 shows a summary of the functions.

Table 4.1.1 Summary of LIP's Functions

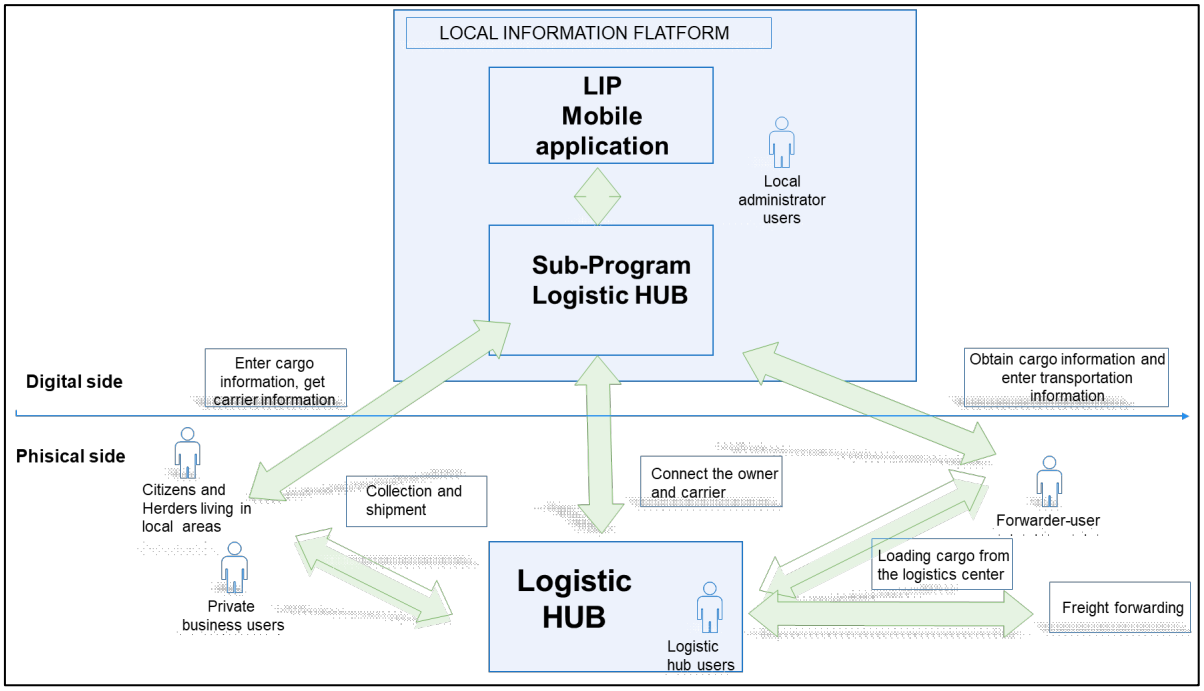
Provision of information by ministries/agencies	
New related laws and regulations to people	Livestock-related data and information updated daily
Market information	Local administrative information and accumulation thereof
Livestock-related statistics and reports updated periodically	Linking to E-Mongolia
Provision of functions/information for herders, brokers, and other stakeholders in livestock industry	
Function for herders to put up information on livestock in possession and for sale	Livestock vaccination information
GPS locations of herders	Pasture information
Function for herders to exchange and share information with other herders	Lost and found livestock information

Veterinary medical information	Remote diagnosis of animal diseases by veterinary clinics
Function for herder to find appropriate livestock insurance	
Establishment of national database	
Livestock information to be accumulated in the servers and utilized for assessment of regional economy	Data from online questionnaire surveys by the Mongolian Government through LIP
Other functions	
Provision of bank loan information	Collection of local information from herders that may be used for tourism promotion
Offline data and information collection	

Source: JICA Project Team

Dissemination and utilization of livestock business information through LIP and logistic hubs

The concept of the LIP, based on the discussion with NDA, is presented in Figure 4.1.2. As shown in the figure, the LIP is the platform (software) to provide livestock business information for the herders, livestock brokers, and local administrations. To complement the LIP, a logistic hub (LH) will be established as a service center to assist the herders and livestock brokers in delivering and distributing livestock to the market. In addition, Aimag and Soum administrations will supplement the provision of livestock market information to the herders without access to the Internet. Therefore, the roles of LIP-LH and Aimag/Soum administrations will be complementary.



Source: JICA Project Team

Figure 4.1.2 Dissemination and Utilization of Livestock Business Information through LIP and Logistic Hub

Integration of livestock supply chain and regional development through LIP and LH

The establishment of the LIP with LH is expected to be instrumental in developing the livestock supply chain. Because the herders are scattered over a vast area, it is costly to access and exchange information in person. On the other hand, brokers and distributors generally have more information than the herders. Thus, if a market failure occurs in the livestock industry, it may be due to the herders' lack of means to obtain and provide information.

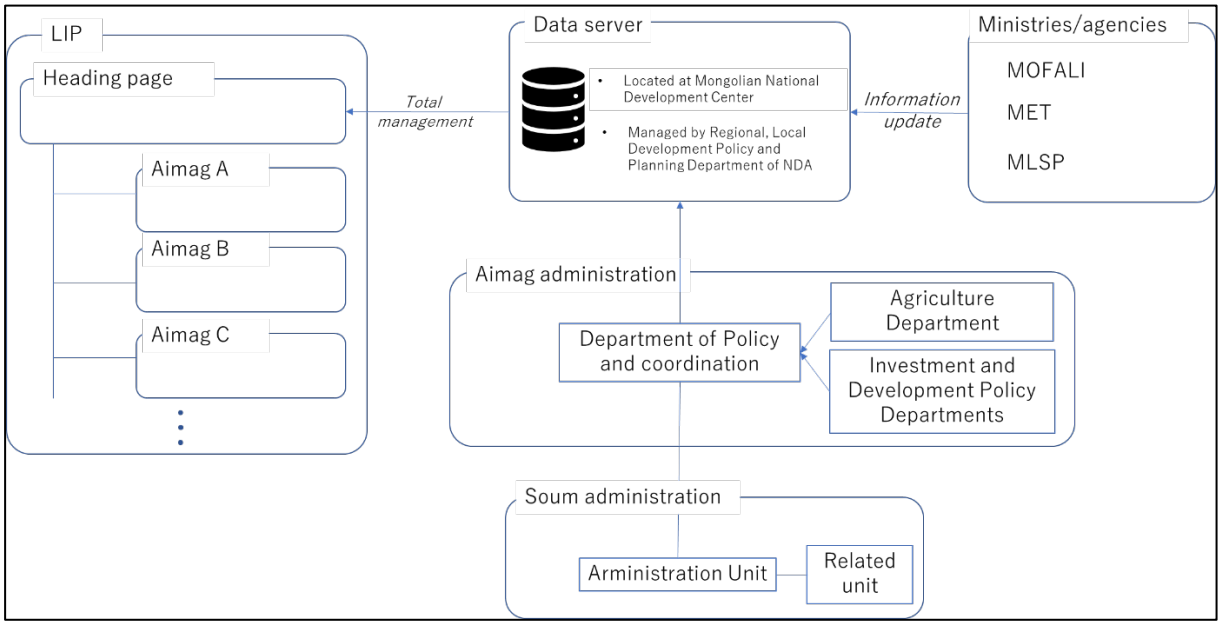
ICT has a potential to prevent such market failure by making access to and exchange of information

easy for all the actors involved. The livestock information platform will allow related information to accumulate and the actors in the livestock industry to connect, however distant they may be located from each other. Also, the LH is expected to draw actors from the livestock and distribution industries, leading to accumulation of related economic activities in the area, thereby contributing to the regional development.

Market integration and accumulation of economic activities are considered as one of the challenges faced by Mongolia in promoting the regional development. The utilization of ICT is proposed in this survey as a solution to tackle the challenge.

Management structure of LIP

The LIP is a nationwide information system involving many organizations. Thus, effective and efficient management is critical for the establishment of the LIP. Figure 4.1.3 shows the management structure for the LIP. The data server will be installed at the national data center and managed by NDA. The data and information provided by ministries and agencies will be automatically updated from their servers to the LIP server and delivered to the users. In each Aimag administration, a special division will be established to manage and supervise the LIP system at the local level.



Source: JICA Project Team

Figure 4.1.3 Management Structure of LIP

ICT environment

According to the survey results, many Soums in the entire territory have 4G Internet connection except for remote and mountainous areas. In addition, the Internet coverage is expected to expand year by year. Also, the use of smartphones necessary to access the LIP has been rapidly increasing since 2015 and will continue to increase for years to come. The Soum administrations will need to assist the herders who have no Internet access until all the areas are covered by the Internet.

Aimag government's management capacity for LIP

The JPT conducted the capacity assessment (CA) survey to examine the management capacity of two Aimag governments (Bulgan and Khuvsgul) in March and April 2021. According to the results, 25 (48%) of the 52 administrative officers interviewed believe that they have advanced skills in the use of communication software. However, only 14 (27%) believe so for database software, and 16 (31%) use database software at work.

Therefore, at the Aimag or Soum level, capacity development programs will probably need to be tailored depending on the level of software competency of the administration staff to develop human resources

for the management of the LIP.

(7) Recommendation and lessons learned

Recommendation: Anchor Project II2.1 for local administrations-nomads communication strengthening

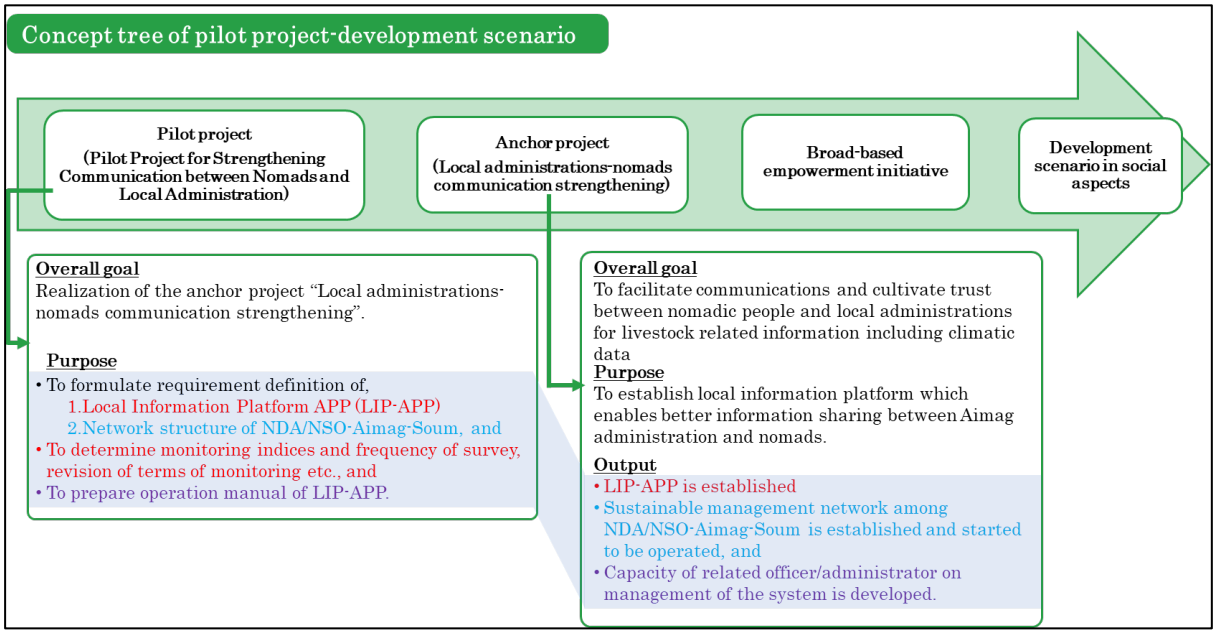
Considering that the population is widely scattered in Mongolia, ICT will play an important role to strengthen communications between local administrations and herders. Especially, with the ever increasing Internet coverage and use of smartphones, online platforms are an ideal tool for Mongolia to achieve social and economic inclusiveness. For this, Anchor Project II2.1 for local administrations-nomads communication strengthening is recommended for implementation.

In implementing the anchor project, the local administrations are expected to take the initiative in establishing the LIP at the initial stage but they lack the human resources and facilities necessary for ICT management. Thus, for a while, the Central Government, specifically CITA and NDA, will need to lead the way. Since CITA is in charge of E-Mongolia, CITA and NDA must work in tandem for this anchor project. The role of and linkage between the LIP and E-Mongolia must be clearly established to generate synergetic effects. Thus, the team members for the project must have not only IT skills but also knowledge and skills to coordinate the two government agencies.

Further, although the Central Government will lead the project at the beginning, the local administrations should take over the role in the future. To allow smooth transition toward local ownership of the LIP, capacity development will be required for the local administrations.

Lessons learned (reflecting the survey results on the development scenario/strategy of NCDP)

Social inclusiveness is difficult to achieve given the geographical conditions of Mongolia. However, as indicated by the survey results, with ICT such difficulties can be overcome. Also, ICT will promote economic inclusiveness and development of local areas. In case of the LIP, the widely scattered herders will be connected with livestock brokers and distributors, and economic activities will accumulate in remote areas. By utilizing ICT, the cost of information exchange will decrease and the livestock market in the remote areas will be vitalized.



Source: JICA Project Team

Figure 4.1.4 Pilot Project Development Scenario

Notes on COVID-19

Due to the COVID-19 situation, the survey team could not visit the herders and local administrative offices for interviews, so they were interviewed by phone. In the coming steps, site visits will be

necessary to obtain more detailed data and views from the stakeholders and to elaborate the requirements of the LIP with LH.

(8) Work plan for subsequent stage

Verification of LIP concept

The roadmap for the implementation of the LIP has been prepared. The next step is to conduct a proof of concept (PoC) through a pilot project in Bulgan Aimag. This PoC will include a feasibility study and coding of the LIP. The schedule of the PoC is presented in Figure 4.1.5.

In the PoC, the feasibility study will be conducted to elaborate the requirements of the LIP. Especially, the livestock market, livelihood of the herders, and the capacity of the local administrations will be examined in detail. Based on the study results, the implementation plan for the RIP will be prepared.

Stage	Ref No	Majir Items	Month	From the day the project started, by month								
				1	2	3	4	5	6	7	8	9
1	LIP document study stage											
2	Project Preparation Stage											
3	Selection of Consultant											
4	4.1	Invitation to Tender to Consultant										
	4.2	Selection of Consultant										
	4.3	Signature of Consulting Services Agreement										
5	Basic designand documentation by Colsultant											
6	Detailed Design and Selection of Contractor											
	6.1	Detailed Design										
	6.2	Documents for Invitation to Tender										
	6.3	Selection of Contractor										
	6.4	Signature of Project Contract										
7	Development LIP and Installation Stage											
	7.1	Detailed Design by Contractor										
	7.2	Delvelopment process of LIP										
	7.3	Delivery and Shipment of LIP and hardware										
	7.4	Construction and Installation										
	7.5	Acceptance Test										
	7.6	Completion of Project										

Source: JICA Project Team

Figure 4.1.5 Schedule of PoC in Bulgan Aimag

Monitoring and necessary expertise for implementation of LIP

On the Mongolian side, NDA in charge of the promotion of the regional development should monitor and supervise the upcoming activities towards the implementation of the LIP. Because the LIP encompasses many sectors, it is necessary to involve various relevant organizations such as MOFALI, CITA, and the Ministry of Environment and Tourism as part of the implementing arrangements. In addition, since the LIP affects the rural economy, especially the livestock industry, those related to the industry and the local administrations should also be involved in the implementation process. The present status and constraining factors in the development of the livestock industry and the local areas should be examined.

4.2 Survey on Strengthening Historical and Cultural Buildings

(1) Background

The NCDP proposes a set of measures in the urban sector including master planning for core local cities, improvement of urban planning and regulation methods, preparation of settlement plans for the Ger district and implementation guidelines as well as satellite cities development to improve the urban structure and environment of Ulaanbaatar. To implement these measures effectively, MCUD has proposed legal reform related to urban planning and development as an anchor project of the NCDP titled “Project to ensure the coherence of legal documents in the urban development sector and reform its legal system”.

As the first step for the legal reforms in the urban sector, MCUD intends to focus on strengthening

buildings and structures. In particular, strengthening historical and cultural buildings and structures for earthquake resistance is of high priority in view of importance of tourism development utilizing historical and cultural heritage of Mongolia.

(2) Justification of the survey

The Ulaanbaatar Capital City administration and the Aimag administrations have conducted an inventory of 750 buildings and structure, of which professional judgements have been made for approval to strengthen and preserve or otherwise remove 125 buildings and structures. Implementation according to the approval is stipulated in the Long-term Development Policy (LTDP) 2050 in preparation, and therefore the legal reform to facilitate implementation is urgently needed.

Moreover, the NCDP emphasizes importance of tourism development in Ulaanbaatar Capital and regional development. The pilot project, therefore, will contribute to improvement of tourism resources in the Capital and regions by renovating and preserving important historical and cultural buildings and structures.

(3) Objectives and expected outcome

The objective of the pilot project was to enhance awareness on safety and management capacity of related staff of MCUD including its Construction Development Center (CDC) for historical and cultural buildings and structures.

The following outcomes were expected to be obtained for historical and cultural buildings and structures in Mongolia.

(a) Review of current legislation related to earthquake resistance and safety of buildings and structures;
(b) Proposal for legal reform necessary to strengthen earthquake resistance and safety;
(c) Proposal of evaluation method and selection criteria for renovation and preservation or otherwise removal;
(d) Proposal of regulations, standard and operational procedures for renovation and preservation or otherwise removal;
(e) Selection of priority buildings and structures to be strengthened and preserved or otherwise removed; and
(f) Evaluation of historical and cultural buildings and structures (1-3 buildings and structures).

(4) Legislative framework

According to the result of the survey, it has been concluded that the concept of strengthening historical and cultural monuments is not sufficiently regulated by laws and regulations as discussed below.

1) Terminology

Some terminologies are not clear in some legislative documents. Taking the Law on Construction for example, Table 4.2.1 shows the terminologies to be pointed out in this survey.

Table 4.2.1 The Terminology Necessary to Be Revised

No	Provisions	Terminology	Add	Comments
1	Article 4.1.1	"building and structure"	All types of buildings and structures	The law includes a term of all types of buildings and structures, but it doesn't indicates all types of buildings and structures. Therefore, all state-owned buildings are not covered. For example, historical and cultural museums and theaters etc.
2	4.1.3	"period of	Strengthening and	A period when the customer, contractor, designer,

		commissioning and adjustment of buildings and structures"	reconstruction of new and existing buildings in the earthquake area	consulting service contractor and other persons involved in the construction activity can take the responsibility for normal operation of the building, structure, items, equipment, water, sewage, steam, gas, heat, electricity and communication conditions after the commissioning and certification of the building and structure.
3	4.1.5	"renovate and equip buildings and structures"	"4.1.5."Strengthening and reinforcement of buildings and structures" means construction work to be carried out in whole or in part by a specific design solution in order to improve the normal conditions of use;"	The law does not define the concept of strengthening and reinforcement of buildings and structures.
4	4.1.11	"construction work"	Add "strengthen and reinforcement"	It means the preparation of the construction site for all types of construction work, assembly, reconstruction, reinforcement, strengthening, demolition, repair work and installation of equipment.
5	Article 9	Type of construction work	Add "strengthen and reinforce buildings and structures"	It would be added article 9.1.6 "Strengthening and reinforce buildings and structures".
6	Article 14.6	Requirements for buildings and structures	Strengthen and reinforce	In article 14.6, it would be added the "strengthen and reinforcement work" after the word "equipment".
7	Article 16	Requirements for construction site	strengthen	It would be added "strengthening" after "assembly" and in article 16.3 "strengthen and reinforce" after "assembly and unloading".
8	Article 26	Construction permit	Strengthen and reinforce	It would be added "26.1.4. To strengthen and reinforce buildings and structures". In addition, the report on the effectiveness of the draft law on amendments to the Law on Construction states that "soil reinforcement and fortification works for construction sites" should be added to article 26.1.4.
9	Article 29	Information to include in a construction permit certificate	After 29.1.6, include an independent concept of historical and cultural buildings and structures	Intended purpose of a building and structure does not apply to the historical and cultural monuments, buildings and structures.
10	Article 33.1 paragraph 33.1.23	Full rights of the central organization in charge of construction	To issue construction permits specified in articles 10.1.4 and 10.1.5 of this law and to start an operation of the buildings and structures	For the building with high and special complexity, it should be included in the mandate of a central professional organization.
11	Article 35	Full rights of Aimags and Capital city governors	For historical and cultural buildings and structures in article 35.1.2, add a provision about getting an approval of a member of the government responsible for historical and cultural monuments for the procedure on the commencement, continuation and issuance of construction permits specified in article 32.1.10.	According to the Law on Protection of Cultural Heritage, the registration and protection of historical and cultural monuments is the responsibility of the Ministry of Culture and therefore it is to get the approval of the Minister in charge. The report on the effectiveness of the draft law on amendments to the Law on Construction states that the right to issue permits for high and complexity buildings, given to Aimag and capital city governors is not suitable.

Source: JICA Project Team

2) Reorganizing coordination

It has been concluded that legislation regulating the preservation, protection, restoration, and strengthening of historical and cultural monuments is inconsistent and has gaps. This is directly related to the inefficient and regular changes in the line ministries that require inter-sectoral coordination in the areas of construction and cultural issues.

By considering that, the issue of strengthening historical and cultural monuments is the responsibility of the central state administrative organizations in charge of construction and culture and the monitoring on the implementation of the laws is the responsibility of the Deputy Prime Minister (disaster protection and inspection function), a proposal to improve the relevant legal environment has been made based on the analysis of the current situation of legislation. In doing so, some provisions from foreign laws and regulations that could be adapted to national legislation have been taken for the proposal.

(5) **Evaluation guidelines**

In the guidelines published by UNESCO, seven main criteria are selected and ranked according to their importance to identify whether a building is a historical or cultural monument and 24 indicators of the criteria is used for evaluation by scores and the total score to be from 10 to 100, as shown in Table 4.2.2.

Each criterion is explained to make it easy to understand. The total score of the evaluation of the criteria and indicators will determine the level of protection of the historical and cultural monuments. For example, 70-100 points shows for state protection, while 40-69 points for Aimag and the capital city, and 10-39 points for Soum and district. Buildings with a total score smaller than 10 will not be considered as historical and cultural monuments.

Table 4.2.2 shows the criteria and indicators suggested by this survey preliminary in line with UNESCO guidelines.

Table 4.2.2 Criteria and Indicators to Identify Historical And Cultural Monuments

Criteria	Indicators	Score	Note
Criterion 1. Historical value.	1.1. Can represent a certain period, time and space of history.	0 - 8	- Built after 1586, and been more than 50 years - Date of construction and erection shall be clear - Be of historical significance - Be rare and a few - Consider the studied level
	1.2. History of Mongolia; relevance to social and political history and historical events.	0 - 8	
	1.3. Relevance to the lives and activities of historical people.	0 - 8	
Criterion 2. Cultural value.	2.1. Uniqueness.	0 - 6	- Representation of world architectural trends - Mongolian national style, heritage and uniqueness of the artist - Disappearance of similar works and rarity by remaining the sole piece -Expression of cultural and aesthetic values of the time and so on
	2.2. Art, beauty, aesthetic value, rarity.	0 - 6	
	2.3. Contains a unique combination of human and natural characteristics.	0 - 6	
	2.4. Synthesis in combination with other forms of fine art.	0 - 6	
Criterion 3. Architectural value.	3.1. Whether it retains its original appearance, style, design, planning and purpose.	0 - 6	- The original purpose remains the same and the style has not changed - Represents the design and features of ancient countries and empires
	3.2. Representing one of the world's classical architectural trends and national styles and traditions.	0 - 5	

	3.3. Innovative in building and architectural development and the uniqueness of design and form.	0 - 4	- whether it is an art of the first architects of contemporary Mongolia - Studied level
Criterion 4. Value of authenticity.	4.1. Preserve the original appearance, style, shape and design.	0 - 4	- The architectural style and original appearance remain the same, even if the use and purpose of the building has changed and the planning and interior have renovated accordingly - Consider the expression of ancient or original features
	4.2. Preservation of the original appearance of its structure, elements and components, in addition to its appearance.	0 - 4	
	4.3. Remains of structures of ancient character.	0 - 3	
	4.4. The origins and antiquity of the environment.	0 - 3	
Criterion 5. Value of integrity	5.1. Completeness of architectural design.	0 - 3	- Be complete without any changes in design, planning and architectural decoration - Consider not to be moved for protection purpose
	5.2. Completeness of building and structure components.	0 - 3	
	5.3. Unity of whether the monument building is combined with other historical and cultural monuments to create unity.	0 - 3	
Criterion 6. Technical and technological value of construction	6.1. Use of gemstones, precious metals, rare and valuable raw materials and construction materials.	0 - 2	- An expression of traditional national methods, technologies and folk knowledge - Use of rare raw materials of local origins - Preservation of the traditional principles of urban planning and local planning features
	6.2. Reflection of the history of construction and urban development, the construction techniques and culture of the time.	0 - 2	
	6.3. Whether it can represent the development of construction techniques, structures and technologies.	0 - 2	
	6.4. Buildings based on unique natural formations.	0 - 2	
Criterion 7. Social and economic value	7.1. Preservation of urban spatial planning, organization, environment, surrounding landscape and appearance.	0 - 2	- Rare and few numbers in terms of type - Can be linked to “Cultural Heritage Sites” - Complex and protection zones were established. - Traditional cultural ceremonies and events are organized.
	7.2. Coverage of tourism zones and destinations.	0 - 2	
	7.3. Economic significance for national and regional development.	0 - 2	

Source: JICA Project Team

These guidelines were tested in this survey at Choijing Lama Temple Museum, Ulaanbaatar City Museum, "Goojingiin Undur" and “Opera and Ballet Academic Theater”. The total scores of the evaluation were used to come up with an average score in Table 4.2.3 and Table 4.2.4.

Table 4.2.3 An Example of Evaluation of Historical and Cultural Monuments

Criteria	Indicators	Scores	Evaluated scores			
			Choijin Lama Temple Museum	UB City Museum	Goojingiin Undir	Opera and Ballet Academic Theater
Criterion 1. Historical value.	1.1. Can represent a certain period, time and space of history.	0- 8	8	8	8	8
	1.2. History of Mongolia; relevance to social and political history and historical events	0-8	8	8	8	8
	1.3. Relevance to the lives and activities of historical people.	0-8	8	8	5	8
Criterion 2.	2.1. Uniqueness;	0-6	6	2	2	6

Cultural value.	2.2. Art, beauty, aesthetic value, rarity;	0-6	6	1	1	6
	2.3. Contains a unique combination of human and natural characteristics;	0- 6	6	0	0	6
	2.4. Synthesis in combination with other forms of fine art.	0-6	6	1	1	6
Criterion 3. Architectural value.	3.1. Whether it retains its original appearance, style, design, planning and purpose;	0-6	6	6	2	6
	3.2. Representing one of the world's classical architectural trends and national styles and traditions;	0-5	5	0	0	5
	3.3. Innovative in building and architectural development and the uniqueness of design and form.	0-4	4	0	0	4
Criterion 4. Value of authenticity.	4.1. Preserve the original appearance, style, shape and design;	0-4	4	4	2	4
	4.2. Preservation of the original appearance of its structure, elements and components, in addition to its appearance;	0-4	4	4	2	4
	4.3. Remains of structures of ancient character;	0-3	3	1.5	1	3
	4.4. The origins and antiquity of the environment.	0-3	3	2	0	3
Criterion 5. Value of integrity	5.1. Completeness of architectural design;	0-3	3	3	3	3
	5.2. Completeness of building and structure components;	0-3	3	3	1	3
	5.3. Unity of whether the monument building is combined with other historical and cultural monuments to create unity.	0-3	3	3	0	3
Criterion 6. Technical and Technological Value of construction	6.1. Use of gemstones, precious metals, rare and valuable raw materials and construction materials;	0-2	2	0	0	1
	6.2. Reflection of the history of construction and urban development, the construction techniques and culture of the time;	0-2	2	1	1	2
	6.3. Whether it can represent the development of construction techniques, structures and technologies;	0-2	1	0	0	2
	6.4. Buildings based on unique natural formations.	0-2	2	0	0	1
Criterion 7. Social and economic value.	7.1. Preservation of urban spatial planning, organization, environment, surrounding landscape and appearance;	0-2	2	2	0	2
	7.2. Coverage of tourism zones and destinations;	0-2	2	2	0	2
	7.3. Economic significance for national and regional development.	0-2	2	1	0	2
The total score of the building			99	60.5	37	98

Source: JICA Project Team

Table 4.2.4 An Example of Grading for Historical and Cultural Monuments

No	Monuments	Grades	Level of protection
1	Choijin Lama Temple Museum Building	I	Will take under state protection
2	UB City Museum building	II	Will take under Capital city protection
3	The building called " Goojingin Undur "	III	Will take under district protection
4	Opera and Ballet Academic Theater building	I	Will take under state protection

Source: JICA Project Team

(6) Procedure for strengthening historical and cultural monuments

In this survey, the procedure for strengthening historical and cultural monument was prepares as a draft. The process of strengthening historical and cultural monuments has the following general sequence:

(a) Evaluate and make conclusions on the need for strengthening;

(b) Select the implementer of the strengthening project (hereinafter referred to as the “project”);

(c) The project implementer shall participate in training on management, preservation, restoration and strengthening of historical and cultural monuments, organized by the state administrative body in charge of construction;

(d) Develop drawings for strengthening;

(e) Verify drawings for strengthening;

(f) Discuss drawings for strengthening by the Professional Council as specified in Article 46.2 of the Law on Protection of Cultural Heritage;

(g) Prepare a building for strengthening;

(h) Perform construction work specified in 4.1.11 of the Construction Law, and

(i) Accept the strengthened work and complete the project.

(7) Recommendations

1) Longer lifespan strategy

In order to prevent deterioration and malfunction of historical and cultural monuments in aging and lengthen their lifespans, appropriate planning for longer lifespan monuments with a concept of preventive maintenance should be established. As a result, long-term relationship with other tourism spots would be established in sustainable manner. Also, lifecycle cost on the monuments can be suppressed.

keys to realize longer lifespan are as follows: 1) maintenance cycle with regular inspection for facilities, 2) database system with information necessary to repair and revise, and 3) human resource development for judging conditions of facilities in a technical manner.

In addition, decentralization of authority with regard to the management is also a key to facilitate preventive maintenance on a regular basis.

2) Enhancement of awareness

Not only experts, but also citizens living in the target city would play important roles for information sharing on a daily basis for monitoring and evaluating the monuments. With the participation of citizens, the buildings to be preserved shall be selected and specified at an early stage for the buildings that can be the landmark of the city remaining in the city as much as possible.

4.3 Survey on Public and Private Partnership (PPP) Promotion in Aimag Administrations

(1) Background

To raise awareness of stakeholders on the NCDP, to cultivate understanding of the development paradigm, vision and strategy of the NCDP and to promote selected anchor projects for early implementation, several pilot projects are proposed by the JPT in cooperation with Mongolian C/P as part of the NCDP. Through several discussions, the project on public-private partnership promotion in Aimag administrations to support the private sector for investments and business development was not selected as a full-fledged pilot project, but it was decided to conduct an additional survey to clarify the current situations and challenges/issues on PPP promotion.

(2) Objectives

The objectives of the survey are as follows:

(a) To review and analyze the public private partnership structure in the National level and the Aimag level,

(b) To evaluate roles and activities of the donor agencies in terms of the formulation and activation of Aimag's Public Private Partnership Councils,

(c) To identify the needs or requests from Aimag administration for PPP promotion, and

(d) To identify the targeted or promising projects in selected Aimags for early implementation of the NCDP, if any

(3) Survey framework

The survey framework is shown in Table 4.3.1.

Table 4.3.1 Survey Framework

Questions	Criteria	Indicators	Data sources	Methods
1. What is the public-private partnership structure in Mongolia?	1.1 Government policies, laws and regulations of PPP	What policies, laws and regulations regulate PPP in Mongolia? How is PPP reflected in development policy and planning documents in the national and local level?	State policy on PPP, a law on concession, a law on procurement of goods, works, and services with state and local funds, and relevant regulations Mongolian vision 2050, SDV 2030, Action program of Mongolian government for 2020-2024, Action plans of selected Aimags	Document review
	1.2 Roles and activities of the Public-Private Consultative Committee (PPCC), and Aimag's Public-Private Partnership Councils (PPPC)	What are the roles and activities of PPCC? What are the roles and activities of Aimag's PPPC?	Decisions for establishing PPCC and Aimag's PPPC Action plan/annual reports of PPCC and Aimag's PPPC The website of the relevant agencies and organizations such as NDA and MNCCI Key informative interviews (KII)	Document review KIIs from NDA and MNCCI
	1.3 Current situations of public-private partnership scheme including concessions	Overview the situations of PPP in Mongolia Define the process mapping of PPP in Mongolia What are the challenges facing in each stage of the PPP process? Overview the projects under PPP	Handbook/guideline of PPP/concessions The list of projects under PPP/ concessions Relevant research and policy papers Websites like tender.gov.mn, shilendans.gov.mn Key informative interviews	Document review KIIs from NDA and MNCCI

2. Responsibilities, demarcations and organizational structure of relevant ministries, agencies and Aimag government on the public-private partnership implementation	2.1 Responsibilities, demarcations and organizational structure of relevant ministries and agencies	What are the primary responsibilities, demarcations, and organizational structure of relevant ministries and agencies on the PPP implementation?	Law on concession Websites of relevant ministries Key informant interview	Document review KII from NDA
	2.2 Responsibilities, demarcations and organizational structure of Aimag government	What are the primary responsibilities, demarcations, and organizational structure of the Aimag government on the PPP implementation?	Law on concession Websites of selected Aimag's governments Key informant interviews	Document review KIIs from Development Policy Department of selected Aimag government
3. Roles and activities of the donor agencies on the formulation and activation of Aimag's PPPC	3.1 Roles and activities of the donor agencies on the formulation and activation of Aimag's PPPC	What are the roles and activities of the donor agencies on the formulation and activation of Aimag's PPPC for private investment promotion?	Information on PPP related projects of ADB Information on PPP related projects of GIZ Information on PPP related projects of EU and other donors	Document review KIIs from GIZ, MNCCI, PPPC members
	3.2 Current problems and challenges of formulation of Aimag's PPPC	What are the current problems and challenges of formulation of Aimag's PPPC	Key informant interviews	KIIs from GIZ, NDA, MNCCI, PPPC members,

Source: JICA Project Team

A survey report has been prepared with the table of the contents shown in Table 4.3.2.

Table 4.3.2 Expected Output of the Survey

I. Public-private partnership structure in Mongolia

1.1 State policy, laws and regulations of PPP and concessions

1.2 Roles and activities of the Public-Private Consultative Committee (PPCC), and Aimag's Public-Private Partnership Councils (PPPC)

1.3 Current situations of PPP scheme including concessions

1.3.1 Overview of PPP in Mongolia

1.3.2 The process mapping of PPP in Mongolia and main challenges

1.3.3 The current situation and challenges of PPPs in the selected Aimags

II. Responsibilities, demarcations and organizational structure of relevant ministries, agencies, and Aimag government on the PPP and concession implementation

III. Roles and activities of the donor agencies on the formulation and activation of Aimag's PPPC

Annex-1: Questionnaires

Annex-2: Summary of the interviews

Source: JICA Project Team

(4) Main outcomes

State policy, laws and regulations of PPP and concessions

The Government of Mongolia focused on supporting public-private partnerships and had developed and implemented essential policy documents in 2009, such as the State Policy on Public-Private Partnerships (PPP) and the Law on Concessions in 2010. Also, the Law on Procurement of Goods, Works, and Services with state and local funds was approved in 2005. The purpose of these policy documents is to promote the sustainable development of the Mongolian economy by ensuring the rapid growth of the private sector-led economy and promoting all-round partnership.

1) State Policy on PPP (SPPPP)

The Parliament of Mongolia approved the State Policy on PPP by Resolution No. 64 of 2009. Table 4.3.3 summarizes the main concepts of the policy.

Table 4.3.3 Purpose, Objectives, and Principles of State Policy on PPP

Purpose	The policy aims to optimize state participation, improve the quality and accessibility of essential public services, and increase budget efficiency by (i) providing public infrastructure and essential social services, (ii) cooperating with the government and the private sector in implementing projects and programs that are a priority of the government, and (iii) having certain government functions performed by the private sector.
Objectives	Ensure rapid economic growth led by the private sector Attract private investment in infrastructure and essential social services, increase budget efficiency, and create a favorable legal environment to support private sector activities Strengthen partnerships, trust, and cooperation by increasing private sector participation and improving quality and access to infrastructure and essential social services
Principles used in the implementation of the policy	To provide optimal management of economic growth To meet with the public interest To improve the quality and accessibility of public services and to be effective; To respect justice and the Rule of Law To ensure transparency and openness Do not conflict with national security Do not have adverse effects on the environment To attract private investment and partnerships The results of the partnership projects and activities should not be less than the operating costs

Source: JICA Project Team based on the Survey

In general, PPP covers three main sectors, viz. social sector, infrastructure, and environment. Table 4.3.4 shows the leading sectors and types of partnership.

Table 4.3.4 Main Sectors and Types of Partnership

Sectors	**Social sector's partnership**	**Health, Education, Arts and Culture, Science, and others**
	Infrastructure sector's partnership	Energy and renewable energy, heat transmission and distribution networks, Information and Communication, Water Supply and Sewerage, Public transportation, Roadways, Apartment, and others
	Environmental sector's partnership	Ecology and Waste management
Types	Partnership in which the private sector performs certain public functions/services	
	Partnership for significant programs and projects of national and regional level	
	Partnership in which the private sector will provide work and services to government organizations on a contractual basis	
	Partnership in which the private sector will implement the management and activities of state-owned and partly state-owned legal entities on a contractual basis	

	Partnership for establishing a joint public-private legal entity
	Other partnerships depending on the specifics of the sector

Source: JICA Project Team based on the Survey

Public and private organizations participate in PPP. As for public organizations, the Government of Mongolia, NDA, Aimags and Municipal Governor's Offices are the primary stakeholders as shown in Table 4.3.5.

Table 4.3.5 Stakeholders of the Public Sector in Partnership

Public organizations	Private organizations
The Government of Mongolia Ministries Government agency (National Development Agency) Citizens Representatives Khural of Aimag and Capital city Aimag and Municipal Governors and their Offices Legal entity with state and local ownership	Company Partnership and cooperative Non-governmental organizations Individuals
- The state central administrative body in charge of finance and budget shall be responsible for implementing the policy. - The Government shall approve the list of projects and programs to be implemented under the partnership.	

Source: JICA Project Team based on the Survey

According to the Law on Development Policy and Planning approved by 2015, the duration of state policy shall be 8-10 years. In this regard, the duration of this policy had already expired in 2019, but the policy is still valid. An article regarding the body responsible for implementing the policy was amended twice in 2012 and 2014 since its establishment.

2) Legislation regulating PPP at the local level

The laws and regulations of PPP used in Aimag level are: Concession partnership: SPPPP, Law on Concessions, Budget Law, Law on Debt Management, Law on Legal Status of Cities and Towns, Law on Legal Status of the Capital City, Law on Administrative and Territorial Units of Mongolia and Their Governance, Government Resolution No. 103 and its annexes, and other relevant laws and regulations.

Non-concession partnership is regulated by SPPPP, Civil Law, Law on Company, Law on Legal Status of Cities and Towns, Law on Legal Status of the Capital City, Law on Administrative and Territorial Units of Mongolia and Their Governance, and other relevant laws and regulations

3) Law on Concessions

Under the framework of the state policy on PPP, the Law on Concessions was approved in 2010. The Law has been amended 13 times in total, by which eight clauses were repealed, and 44 clauses were amended. In total, eight articles were amended, which implies that over 60% of the Law changed since its establishment.

The purpose of the Law is to regulate matters related to the organization of tenders for granting investors concessions over state and local own property, the conclusion, revision and termination of concession agreements, and the settlement of disputes. The types of concessions are shown in Table 4.3.6.

Table 4.3.6 Types of Concessions Related to PPP

Types of concessions	**Build-Operate-Transfer (BOT)**
	Build-Transfer (BT)
	Build-Own-Operate (BOO)
	Build-Own-Operate-Transfer (BOOT)

	Build-Lease-Transfer (BLT)
	Design-Build-Finance-Operate (DBFO)
	Renovate-Operate-Transfer (ROT)
There may be other types of concessions other than above specified depending on the nature of the concession item	

Source: JICA Project Team based on the Survey

4) PPPs in the Vision2050

The Vision 2050 was approved by the State Great Khural in May 2020, which has set out Mongolia's long-term development policy. The PPPs are reflected in the good governance area. In objective 5.2, as shown in Table 4.3.7, the Vision2050 aims to refine the distribution of mandates and powers of public administrative bodies through a rational identification of institutions and arrangements. In this regard, the optimal distribution of government mandates will be made based on the civil society-private-public-partnership in phase 1 (2020-2030). Table 4.3.7 presents the PPP related objectives and activities. In phase 2 (2031-2040), a smart government that respects citizen's interests and promotes private sector development will be formed. In this regard, policy and activity development mechanism collaborative of citizens and the private sector will be strengthened.

Table 4.3.7 PPP Related Objectives and Activities in the Vision 2050

Objectives	**Activities**
Create conditions for strengthening cooperation and ensuring participation of the private sector and civil society in policy formulation, implementation and monitoring processes	- Refine the legal environment for ensuring participation of the private sector and civil society organizations in policy development and implementation processes, and protecting their interests. - Introduce a system for contracting the private sector and civil society organizations to performing all possible state functions. - Create the legal environment for independent development of civil society organizations. - Develop e-democracy and enable electronic participation of citizens in government policy and decision-making and monitoring processes.
Create a legal and policy environment to support the development of the private sector and the protection of private property	- Create a legal environment on full protection of private property by refining policies and regulations on investment, property protection and ensuring its stability. - Update the banking and financial system following private sector development policies, and create a favorable investment and credit environment. - Nurture a favorable environment for investment protection and attraction by ensuring the stability of public policies and tax legislation. - Integrate the activities of special government funds into a system open to the public with proper oversight, aimed at supporting private activities.

Source: JICA Project Team based on the Survey and the Vision 2050

5) PPPs in the SDV2030

The SDV2030 was approved by the State Great Khural in 2015, which set out Mongolia's long-term development plan and vision. It consists of four goals and 44 targets, 41 of which are directly linked with the global SDGs. The first objective is to ensure sustainable economic development. Its macroeconomic policy principles state that "Promote public, private partnership, utilize international cooperation funds and long-term concessional loans, cooperate with international financial organizations, and coordinate policies in order to implement the sustainable development Vision".

The last objective is to ensure governance for sustainable development. The second objective of governance for sustainable development reflects the PPP, which states that "Improve the leadership of civil service organizations at all levels, and develop transparent and accountable governance at the national and local levels, based on public participation and public-private partnership".

6) PPPs in the Priorities of Mongolian med-term (2020-2025) sustainable development policy

NDA developed the priority in the purpose of to harmonize the SDGs with SDVs and other development documents, conduct an impact assessment between them, and determine the sectoral priorities. In this regard, targeted levels of macro and sectoral policy priorities to be implemented in the med-term (2020-2025) were developed. PPP is reflected in the nine sectoral priorities as shown in Table 4.3.8.

Table 4.3.8 Mid-Term Sectoral Priorities of Sustainable Development

Sector	Priorities/Goals
Tourism	Improve inter-sectoral relations and ensure joint participation of non-governmental organization-public-private partnership in developing tourism
Trade	Create a system of a public organization to coordinate the activities of the trade sector, and support the PPP in this sector
Construction	Execute public investment construction projects sector on a contractual basis with the private sector, and create a system of accountability
Air transport	Improve inter-sectoral relations and ensure joint participation of non-governmental organization-public-private partnership in developing air transport
Energy	Ensure sustainability of energy sector investment and increase private sector participation
ICT	Provide increasing demand for ICT services, and establish national ICT network and infrastructure with the support of PPP.
Science and innovation	Establish a multi-source financial and investment mechanism based on the PPPs and increase the share of science, technology and innovation in GDP
Health	Improve the legal environment for providing some public health assistance and services by private and non-governmental organizations.
	Expand PPP to ensure the transparency and accountability of health care
	To support PPP in introducing high-cost and advanced technologies needed to treat diseases that cannot be diagnosed and treated in Mongolia, and to improve the health education of citizens, families and communities
	Develop PPP and intersectoral cooperation to ensure the transparency and accountability of pharmaceutical care
Ecosystem	Establish a PPP and economic incentives to support research on biodiversity.

Source: JICA Project Team based on the Survey and NDA

7) PPPs in the Action Program of Mongolian Government for 2020-2024

The Action Program of the Mongolian Government for 2020-2024 is a vital document that lays out the national mid-term development plan to achieve the goals set out in the Vision2050, SDV2030, and the Action Plan of the Mongolian People's Party for the 2020 Parliamentary Elections. The Action Program includes specific actions aimed at upgrading and establishing PPP in the human development policy, economic policy, and governance policy. Three out of the six dimensions of the policy include the context of PPP as shown in Table 4.3.9.

Table 4.3.9 PPP Related Actions in the Action Program of the Mongolian Government for 2020-2024

Policy dimensions	No. actions including PPP	Actions
Policy to overcome economic and social challenges caused by " " plague	0	No action
Human development policy	1	Establish a nationwide open and flexible system based on PPP to provide accessible services of physical education and sports in the purpose of preventing physical inactivity and providing lifelong healthy lifestyle.
Economic policy	6	Increase funding for green projects based on PPP, environmentally friendly and low in greenhouse gases

		Start the construction of the gas power plant based on the infrastructure of Thermal Power Plant II through PPP.
		Establish freight and passenger terminals in the capital city and local areas within the framework of PPP.
		Build a dry port that meets international standards based on the railway network. Based on the Ulaanbaatar Railway, a freight and logistics center that meets international standards will be built in Nalaikh district within the framework of PPP.
		Improve the utilization of airports in the local areas in the framework of PPP.
		Establish a unified savings fund to support 150,000 households in obtaining housing through PPP, and begin construction of apartment blocks in stages based on the concept of regional development.
Governance policy	3	Create a legal environment that respects human rights, supports e-government, regulates safe and decent technology, and raises PPP to a new level.
		Expand advocacy measures to prevent children and women from becoming victims of sexual exploitation and human trafficking through PPP.
		Prioritize foreign economic relations, and increase and diversify exports based on PPP, and reduce and alleviate difficulties faced in foreign trade.
Green development policy	0	No action
The development policy of the capital city and regions	0	No action

Source: JICA Project Team based on the Survey

(5) Roles and activities of the Public-Private Consultative Committee (PPCC) and Aimag's Public-Private Partnership Councils (PPPC)

1) Public-Private Consultative Committee (PPCC)

PPCC was established by the Order No. 320 of 2017 of the Head of the Cabinet Secretariat of Government of Mongolia under the Investment Protection Council. It aims to ensure equal participation of both public and private sector representatives and investors in the development and approval of investment-related legislation and policy documents, openly listen the voices of the private sector and non-governmental organizations whose interests are affected in any way, and reflect their voices in the activities. The Committee represents a new form of cooperation between the public and the private sectors to address common barriers faced in business and investment environment and improve the investment environment.

The Committee is chaired by the Director of NDA, on behalf of the government side, and the Chairman of the Mongolian National Chamber of Commerce and Industry (MNCCI) is working as the vice-chairman on behalf of the private sector. The members of the Committee include the heads of relevant ministries and private sectors such as Ministry of Foreign Affairs, Ministry of Mining and Heavy Industry, Ministry of Agriculture and Light Industry, Ministry of Finance, Business Council of Mongolia, Mongolian National Mining Association, and Ulaanbaatar City Chamber of Commerce.

The purpose of establishing the Committee under the Investment Protection Council is to reach a joint decision through a public-private consultative committee to make necessary changes to the legal environment related to investments and other laws based on the petitions and complaints submitted to the Council.

2) Sustainable Development Partnership Council (SD-Council)

The SD Councils were formally established and are operational since 2018 in 10 Aimags under the Integrated Mineral Resources Initiative (IMRI) Program of GIZ to boost local economic development.

These Aimags are Bayankhongor, Bulgan, Dornod, Dundgovi, Govi-Altai, Orkhon, Khentii, Selenge, Umnugovi and Uvs.

A total member of SD Councils is 15-19 in general. The SD Councils are chaired by the head of Aimag Citizen's Representative Khural. The members of SD Council include three members of Citizen's Representative Khural (CRKh), 2-3 members from the Governor Administration Office (division and agency), 3-4 members from Civil Society Organizations (CSOs), 2-3 members from SMEs, 2-3 members from the local investors (more prominent local companies), and one member from media. The vision and mission of each SD Council are developed.

3) Aimag's Public-Private Partnership Councils (PPPC)

MNCCI aims to intensify the work of public-private consultative committees at the national and local levels. In this regard, the management team of MNCCI worked in 16 Aimags in 2019 to discuss issues faced in the local business environment and define the opportunity to establish Aimag's PPPC. Currently, the PPPCs have been established in the five Aimags to contribute to local economic development through PPPs. These Aimags are Arkhangai, Tuv, Selenge, Khuvsgul and Bayankhongor. ADB has supported the establishment of additional PPPCs in five Aimags: Dornod, Sukhbaatar, Khentii, Uvs and Govi-Altai.

The leading roles of the Councils are to (i) improve public-private partnerships with trust and cooperation, (ii) make a real contribution to the development of local industry, (iii) serve as the voice of entrepreneurs, and (iv) provide policy and operational support to improve regional cooperation and investment environment. The main activity of the Council is to approve and implement the Annual plan for Aimag's PPP. A total member of the Councils is 10-21 in general. The Councils are chaired by the head of Aimag Citizen's Representative Khural of the Aimag or Governor/Deputy Governor. The members of the Council include representatives of public organizations, the Aimag's Chamber of Commerce and Industry, CSOs, Business Associations, and entrepreneurs.

Activities of PPPCs are currently very minimal because the majority has no regular operation as they are newly established. A few of them conducted the first meeting, while some have not even organized the first meeting. According to MNCCI, PPPC's operations are stagnant due to the COVID-19 pandemics and local elections. MNCCI was planning to activate their operations after the local elections at the end of 2020. Table 4.3.10 compares the PPPC and the SD-Council.

Table 4.3.10 Comparison Between PPPC and SD-Council

Comparison items	PPPC	SD-Council
Scope	Aimag level	Aimag level
Established organizations	MNCCI and ADB	IMRI Program, GIZ
Structure	The structure of SD-Council and PPPC is very similar. Both are chaired by the head of Aimag Citizen's Representative Khural, and include representatives of relevant public organizations, the ACCI, CSOs, BAs, and entrepreneurs.	
Roles	Both councils primarily aim to contribute to the development and growth of the aimag through improving the PPPs. In doing so, both will ensure equal participation of stakeholders, including CSOs, public sector, and the private sector in the development panning of the Aimag. It, therefore, is concluded that the goals and roles are very similar for the two Councils.	
Demarcation	Generally, the two Councils are very similar in terms of roles and structure. It is observed that there is a slight difference between the two Councils depending on the focus of establishing the organization. The SD-Council involves supporting the operations of the projects financed by the GIZ such as Mongolian Sustainable Tourism and Inclusive Economy. The PPPC of MNCCI may do more for helping the business environment in the local areas.	

Source: JICA Project Team based on the Survey

(6) Current situations of PPP schemes including concessions

1) Build-transfer (BT)

As of September 2020, a total of 19 concession projects as shown in Table 4.3.11 are being implemented under the type of build-transfer (BT) concessions, which have conditions for repayment from the State budget. One of them was granted by tender, while the remaining 18 granted by direct agreement granted. The majority of the projects are being implemented in road and transportation sector with 58% of the total number of concessions, followed by education at 21%, energy at 16% and health at 5%, respectively. The concession contracts were signed in 2016 for four projects, eight projects in 2017, and seven projects in 2018. As of the end of the 3rd quarter of 2020, the operations of 14 BT concession projects have fully completed, and two projects have not started yet. The three projects' progress performance is 38%, 64%, and 78% respectively. Comparing between the year of the contract and completed year of project operation, the average year of BT project implementation is 3.5 years approximately in terms of operation.

A total contract amount of BT concessions is MNT 1,986.1 billion, of which 87% is allocated to the road and transportation sector. An average budget for the BT concession projects is MNT 104,535.5 million. However, the average budget amount is significantly different between sectors. That is, the average budget for BT concessions in the road and transportation is 17 times greater than the average budget for education, 2.3 times greater than energy, and six times greater than health.

Table 4.3.11 Contract Amount of BT Concessions by Sector

Sector	No. projects	Contract amount (million MNT)				
		Total	% of the total amount	Average	Minimum	Maximum
Education	4	36,889.8	2%	9,222.4	1,159.6	19,143.1
Road and transportation	11	1,722,155.7	87%	156,559.6	1,761.9	276,731.9
Energy	3	201,405.1	10%	67,135.06	18,619.4	92,010.7
Health	1	25,724.6	1%	25,724.6	25,724.6	25,724.6
Overall	19	1,986,175.3	100%	104,535.5	1,159.6	276,731.9

Source: The Survey based on Quarterly report on the performance of BT concession projects with conditions repayable from the State budget-2020.III, NDA

2) Concession projects for state-owned property

As of September 2020, there are 17 ongoing concession projects for the state-owned property. Seven of them were granted by tender, while the direct agreements granted the rest. The types of concessions, like DBOT, BOT, and BOO, are mainly used in concession projects for the state-owned property. Over one-third of the projects are being implemented in the energy sector as shown in Table 4.3.12.

A total contract amount of concession projects for the state-owned property is MNT 23,387.1 billion, which is 11.7 times greater than BT concession projects. Of the total budget, 51% is allocated to the energy sector. An average budget for the project is MNT 1,375.7 billion.

Table 4.3.12 Contract Amount of Concession Projects Other Than BT Concessions by Sector

Sector	No. projects	Contract amount (million MNT)				
		Total	% in the total amount	Average	Minimum	Maximum
Construction	4	654,605.9	3%	163,651.4	22,000	356,840
Road and transportation	5	7,164,894.3	31%	1,432,978.8	109,000	3,711,136
Mining	2	3,574,109.4	15%	1,787,054.7	1,575,805.4	1,998,304

Energy	6	11,993,506.5	51%	1,998,917.7	341,995.4	4,282,080
Overall	17	23,387,116.3	100%	1,375,712.7	22,000	4,282,080

Source: The Survey based on Quarterly report on the performance of BT concession projects with conditions repayable from the State budget-2020.III, NDA

3) Concession projects for locally-owned property

The scope of PPP and concession projects for the locally-owned property is relatively low at the Aimag level. As of 2018, only six out of 21 Aimags have implemented investment projects and actions under PPP and concession, which are Uvs, Bayankhongor, Bulgan, Zavkhan, Gobi-Altai, and Selenge27. A total of 36 concession projects had been implemented in five Aimags as shown in Table 4.3.13. Most of the projects were road and building construction. The operations of 33 projects have been fully completed. A total contract amount of concessions in these Aimags is MNT 26,774 million, and the average contract amount per project is around MNT 787.5 million at the Aimag level.

Table 4.3.13 Summary of Concession Contracts in Aimags as of 2018

Aimag	No. projects	Project classification	Type of concessions	Performance %	Contract amount (million MNT)			
					Total	Mean	Min	Max
Uvs	19	Building-19	BOT-4 DBFO-15	100%-17 90%-1 10%-1	14,731.4	866.5	507.9	3,375.3
Bayankhongor	1	Road	BT	100%	3706.8	-	-	-
Bulgan	1	Building	BOT	100%	551			
Zavkhan	4	Building-3 Street lighting-1	BT-3 DB-1	100%-4	1,344.3	336.0	180.0	524.3
Govi-Altai	11	Road-3 Infrastructure/Building-6 Energy-2	BT-10 RT-1	100%-10 80%-1	6440.5	637.0	23.0	3416.4
Total	36	-	-	-	26,774	787.5	23.0	3706.8

Source: The Survey based on NDA data

4) Current situation and challenges of PPPs in the selected Aimags

The current situation and challenges of PPPs in the selected Aimags", namely Selenge, Govi-Altai, Bulgan and Uvs, are described. The representatives of the private sector are very unsatisfied for the current situation of the PPPs in Bulgan Aimag. They said that the PPPs are stagnant in Bulgan, and the local government has not conducted a meeting with local businesses for the last four years. They also do not listen to the voices of local businesses and entrepreneurs, and there is no cooperation between public and private organizations.

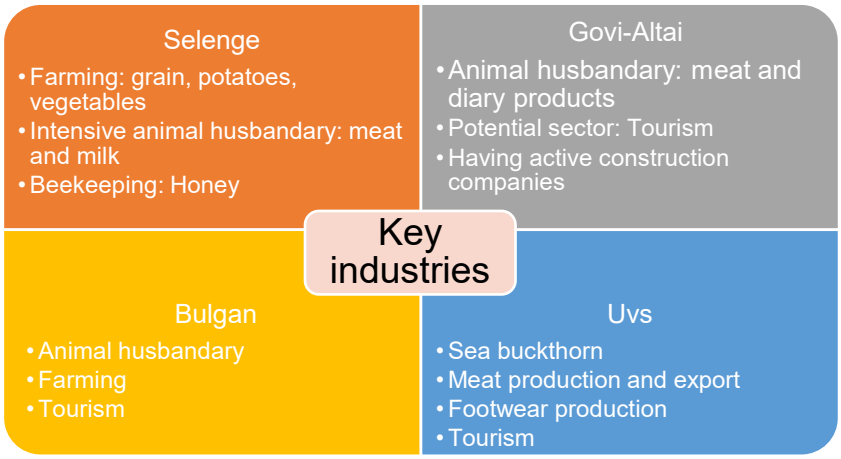
In Gobi-Altai Aimag, currently, there is no work implemented through the PPPs except a road project with concessions. All respondents involved in Govi-Altai agreed that the situation of PPPs is abysmal in the Aimag; even the parties in the public and the private sectors do not know about PPPs well in terms of benefit, coordination, and attraction of investors.

In Uvs Aimag, the several projects have been performed through the concessions such as building road, street landscaping in Soums, building of the stadium, swimming pool, and integrated heating systems for Soums. Three projects related to building road and bridge are being implemented under the concession contract in Selenge Aimag.

In Selenge and Uvs, the "Local Comprehensive Development-Partnership" and "Mongolian Sustainable Tourism and Inclusive Economy" under the IMRI Program financed by GIZ were implemented in 2014-2017 and 2017-2020 respectively. These two consecutive projects have made a significant contribution in strengthening the PPP in these Aimags.

[27] As for Selenge, although the concessions items were approved by the Citizen's Representative Khural for 43 projects, no concession contract had been signed as of 2018.

The survey also indicates that the most promising industries and types of activity in the each Aimag as shown in Figure 4.3.1.



Source: JICA Project Team

Figure 4.3.1 Key Industries in Selected Aimags

As the challenges in the implementation of PPPs, the survey indicates that the main challenges are related to (i) cooperation between public and private organizations, (ii) poor knowledge and capacity, and (iii) political issues.

Public organizations generally have little understanding of the benefits of working with the private sector. No one discusses this issue because there is no leadership who would understand its importance. The knowledge about PPPs is weak for both public and private organizations. In particular, middle-level public officials responsible for the implementation of PPP have a low-level understanding of the PPPs, which can lead to slowing down of the PPP related works. As for the local private sector, not only understanding about PPPs but also their general and legal knowledge are not adequate. The capacities of local private companies are not enough to carry out projects under PPPs. As a result, PPP related projects are mainly done by Ulaanbaatar based companies.

(7) Management and implementation schedule

The survey was conducted by a local consultant under the TOR prepared by the JPT according to the schedule as follows.

(a) Selection and contract of the consultant: September, 2020

(b) Submission of the Progress Report: October 20, 2020

(c) Submission of the Draft Final Report: November 16, 2020

(d) Submission of the Final Report: end of November, 2020

(8) Recommendations

It is recommended that the potential/planned projects, as shown in Table 4.3.14, should be conducted under PPPs in the future according to the survey result.

Table 4.3.14 Potential/Planned Projects That May Be Implemented under PPP in the Future

Aimags	Public organization's perspective	Private sector's perspective
Govi-Altai	- Establish a business development center, - Establish a transportation and logistics center	Establish a business development center, where entrepreneurs will develop their products, sell their goods, exchange their experience as well as training and consultation services will be organized. The ACCI is going

		to construct it with the support of local government. They have requested a building that is not being used from the local government. The ACCI will operate this center.
Bulgan	Connect Soums to the central heating network	No
Uvs	Build integrated heating systems in Soums	Establish women business center as integrating women who make small stitches at home
Selenge	Building roads to connect the Soums	No (The representative of private sector said that PPP and legal training are really needed to managers of private companies before defining a potential project of PPPs.)

Source: JICA Project Team

Also, the following activities on capacity development for PPP system or PPP promotion should be implemented based on the request of the local government officers and the private sector made through the survey.

(a) Training for both public and private organizations:
- ✓ Basic concepts of PPP, benefits of collaboration, and the importance of PPP
- ✓ Types of PPPs: what kind of work can be done within the framework of the partnership
- ✓ Training for writing project proposal for supporting SMEs
- ✓ Monitoring and evaluation of PPP projects

(b) Consultation:
- ✓ Understanding of the requirements, rules and regulations
- ✓ Consultations on specific issues, such as how to attract investors

(c) Promotion:
- ✓ How to connect the products of local SMEs to the more significant markets and companies

(9) **Future orientation**

The following actions should be taken:

(a) Discussions with NDA, MNCCI and selected Aimags governments about possible and plausible actions in response to the projects and activities recommended in the preceding section on the capacity development and PPP promotion,

(b) Needs and capacity assessment of the selected Aimags public administration on PPP promotion to identify and clarify the contents of the training, and

(c) Analysis of the roles and functions of a business development center in Aimags level as well as of its viability.

4.4 Capacity Assessment and Measures for Capacity Development to Support Regional Development

4.4.1 Needs for capacity assessment for local administrations

(1) Need for regional development

The Central Government has manifested a reasonable performance since the 1990 "revolution" in guiding the development of Mongolia. It has successfully realized a sort of paradigm shift from the socialistic development to a largely capitalistic development with some liberal policy inherited from the socialistic regime. As the results, high economic growth was realized driven mainly by mining

development. This success, however, has been accompanied by increased disparities in income levels and between urban and rural areas. The Mongolian Government has started to place increasing emphasis on regional development to realize more balanced development of the national socio-economy and spatial structure.

Localization of development administration is a common tend in most countries, including both developed and developing countries. To realize the regional development, capacity of local administrations should be much strengthened. This is because by definition, regional development means socio-economic development of a region by utilizing indigenous resources in the region by the local people for the benefits of the local people supported by local administrations. In Mongolia, deliberate efforts should be made to strengthen Aimag administrations in view of small population and local economy distributed in a large territory.

(2) Need for capacity assessment

The NCDP has proposed a revised regional division and formulated an integrated regional development program for each region consisting of Aimags having respectively similar characteristics. This would allow policy measures for regional development to be formulated more effectively by region, and each region to realize self-reliant development by mustering their resources including human resources. Regional development in Mongolia should be realized by partnership between the Central Government and Aimag administrations. For effective partnership, the Central Government should know the existing capacity of Aimag administration without prejudice or illusion; hence the need for capacity assessment of Aimag administrations.

4.4.2 Capacity assessment of selected Aimag administrations

(1) **Methodology**

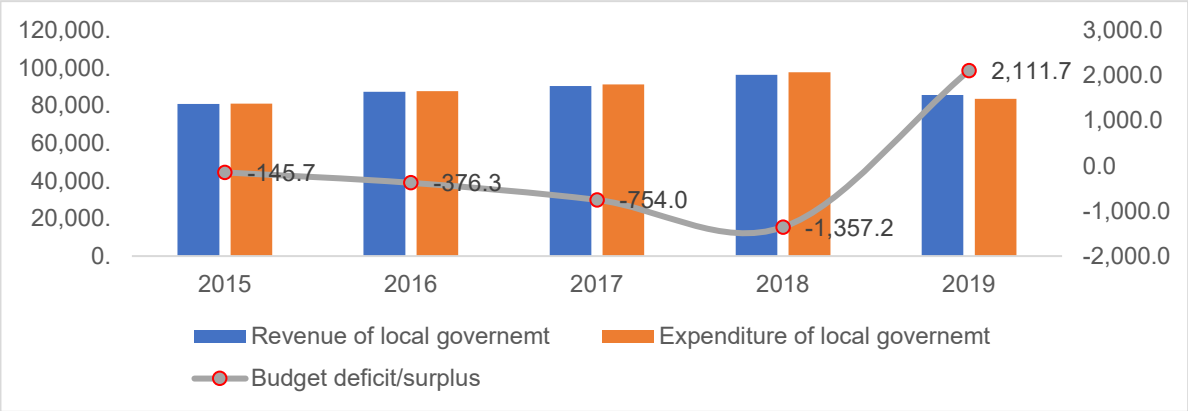
The JPT carried out the capacity assessment for Aimag administrations for the purpose of grasping the current capacity of Aimag administrations and suggesting effective measures that can be implemented. The capacity assessment was conducted at individual and organizational levels of Aimag administrations as well as law/institution. Bulgan Aimag and Khuvsgul Aimag were chosen for the survey based on the preliminary analysis on annual fiscal balance (budget deficit/surplus), distance from Ulaanbaatar and total population as outlined below.

Khuvsgul

Khuvsgul was established in 1931. Murun, an Aimag center, is located 671 km northwest of the capital of Mongolia. The Aimag consists of 23 Soums and one village. Khuvsgul is the largest populated Aimag in Mongolia. As of 2019, population of 135,095 live in 37,914 households. The majority of the population is young, namely 32% and 38% of the total population are aged 0-14 and 15-39 respectively.

The leading economic sector is animal husbandry. As of 2019, 6.0 million livestock is bred in Khuvsgul, and it is ranked first among Aimags of Mongolia. Another major industry is tourism. Khuvsgul is famous for its well-known lake. The number of tourists is coming to Khuvsgul is increasing year to year. About 20% of foreign tourists arriving in Mongolia come to Khuvsgul.

According to NSO, the local government budget of Khuvsgul had been in deficit in recent years, while it is in surplus in 2019 as shown in Figure 4.4.1.



Source: JICA Project Team based on NSO database, www.1212.mn

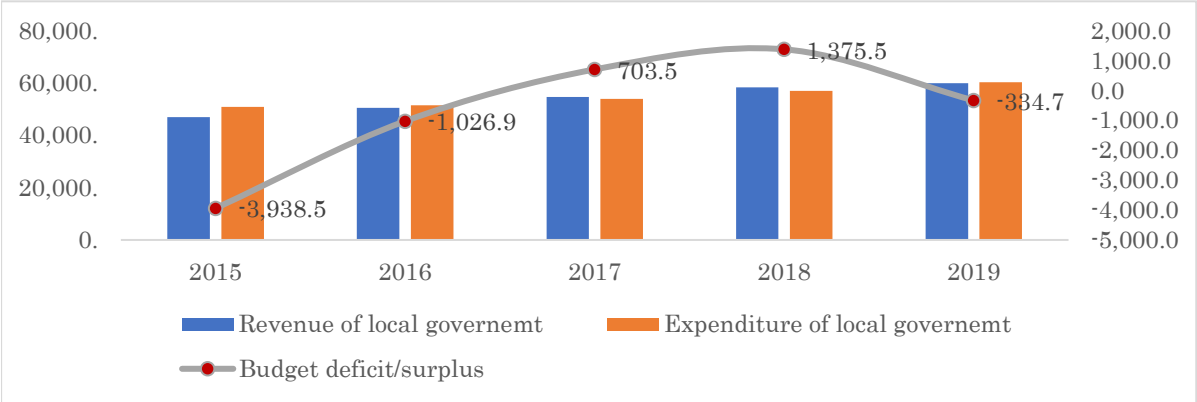
Figure 4.4.1 Local Government's Revenue, Expenditure, and Deficit/Surplus, by Million Tugrik in Khuvsgul Aimag

Bulgan

Bulgan was established in 1937. Bulgan, an Aimag center, is located 318 km from the capital of Mongolia. The Aimag consists of 16 Soums and one village. As of 2019, population of 62,089 live in 18,481 households. The majority of the population is young similar to Khuvsgul, namely 30% and 36% of the total population are aged 0-14 and 15-39 respectively.

The leading economic sector is animal husbandry. As of 2019, 3.6 million livestock is bred in Bulgan, and it is ranked sixth among Aimags of Mongolia. Another main sector is crop farming. Out of 90,100 ha of arable land, 40,000 ha are cultivated annually, and an average of 45,000 tons is harvested. It is ranked third among Aimags.

According to NSO, the local government budget of Bulgan Aimag had been in surplus in 2017 and 2018, while it is in deficit in 2019 as shown in Figure 4.4.2.



Source: JICA Project Team based on NSO database, www.1212.mn

Figure 4.4.2 Local Government's Revenue, Expenditure, and Deficit/Surplus, by Million Tugrik in Bulgan Aimag

(2) Survey design

The survey uses a mixed-method approach to define a baseline capacity of the local governments. The mixed-method design begins with document review to identify key issues followed by a quantitative and qualitative data collection to examine identified issues. The following documents are used for the assessment.

Laws, regulations and policies

- Law on Civil Service (2017)
- Budget Law (2011)
- Law on Administrative and Territorial Units of Mongolia and Their Governance (2006)

Policy and planning documents

- Resolution of Mongolian Government on Renewal of the Salary Network and Size of Civil Servants, No 2019/472
- Governor's Action Plan for 2021-2025
- Socio-Economic Development Guideline for 2021-2025
- Approved budget-2020

Relevant reports

- Activity report of Mongolian Civil Servant Council-2019
- The Unified Registration of Mongolian Civil Servants-2019
- Citizen's Satisfaction Survey on Public Policies and Service-2019
- Digital transparency of Government Agencies- 2020, IRIM
- Regulation and methodology in evaluating the performance, results and qualifications of civil servants

Frameworks for the capacity assessment are shown in Table 4.4.1 with indicators and data sources for each dimension of assessment.

Table 4.4.1 Capacity Assessment Framework

Dimensions	Indicators	Data sources
Individual		
Cognitive ability/technical capacity	1) Educational background 2) Computer/IT literacy 3) Specialized knowledge/skills required for each department 4) Ability to access information	・CA Survey
Non-cognitive ability/core capacity	1) Self-awareness and motivation 2) Social skills and responsiveness 3) Awareness of gender equality, human-centered principles, and the differing needs of under-represented groups 4) Professional development and attending training for the last two years	・CA Survey
Organizations		
Human resource	1) The number of administrative staff/civil servant per population 2) Adequacy of civil servants in terms of quantity and quality 3) Changes in staff during the change of government 4) Percentage of local hired staff and staff from the Central Government. 5) The main challenges faced with human resource	・CA Survey ・The Unified Registration of Mongolian Civil Servants-2019 ・Activity report of ・Mongolian Civil Servant Council-2019
Budget	1) Financial management (the process of budgeting and budget structure) of the organization 2) Participatory needs assessment /needs of under-represented groups in budget planning 3) Sufficiency of budget	・CA Survey ・Approved budget

	4) Central budget allocation and local independent budget 5) The main challenges faced with budget	
Service quality	1) Citizen's participation in local-level decision-making 2) Sex-disaggregate data in local government reporting and registration 3) The needs of under-represented groups (e.g., through public hearings, surveys) 4) Participatory system 5) Information transparency (website, social media, etc.) 6) The main challenges faced with service quality	・CA Survey ・Digital transparency of Government Agencies-2020, IRIM ・ Citizen's Satisfaction Survey on Public Policies and Service-2019
Structure (structure for maximizing resource utilization):	1) Personnel management and salary levels 2) Career path 3) Accessibility and quality of training 4) Stakeholder analysis/organizational structure analysis 5) Organizational governance	・CA Survey ・Law on Civil Service ・Resolution of Mongolian Government on Renewal of the Salary Network and Size of Civil Servants, No 472
Law/Institution		
The number of policies and measures formulated by local government initiatives **Transparency/accountability/corruption in the public sector** **Legal governance, legal system for decentralization, etc.**		・CA Survey ・ Website of the organizations ・Governor's Action Plan for 2021-2025 ・ Socio-Economic Development Guideline for 2021-2025

Source: JICA Project Team

(3) Participants of capacity assessment

- A total of 10 public organizations involved in the organizational capacity assessment from each Aimag, and 52 civil servants participated in the individual capacity assessment as summarized in Table 4.4.2. The head of the organizations was interviewed in the organizational assessment, and various civil servants such as head of department, specialist, etc. involved in the individual assessment.

Table 4.4.2 Survey Participants List

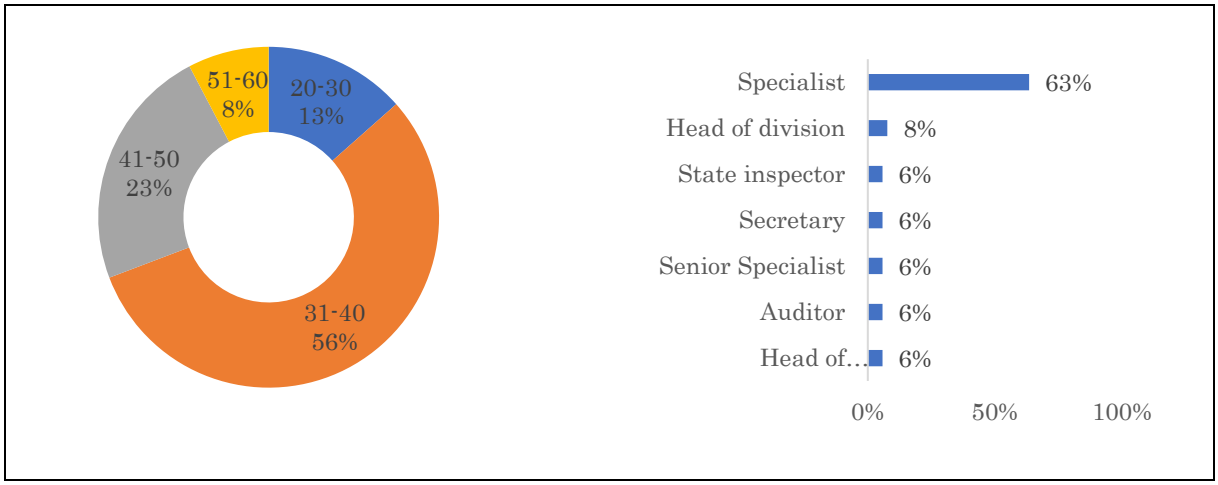
#	Public organizations	Bulgan		Khuvsgul	
		Organizational CA	Individual CA	Organizational CA	Individual CA
1	Citizen's Representative Khural of Aimag	+	1	+	1
2	Aimag Governor's Office	+	5	+	3
3	Administration of State Special Protected Areas			+	1
4	Financial monitoring and auditing department	+	3	+	3
5	Local property department	+	-	-	-
6	Education and culture department	+	2	+	2
7	Health department	+	2	+	3
8	Food and agricultural department	+	4	+	4

9	Nature, environment and tourism department	+	3	+	4
10	Family, child and youth development department	+	2	+	1
11	Land Affairs, Construction and Urban Development Department	+	4	+	4
	Total	10	26	10	26

Source: JICA Project Team

1) Characteristics of participants of the Individual CA

Of the 52 civil servants participated, 67% were females and 33% were males. The majority of the respondents were civil servants of middle age: 79% of the respondents aged between 31-50. As for the position, the middle-level civil servants or specialists of public organizations were mainly involved (Figure 4.4.3).



Source: JICA Project Team based on CA

Figure 4.4.3 Age Composition and Position of Survey Participants

Table 4.4.3 summarizes the job responsibilities of the most frequented positions in local government.

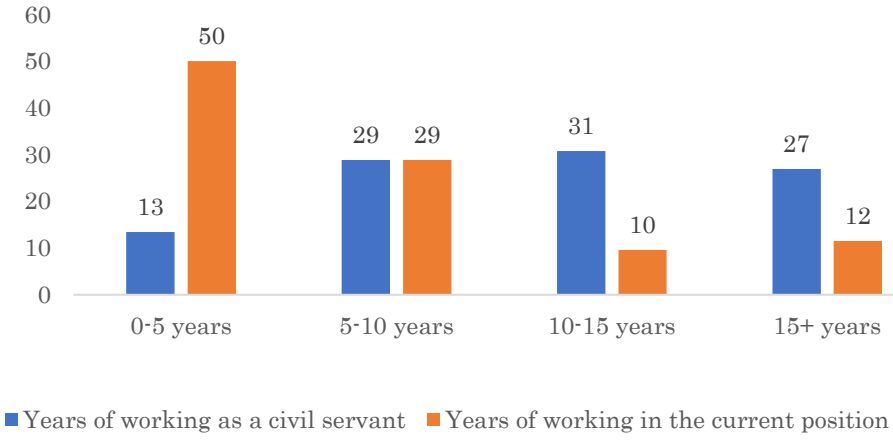
Table 4.4.3 Job Responsibilities of the Common Positions in Local Government

#	Position	Job responsibility
1	Head of department/division	The primary responsibility is to provide sectoral and organizational level management. In this regard, the following activities are generally included. - Formulation of Aimag-wide policy and planning - Implementation of relevant activities of the Action Program of the Mongolian Government and Aimag Governor's Action Plan - Implementation of programs and sub-programs - Implementation of resolutions and decision issued by the Mongolian Government, Aimag Governor's Office and Citizen - Organizational and sectoral human resource issues - Providing professional and methodological advice to the Governor
2	Specialist/senior specialists	The responsibilities of the specialists in public organizations are very different depending on their organizations. In general, their duties are divided into specific areas. For example, one specialist is in charge of land issues and the other is in charge of water issues in Nature, environment and tourism department. As for the specialists of the Governor's Office are the following responsibilities. - Aimag-wide organizational activities - Implementation of relevant activities of the Action Program of the Mongolian Government and Aimag Governor's Action Plan

	- Implementation of resolutions and decision issued by the Mongolian Government, Aimag Governor's Office and Citizen Representative's Khural of Aimag - Formulation of Aimag-wide policy and planning - Providing professional and methodological support

Source: JICA Project Team based on the CA survey

The participants who involved in the assessment are relatively experienced civil servants, and the average working years as a civil servant is 11.7 years. However, they have not been in their current positions for long. The average working years in the current position is 6.2 years, and a half of the participants have worked at this position for up to 5 years (Figure 4.4.4).



Source: JICA Project Team based the CA survey

Figure 4.4.4 Experience of Participants, by Percent

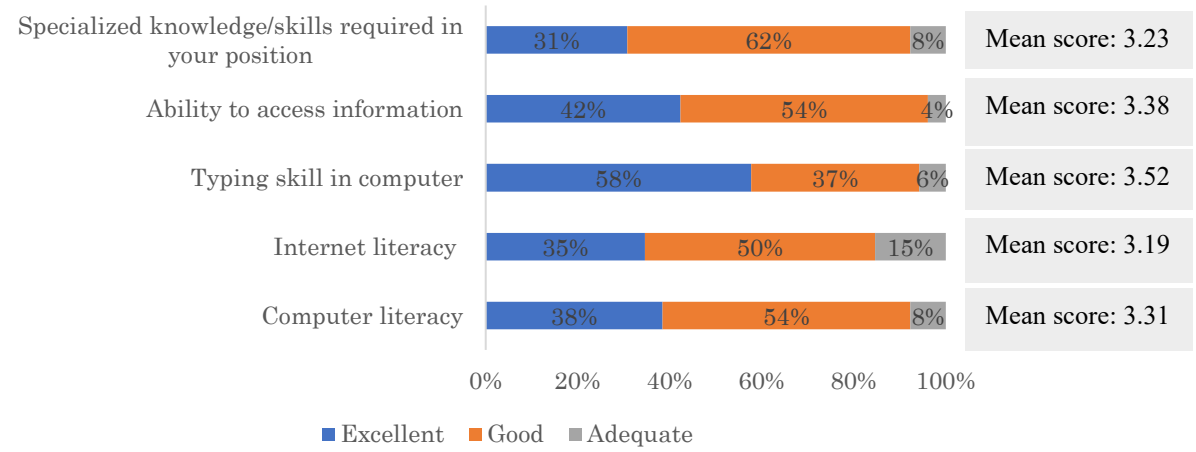
(4) Result and analysis of individual capacity assessment

The capacity of the civil servants was assessed at two levels: (i) Cognitive ability/technical capacity, and (ii) Non-cognitive ability/core capacity.

1) Overall assessment in technical aspect

Computer and internet literacy, typing skill in computer, ability of access information, specialized knowledge/skills required in the position can form the general technical capacity in this assessment. Figure 4.4.5 indicates the overall assessment of technical capacity and specialized knowledge/skills required for each department of the participants. Most civil servants assessed their technical capacity as relatively good. Especially, a typing skill in computer (mean assessment score is 3.52) and ability to assess information (mean assessment score[28]is 3.38) were evaluated higher than the other technical capacity. In contrast, the participants assessed their internet literacy (mean assessment score is 3.19) a bit lower than other technical capacity.

28 The mean of the assessment score lies in the range of 1 to 4. A mean that is close to 4 is regarded as excellent and one close to 1 as poor. The average value is 2.5.



Source: JICA Project Team based the CA survey

Figure 4.4.5 Overall Assessment of Technical Capacity

2) Cognitive ability/technical capacity

Educational background

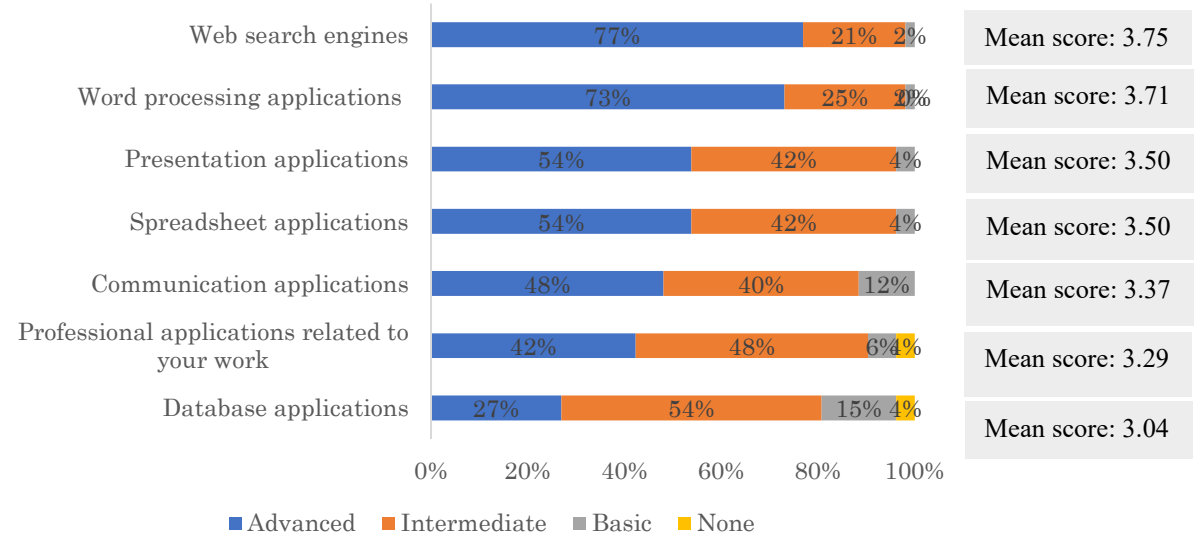
The majority of the participants (77%) were educated to bachelor's degree, and the rest (23%) had a master's degree.

Computer/IT literacy

Figure 4.4.6 presents the self-assessment of computer-based skills for participants. The majority of participants described their skills in using web search engines and word processing applications as advanced. As compared with the frequency of their use, it can be concluded that participants' skills in using word applications are good enough in general. They are mainly use the MS Word and Google Docs in their daily works.

Around half of participants evaluated their skills in using presentation applications, spreadsheet applications and communication applications as advanced level. Compared to the frequency of their use, it can be said that participants' skills in using spreadsheet and presentation applications are at an intermediate level. However, their ability to visualize their findings and data is not enough since the number of the participants who regularly use this type of skill in their works is small. The Microsoft (MS) Excel and MS PowerPoint are widely used for the participants. As for communication applications, the participants mostly use text messages and email in their business relationships. However, most participant (61%) use hardly any video conferencing applications.

Of the participants, 27% assessed their skills in using database applications as advanced. Around one third (31%) of respondents answer that they use open database in their works. However, almost all participants could not provide a right answer when requesting to indicate the most used database application. Only four participants provided a right answer on this question. It indicates a lack of database knowledge and usage for participants.



Source: JICA Project Team based the CA survey

Figure 4.4.6 Assessment of Computer/IT Literacy

Ability of access information

Although the participants consider their ability to access information are good enough, the main sources getting information are not reliable. The most frequented information sources are the Facebook groups and Internet search for obtaining information related to self-development. It is also common to obtain job-related information through Internet search. However, it is worth mentioning that some participants correctly mentioned about certain important sources such as the legal integrated portal.

Personal development

Of all the participants, 56% consider that their opportunities and conditions for personal development are not enough. Most participants (77%) have attended training for the last two years. They attended 1-2 training in a year on average. Almost all participants (93%) mentioned that they need further professional development. Table 4.4.4 summarizes the most commonly attended training and other needs of training.

Table 4.4.4 Training Experiences and Needs

Rank	Training attended	Training necessary
1	Training for Vision-2050 Mongolian long-term development policy	Training for improving professional skill and knowledge in different fields
2	Training for developing the performance planning	Training for improving soft skills (communication, leadership, team working, presentation skill, etc.)
3	Capacity building training for new civil servants	Training for improving the ability to use information and communication technologies
4	Qualification training for senior civil servants	English language training

Source: JICA Project Team the CA survey

Summary and conclusion

In summary, it can be seen that the technical capacity of the participants is good according to their self-assessment. However, it should be noted that the self-assessment of information access is biased because the majority of the respondents don't identify the reliability of the information. Their capacities that retrieve and use information effectively are not enough from their usage and knowledge in the database and data visualization. Moreover, the participants named that "inaccessibility of

accurate information", "poor internet speed", and "language barrier" as the main challenges to access information.

It is also concluded that the participants have acquired basic computer skills such as word processing, spreadsheet, and presentation, while their ability to use new technologies, including using video conference and database, is not enough.

3) Non-cognitive ability/core capacity

Self-awareness

This item aims to measure internal and external self-awareness. Internal self-awareness represents how we see our value, passions and drives, whereas external self-awareness means how well you understand how others see you. In this regard, the JPT received the answer toward six questions from the participants, three questions for internal self-awareness and three questions for external self-awareness.

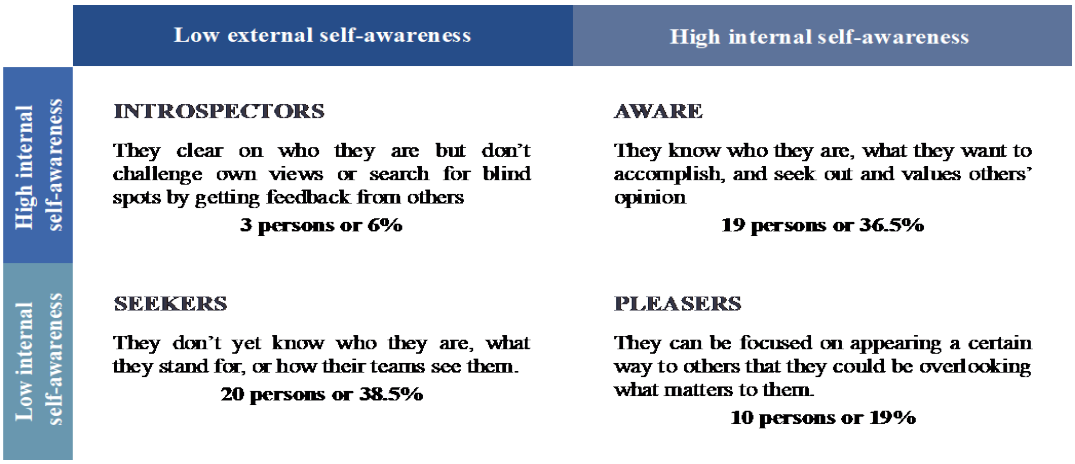
The internal and external self-awareness scores were calculated for each participant through the average assessment of relevant questions. The participants' mean assessment score was 3.35[29] for the overall self-awareness, which was 3.38 and 3.32 for internal and external self-awareness, respectively. Table 4.4.5 summarizes the statistics of the scores for participants. Internal self-awareness is assessed slightly higher than external self-awareness.

Table 4.4.5 Summary Statistics of Self-Awareness Scores

Category	Mean	Median	Mode	Max	Min
Overall self-awareness	3.35	3.33	3.00	4.00	2.67
Internal self-awareness	3.38	3.33	3.33	4.00	2.33
External self-awareness	3.32	3.33	3.00	4.00	2.00

Source: JICA Project Team based the CA survey
Median: middle score in a sorted, ascending or descending, Mode: the most frequent score, Max: maximum score, Min: minimum score

According to 2 by 2 mapping of internal self-awareness against external self-awareness, 36.5% of the respondents were categorized as "aware" or had high external and internal self-awareness, while 38.5% were "seekers" or had low external and internal self-awareness (Figure 4.4.7).



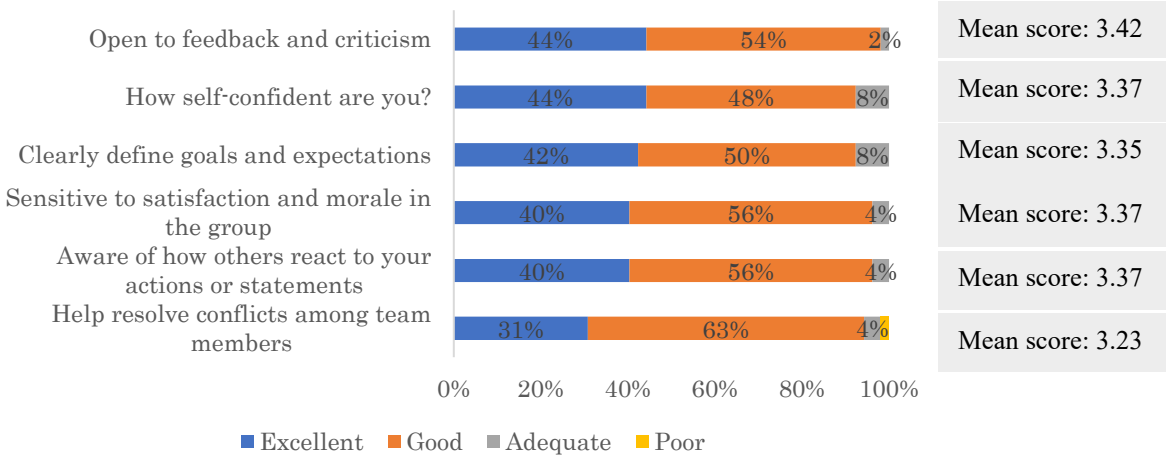
Source: (Enrich 2018) Enrich 2018 and JPT based on the CA survey

Figure 4.4.7 Internal and External Self-Awareness Matrix

As looking at the assessment of self-awareness by question, the participants have highly assessed their openness to feedback and criticism, whereas the ability to resolve conflicts among team members are

29 The score of self-awareness is in the range of 1 to 4. A score close to 1 was regarded as inferior, and close to 4 was regarded as excellent.

evaluated a bit lower (Figure 4.4.8).

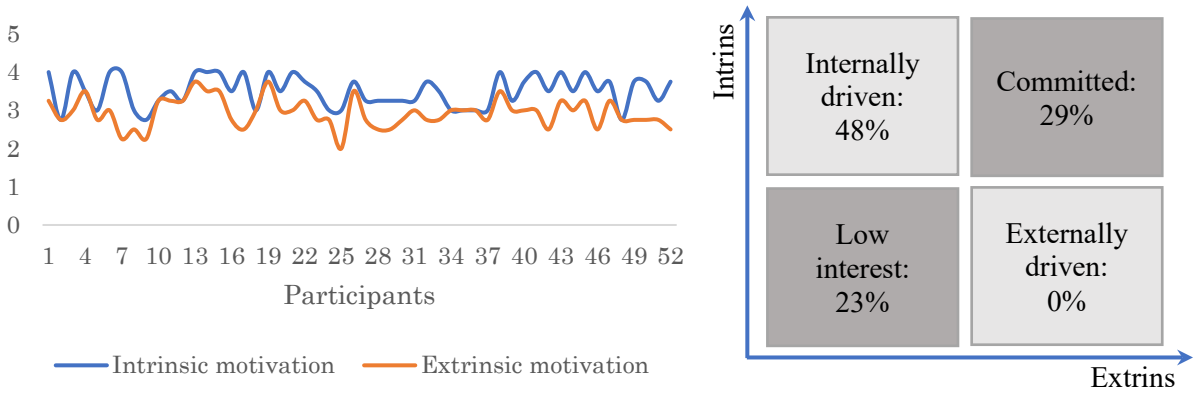


Source: JICA Project Team based the CA survey

Figure 4.4.8 Assessment of Self-Awareness

Work motivation

Work motivation intends to cover intrinsic and extrinsic motivation. Intrinsic motivation means that an individual is motivated from inner mind. In this regard, the JPT asked four questions relevant to the enthusiasm to work in the local public organization, and the overall score of intrinsic motivation was calculated as the average of questions for each participant. Extrinsic motivation means a motivation stimulated by external factors. Within this framework, it is evaluated the participants' satisfaction in the workplace, resources, colleagues, and monthly salary. Extrinsic motivation also measures the average of these satisfaction levels. Figure 4.4.9 compares intrinsic and extrinsic motivation for participants. It is seen that intrinsic motivation is higher than extrinsic motivation for all participants. Namely, the mean values are 3.5 for intrinsic motivation and 2.9 for extrinsic motivation, respectively (Figure 4.4.9).



Source: JICA Project Team based the CA survey

Figure 4.4.9 Comparison of Intrinsic/Extrinsic Motivation and Categorization for Participants

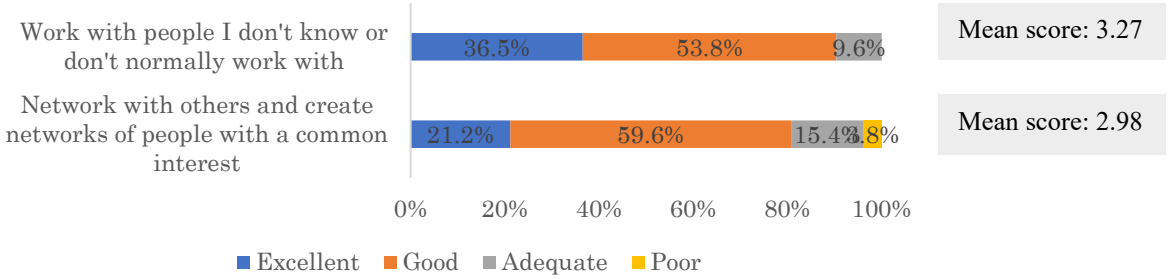
As for the relationship between intrinsic and extrinsic motivation, around half (48%) of participants were classified into the "Internally driven", which says they desire their work and get personal satisfaction. Especially, all participants says that they give their best to every assignment. Around a

fifth (23%) of participants are in the "Low interest" category, meaning is that they have low personal value and external incentives in their work. Of the respondents, 29% are classified as the "Committed" meaning both internally and externally driven to succeed. It should be noted that there was no one as classified "Externally driven".

As for factors defining extrinsic motivation, two out of four questions are evaluated relatively low. Almost half (48%) of participants dissatisfied with their monthly salary, and a fourth (25%) dissatisfied with the availability of resources and working condition. In contrast, 98% of the participants are satisfied with working for the public organization overall.

Social skill

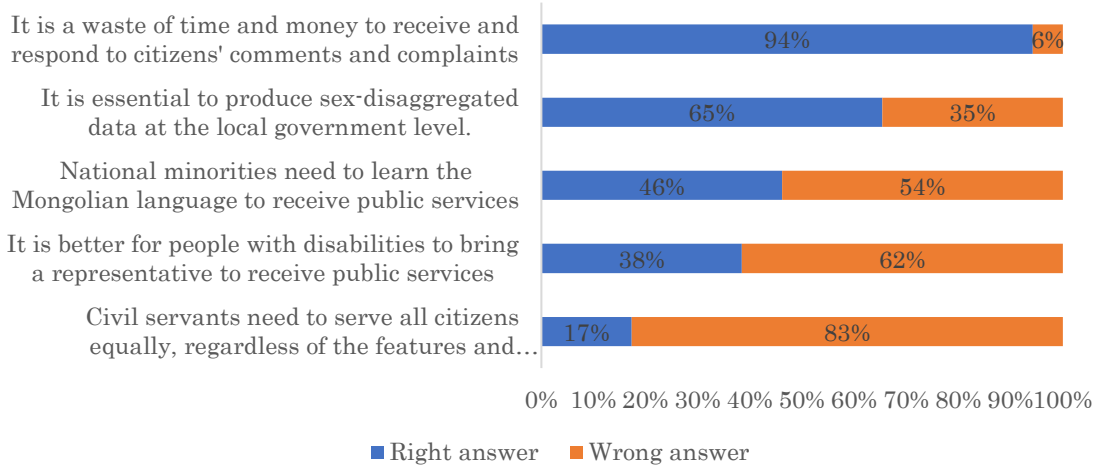
In the framework of social skill, the JPT focused on communication, networking, and empathy required to provide public services, such as awareness of human-centered principles, and the differing needs of under-represented groups. Most participants assessed their communication as good (mean assessment score is 3.27), while networking is considered slightly lower (mean assessment score is 2.98). Around a fourth (23.4%) of participants answered that their ability to network is not good enough (Figure 4.4.10).



Source: JICA Project Team based the capacity assessment survey

Figure 4.4.10 Assessment of Communication and Networking Capacity

Social skills required for the civil servants are evaluated through five questions based on the 'Citizen-centered civil services' manual. The results indicate that understanding of citizen participation in civil services is well among the participants. However, as shown in Figure 4.4.11, the participants' knowledge of human-centered principles and recognizing and respecting under-represented groups are relatively low. Namely, 46% of participants realize minorities' right, 38% know about the need of people with disabilities, and only 17% understand the features and specific needs of vulnerable groups.



Source: JICA Project Team based the CA survey

Figure 4.4.11 Answers to the Human-Centered Questions

Summary and conclusion

To sum up, the participants rate their self-awareness as good. However, comparing internal and external self-awareness, 38.5% were in the "Seekers" category, or their internal and external self-awareness is simultaneously lower than the mean assessment of the participants. The assessment result shows that the participants are very motivated from the inside. They are proud of working in the civil service and desire to perform well at the workplace. Therefore, it can be concluded that they have deep-rooted beliefs about their current jobs. Although intrinsic motivation is high among participants, there is less external motivation stimulated by external factors.

The social skills of participants are not good enough overall. Although their communication skill and awareness of providing citizen participation in civil service are reasonable, their networking skill and understanding of human-centered principles are needed to improve. Especially, their knowledge of recognizing and respecting under-represented groups is relatively low.

4) Overall assessment

Table 4.4.6 summarizes the result of the individual assessment.

Table 4.4.6 Overview of Individual Capacity Assessment Result

Dimension	Indicators	Current skill level (Based on participants' self-assessment)	
		Mean score[30]	Score category
Cognitive ability/technical capacity	Educational background	Na	Satisfactory
	Computer/IT literacy	83.5	Satisfactory
	Specialized knowledge/skills	80.75	Satisfactory
	Ability to access information	84.5	Needs improvement[31]
Non-cognitive ability/core capacity	Self-awareness (overall)	83.75	Satisfactory
	Internal	84.5	Satisfactory
	External	83.0	Satisfactory
	Intrinsic motivation	87.5	Satisfactory
	Extrinsic motivation	72.5	Needs improvement
	Social skills	68.7[32]	Needs improvement
	Communication and networking	78.2	Needs improvement
	Awareness of citizen participation in public services	94.0	Exceptional
	Awareness of human-centered principles and differing needs of under-represented groups	34.0	Not applicable
	Professional development	67.75	Needs improvement

Source: JICA Project Team based the CA survey

(5) Result and analysis of organizational capacity assessment

Organizational capacity assessment includes assessment of human resources, budget, service quality, and structure of local governmental organizations.

1) Human resources

As of 2019, 198,463 civil servants worked in 4,374 public organizations in Mongolia, which was 6.0% of the current population[33] and 15.6% of total workforce. This percentage is similar to the developed countries as a whole. Namely, the number of public sector employees in the total workforce is 13.3%

30 Mean assessment scores measured by 1-4 are converted to 100 points.
31 The majority of the respondents don't identify the reliability of the information. So, it needs to improve.
32 An average of its components
33 Civil Service Council (2020), 'Statistical Report for Civil Servants'

for USA, 20.2% for Canada, and 15.1% for Malaysia[34].

Compared to 2018, the number of civil servants increased by 2.5%. As for the classification, 1.8% worked in political positions, 19.4% worked in special service positions, 9.6% worked in general administration positions, and 69.2% worked in support service positions. Moreover, 60.9% of civil servants are women. In terms of civil service positions, the number of female civil servants in the public administration and support service is higher than that of men, while the number of women in public special and political positions is lower than that of men, according to Civil Service Council 2020.

As of 2019, a total of 97,374 civil servants worked in the local governments throughout the country, which was 5.5% of local populations-18 persons per civil servant on average; 67.5% of civil servants in local governments are women (Table 4.4.7).

Table 4.4.7 Number and of Civil Servants and Population per CS in Local Governments

#	Aimag	Total number of CS	Classification of positions			Population* (2019)	Number population per CS
			Manage	Executive	Support		
1	Arkhangai	4,999	389	3,455	1,155	94,994	19.0
2	Bayan-Ulgii	6,157	463	4,281	1,413	108,530	17.6
3	Bayankhongor	4,780	432	3,342	1,006	88,672	18.6
4	Bulgan	3,792	350	2,490	952	62,089	16.4
5	Govi-Altai	4,143	402	2,693	1,048	57,748	13.9
6	Govisumber	1,229	104	836	289	17,928	14.6
7	Darkhan-Uul	4,686	245	3,490	951	107,018	22.8
8	Dornogovi	4,087	331	2,755	1,001	71,014	17.4
9	Dornod	4,753	372	2,923	1,458	82,054	17.3
10	Dundgovi	3,122	300	2,113	709	47,104	15.1
11	Zavkhan	5,299	506	3,765	1,028	72,823	13.7
12	Orkhon	4,423	267	3,069	1,087	107,634	24.3
13	Uvurkhangai	5,195	486	3,586	1,123	116,732	22.5
14	Umnugovi	3,749	321	2,405	1,023	69,187	18.5
15	Sukhbaatar	3,645	356	2,392	897	63,182	17.3
16	Selenge	5,956	468	4,122	1,366	110,110	18.5
17	Tuv	5,537	469	3,567	1,501	94,250	17.0
18	Uvs	4,958	455	3,456	1,047	83,223	16.8
19	Khovd	5,532	442	3,791	1,299	89,712	16.2
20	Khuvsgul	6,648	478	4,686	1,484	135,095	20.3
21	Khentii	4,684	394	3,084	1,206	77,957	16.6
	Total	97,374	8,030	66,301	23,043	1,757,056	18.0

Source: Civil Service Council (2019). 'Statistical Report of Civil Service' and *NSO (www.1212.mn)

As for the organizations included in the capacity assessment survey, 273 civil servants are working in 10 public organizations in Bulgan Aimag, and there are 339 civil servants in 10 public organizations of Khuvsgul Aimag. Bulgan and Khuvsgul Aimags Governor's Offices have 78 and 76 civil servants, respectively (Table 4.4.8).

During the interview survey, almost all organizations mentioned that the number of staff is insufficient, or they operate fewer employees than the staffing limits of the organization. A total of 50 and 37 additional civil servants are required in Bulgan and Khuvgul, respectively. An organization needs 4-5 civil servants on average.

34 https://en.wikipedia.org/wiki/List_of_countries_by_public_sector_size

Table 4.4.8 Number of Staff and Number of Required Staff of the Surveyed Organizations

#	Public organizations	Bulgan		Khuvsgul	
		Number of staff	Number of required staff	Number of staff	Number of required staff
1	Citizen's Representative Khural of Aimag	12	0	12	0
2	Aimag Governor's Office	78	3	76	0
3	Administration of State Special Protected Areas	-	-	40	0
4	Financial monitoring and auditing department	7	3	9	5
5	Local property department	8	3	-	-
6	Education and culture department	20	5	24	4
7	Health department	30	3	41	3
8	Food and agricultural department	21	5	21	2
9	Nature, environment and tourism department	46	19	77	14
10	Family, child and youth development department	15	7	16	5
11	Land Affairs, Construction and Urban Development Department	36	2	23	4
	Total	**273**	**50**	**339**	**37**

Source: JICA Project Team based on the capacity assessment survey

A half of the organizations (11) answer that their staff's knowledge and skills are adequate to provide civil service properly, while the other half mention it is not acceptable. The most needed knowledge and skills in local public organizations are ranked in line with frequency as follows:

(a) Advanced professional development,

(b) Information and technology,

(c) Communication and attitude,

(d) Foreign language, and

(e) Policy and planning.

Employee turnover is significantly low for organizations. Only one organization answered that its employees had changed frequently, while the other 19 reported that their employees are sometimes/seldom changed. The turnovers occurred are mostly voluntary turnovers due to low salary or high workload, retirement, internal transfers, and maternal leave. Involuntary turnovers due to poor job performance, violation of workplace policies, and not passing the civil service exam occurred in the four organizations.

The employees of local government had hardly changed as a result of new local government reform in 2020. The employees had not changed for 13 organizations, while 15 employees replaced in seven organizations due to the new local government structure. It is 2.4% of the total employees of 20 organizations. The highest replaced number of employees was five for the Governor's Office of Khuvsgul Aimag. However, some people express the fears of losing their jobs.

There is no organization having an employee from the Central Government or any other central government agency. As for human capital, the main challenges faced in the organizations are categorized as a difficulty level (Table 4.4.9).

Table 4.4.9 Main Challenges in Human Capital

#	Challenges	Difficulty level

1	Low salary	High
2	High workload	High
3	Lack of continuous and advanced professional training and development	Middle
4	A shortage of human resource	Middle
5	Incompatible and old equipment	Low
6	Civil servants' social issues	Low
7	Low-skilled civil servants	Low

Source: JICA Project Team based on CA

2) Budget

Budget process and structure

Local government budget is that the total of budget approved by Aimag, the Capital City, Soum and district's Citizens' Representative Khural to be mobilized and executed by the respective general budget governors. The local government budget is validated thorough the processes shown in Figure 4.4.12).

Source: Budget Law & Rule of Preparing Local Government Budget
*CRKh stands for Citizen Representatives' Khural

Figure 4.4.12 Validation Process of Local Government Budget

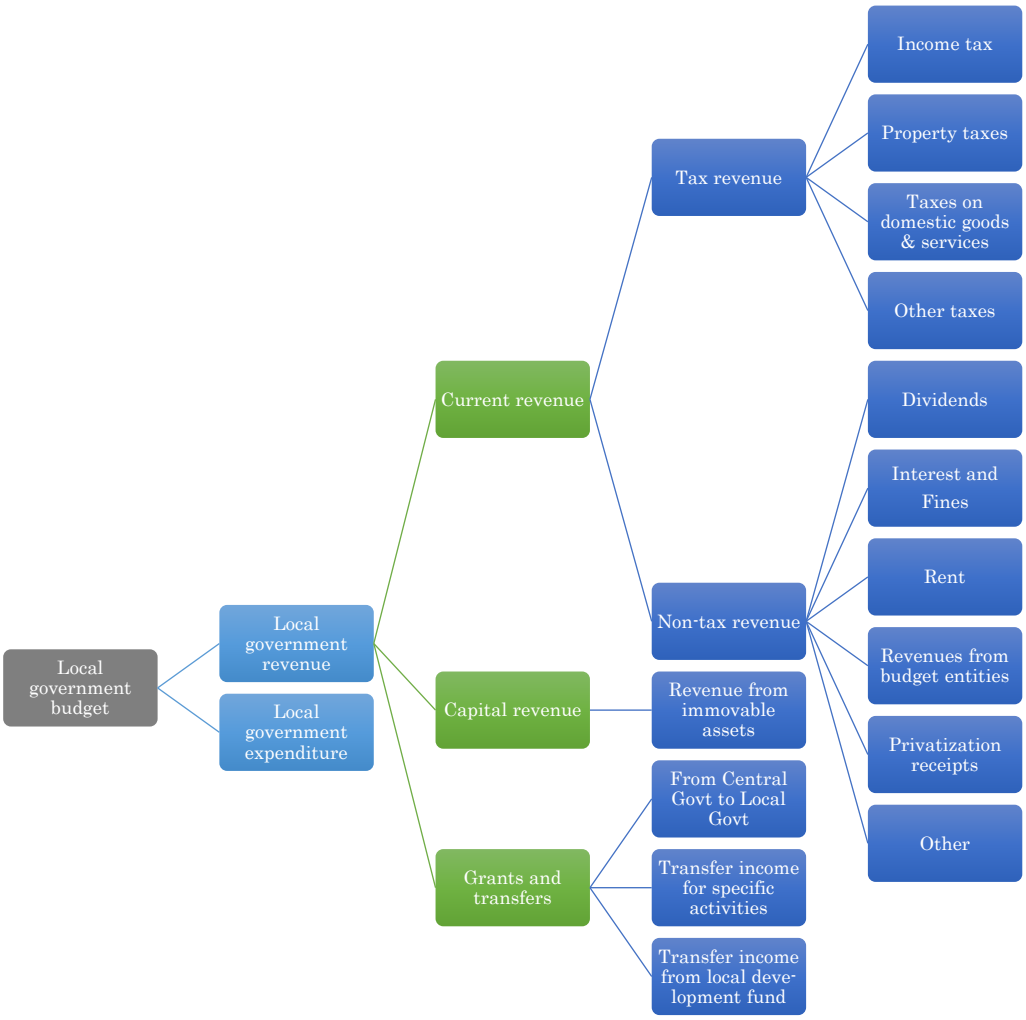
MOF delivers budget guidance to Aimag governors by the 5th July annually. Since receiving the budget guidance, Aimag governors convey the guidance to relevant budget governors within three working days.

Local governmental organizations submit their budget proposals to the Finance and Treasury Fund Department (FTFD) of Aimag Governor's Office under their fiscal limit provided by MOF by 25th July annually. The FTFD of Aimag Governor's Office reviews the budget proposals of local government organizations, consolidates them into the local government budget and submits to MOF by 15th August.

MOF reviews the local budget proposals, consolidates them into the state budget and submits them to the Parliament by 5th October. The Parliament discusses and validates the state budget, including the local budget. The amount of local budget validated by the Parliament is discussed by the Aimag Citizens Representative's Khural (assembly) to validate the budget amount of each local governmental organization.

The main challenge faced in the budget validation process is that the local government budget proposal is cut down by a certain percentage through reviewing by MOF, however, some expenses increased in the Council of Aimag. In the whole validation process, the initial budget proposals of organizations based on the actual needs is changed significantly.

As for the budget structure, the local government budget consists of base revenue and expenditure. Figure 4.4.13 demonstrates the income side of the local government budget. There are three types of revenue, current revenue, capital revenue, and grants and transfers. The current revenue consists of tax and non-tax revenue, capital revenue comprises immovable assets, and grants and transfers include the central government transfer to the local government, transfer for specific activities, and transfer from the Local Development Fund (LDF).

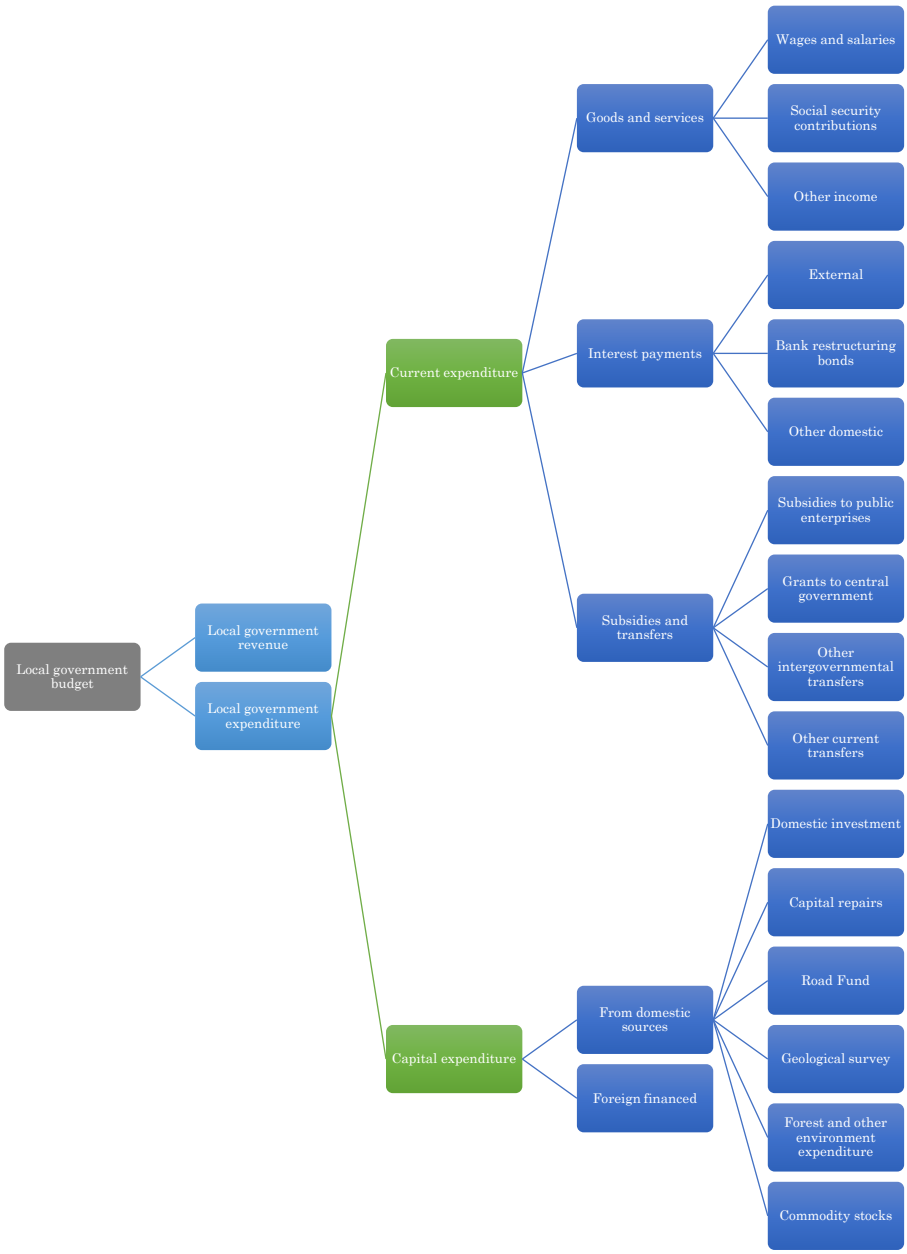


Source: JICA Project Team based on Budget Law

Figure 4.4.13 Income Sources of Local Government Budget

According to the Budget Law, the local government must lay out its budget revenue. Also, the local government distributes a certain per cent of some tax revenue to the central government, which are stated in Article 23.6 of the Budget law. For example, the local government allocates 40% of the land fee and 60% of corporate income tax to the central government budget.

Figure 4.4.14 shows the expenditure side of local government budget. There are two types of expenditure: current expenditure and capital expenditure.



Source: JICA Project Team based on Budget Law

Figure 4.4.14 Expenditure of Local Government Budget

Therefore, the local government organizations are financed from the local government budget, while the organizations belonging to the ministries and agencies are funded from the state government budget. The majority of organizations except for Aimag Governor's Office and Land Affair, Construction and Urban Development Department have no obligation to earn income. The expenditure allocations within an organization vary depending on its activities. It is common for organizations to have a large share of salaries and fuel expenses in the total cost.

Budget balance

Table 4.4.10 presents the Local Government Budget-2021 for 21 Aimags. It includes base income and expenditure, balance, and financial support of local governments. The base income of the local budget exceeds the base expenditure in the five Aimags of the mining regions. These Aimags will distribute excess revenues to the central government budget, and they do not get any financial support from the central government in 2021. In particular, Umnugovi Aimag will distribute the most revenue (51% of its revenue) to the central government budget. Other 16 Aimags need to get financial support from the

central government to finance their budget deficit. On average, these Aimags will receive 43% of their base expenditure from the central government.

Table 4.4.10 Local Government Budget 2021, (MNT million)

Aimags	Base Income	Base Expenditure		Main Balance			Financial Support from Central Govt
		Financed from the budget	Financed from the LDF	Balance	Remain in the Local Budget	Distribute to Central Govt	
	(1)	(2)	(3)	(4)=(2)-(1)	(5)	(6)	(7)
Arkhangai	9,390.5	20,454.2	540.0	-11,063.7	0.0	0.0	11,063.7
Bayan-Ulgii	11,156.4	16,952.2	358.6	-5,795.8	0.0	0.0	5,795.8
Bayankhongor	11,127.7	27,472.9	635.4	-16,345.3	0.0	0.0	16,345.3
Bulgan	23,266.0	24,843.7	534.3	-1,577.7	0.0	0.0	1,577.7
Govi-Altai	8,361.7	21,354.0	479.4	-12,992.3	0.0	0.0	12,992.3
Dornogovi	29,438.2	21,665.8	184.5	7,772.4	5,440.7	2,331.7	0.0
Dornod	21,886.0	17,177.6	500.0	4,708.4	3,295.9	1,412.5	0.0
Dundgovi	6,735.3	17,204.4	244.5	-10,469.1	0.0	0.0	10,469.1
Zavkhan	9,335.6	26,003.9	308.4	-16,668.3	0.0	0.0	16,668.3
Uvurkhangai	13,609.5	29,170.2	489.4	-15,560.6	0.0	0.0	15,560.6
Umnugovi	154,694.0	44,576.1	376.8	110,117.9	31,203.3	78,914.6	0.0
Sukhbaatar	10,013.3	18,226.7	494.8	-8,213.3	0.0	0.0	8,213.3
Selenge	22,827.5	26,937.4	482.5	-4,109.9	0.0	0.0	4,109.9
Tuv	23,007.0	30,790.5	538.7	-7,783.5	0.0	0.0	7,783.5
Uvs	10,801.0	24,200.2	443.0	-13,399.2	0.0	0.0	13,399.2
Khovd	12,488.5	21,002.8	523.9	-8,514.3	0.0	0.0	8,514.3
Khuvsgul	14,036.0	31,696.5	962.4	-17,660.5	0.0	0.0	17,660.5
Khentii	13,468.3	25,136.9	577.4	-11,668.6	0.0	0.0	11,668.6
Darkhan-Uul	25,402.4	16,226.7	1,025.1	9,175.7	6,423.0	2,752.7	0.0
Ulaanbaatar	974,006.4	325,513.8	205.9	648,492.6	227,859.7	420,632.9	0.0
Orkhon	58,323.8	18,107.2	301.1	40,216.6	12,675.1	27,541.5	0.0
Govisumber	5,809.6	6,890.2	61.2	-1,080.7	0.0	0.0	1,080.7
Total	1,469,184.7	811,604.0	10,267.3	657,580.7	286,897.6	533,586.0	162,902.9

Source: JICA Project Team based on General Government Budget 2021

According to the survey, the approved budget is insufficient for the public organizations. Eleven organizations have an inadequate budget, six organizations have barely adequate budget, and three organizations have a sufficient budget. The reasons for budget insufficiency are (i) the budget proposed by the organization is deducted during the review and approval process and (ii) the budget is approved based on the previous year budget instead of reflecting factual needs of the organizations.

In particular, the transportation and fuel expenditure are high for the local government organizations, which depends on rural population, size of territory, remoteness, infrastructure development, geographical and climatic features and market price of fuel in that region. These are not properly taken into account in budget planning.

As for the organizations, except for the Aimag Governor's Office, they have no budget expenditure not indicating the use, or the use of all expenditure is clearly specified by the higher authority. All spending is allocated to certain activities according to the purposes. The spending can be transferred from one to another activity with the permission of a higher authority. However, the organizations are reluctant to transfer the expenditures between the activities because this process requires time and effort.

Citizens' participation in the local government budget

Citizens participate in the decision-making process of local budget by voting on the planning of investment priorities funded by the Local Development Fund (LDF) and monitoring the disbursements of the LDF. The LDF is a citizen participatory tool for financing investment in a particular Aimag, the Capital City, Soum and districts. It enables the local citizens to vote for their proposals by participating in the decision-making process of investment projects/programs funded by the national government LDF.

The fund allocations are made to all 21 Aimags, districts and Ulaanbaatar by annually. The fund investments are commonly made in the area of local infrastructure, restoration and renovation of public properties, reservation of pastureland/water source and local business[35].

3) Service quality

According to the Governor's Action Plans for 2020-2024, both Aimags focus on the implementation of E-Governance, and strengthening the professional, ethical and non-bureaucratic public service to improve civil service quality. The relevant objectives in the Governor's Action Plan of two Aimags are as follows.

E-Governance:

- Effectively implement E-governance development policy at the local level, create conditions for efficient, responsible and accessible delivery of public services, and save citizens' time and money; and
- Increase the transparency of information on government activities and ensure citizen participation.

Professional, ethical and non-bureaucratic public service:

- Conduct a comprehensive analysis of functions in public administration organizations, streamline functions, and begin work to eliminate duplication of functions;
- Strengthen the partnership between government and civil society, increase citizen participation in decision-making, and pursue sound policies that respect their interests;
- Citizens' requests and complaints to government organizations will be promptly resolved, and the implementation of orders, decisions, and actions will be monitored electronically; and
- A new Public Service Center will be established under the Aimag Governor's Office for Bulgan Aimag.

From the demand side, in 2019, the Cabinet Secretariat of Government of Mongolia (CSGM) conducted the Citizen Satisfaction Survey on Public Policies and Service throughout the country. According to the survey result, citizens of Bulgan and Khuvsgul Aimags evaluated the service quality of local government organizations as good (Table 4.4.11).

Table 4.4.11 Citizen Satisfaction on Civil Service Quality

	Bulgan	Khuvsgul
Civil service quality	3.36	3.45
Accessibility of civil service	3.45	3.44
Communication and attitude of civil servants	3.34	3.45

Source: Citizen Satisfaction Survey on Public Policies and Service-2019, GSGM

In summary, it can be concluded that civil service quality is relatively good in both Aimag based on the findings of the survey and other additional sources. The main challenges faced in delivering civil service are:

- Difficulties concerning E-governance in terms of knowledge and technology;
- Small size of the workplace;
- Unavailability and incomparability of equipment, and
- Poor institutional coordination and cooperation.

4) Citizens' participation in the planning activities or decision making

The official activity ensuring citizens' participation is to get feedback on the draft action plan of Aimag

35 http://tusuv-oronnutag.mof.gov.mn/?p=117

governor. It is conducted through the website of Governor's Office, phone call and in person. Generally, the majority of organizations involved (16) in the survey organize the citizens meeting 1-2 times in a year under the framework of their main directions. In addition, the Governor's Office has collected citizens' feedback on the policy and programs through the website. The following activities are being carried out to ensure the participation of citizens and to reach out to citizens:

- Land and urban development activities,
- Activities directed to family and children,
- Consultations for herders and farmers,
- Soft loans for SMEs, and
- Doors open day.

Doors open day is held once or twice a year, in which public organizations introduce their activities to citizens, receive citizens' comments and complaints, provide opportunities for citizens to meet with the organization's management, and provide one-stop public services.

5) Needs of under-represented groups

The Labor and Welfare Service Department and Social Policy Development Department of the Aimag Governor's Office are responsible for issues of under-represented groups such as people with disability, people living under the minimum subsistence level, and single-headed households. These organizations of two Aimags regularly study the needs of under-represents groups and provide information to relevant organizations. Some organizations involved in the survey cooperate with these departments under their main directions as follows:

- The Education and Culture Department is responsible for education issues of disadvantaged children such as out-of-school children and children with disabilities;
- The Health Department is responsible for health issues and health education of under-represented groups; and
- The Family, Child and Youth Development Department is responsible for the social problems of under-represented groups.

6) Participatory system and information transparency

Citizens' petitions, complaints, and suggestions are received in writing and electronically. A half of organizations receive citizens' complaints through more than two tools such as website and handwriting. Only one organization in each Aimag did not receive citizens' complaints since the main activities are not directed to the citizens. In addition to these permanent tools, they collect citizens satisfaction and feedbacks through surveys and doors open day. All organizations provide feedback to the citizens' complaints through official letters and phone calls.

The Law of Criteria on Transparency (2009) and the Law on Information Transparency and Right to Information (2011) were adopted to ensure and increase the transparency, openness, accountability and ethics of government organizations, and strengthen mutual trust between the government and citizens. In this regard, all state and local government agencies have to disclose information in a timely and accessibly manner. Independent Research Institute of Mongolia (IRIM) has been assessing the transparency of government websites since 2010 to identify information availability and accessibility of the governmental organizations. It evaluates the websites under three domains, including compatibility of technology, contents of disclosed information, and participation and engagement.

According to the digital transparency index, the average digital transparency score of the local government organizations of 21 Aimags (0.576) is higher than the national average (0.537). In 2020, the local government of Darkhan-Uul was the highest ranked among 86 state and local government organizations in Mongolia. The digital transparency of seven Aimags was at 'satisfactory' level, while six Aimags were classified in the 'unsatisfactory' level. Bulgan and Khuvsgul are at the moderate level. The critical weaknesses of the websites of local government organizations are (i) no foreign language

option, (ii) not possible to download any helpful information or open data, and (iii) no direct communication system.

The organizations involved in the survey mainly disclose their information through websites and Facebook pages. Some organizations have been providing specific service use brochures, handbooks, SMS, and TV to disclose information.

7) Structure of local government

According to the Law on Administrative and Territorial Units of Mongolia and their Governance, the governing system of the administrative and territorial units in local area consists of (i) Citizen Representatives' Khural of Aimag and Soum, (ii) public meetings of Bagh, (iii) the presidiums of (i) and (ii), and (iv) Governors of Aimag, Soums, and Baghs.

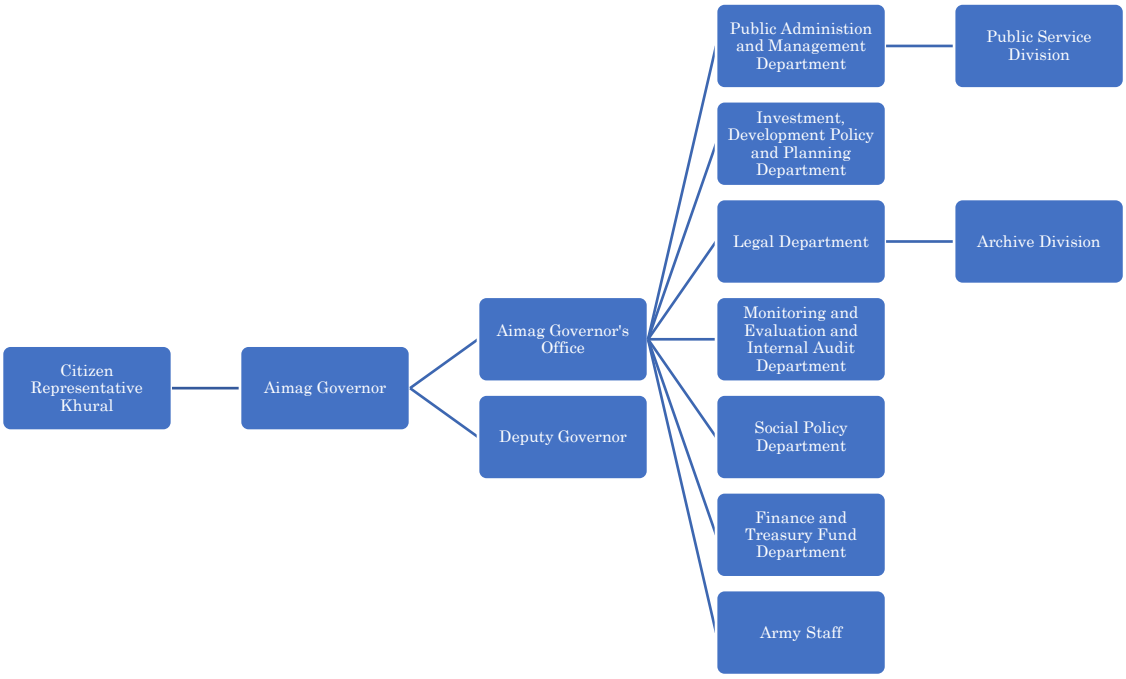
Citizen Representatives' Khural of Aimag and Soum have the right to discuss and resolve any economic, social and organizational matters of the territory independently other than those matters legally defined within the powers of the President, State Great Khural, Government, Ministry, and Agency, Khurals of higher level and other competent state authorities and officials. Members of Aimag and Soum Citizens' Representatives' Khural shall be elected for a term of four years, and any representative shall be a permanent resident of the respective administrative and territorial units.

Governor of Aimag, Soum, Bagh is a state representative responsible for implementing state authority in his/her respective administrative unit. Governor of Aimag shall be appointed by the Prime Minister of Mongolia, Governor of Soum by the Governor of Aimag, and Governor of Bagh shall be appointed by the Governor of Soum for four years mandate.

As stated in Article 31 of the law, the Governor's Office of Aimag and Soum shall have the Secretariat, which shall perform the following functions:

- To initiate strategic planning, program and project on economic and social development for the respective territory; to manage, monitor, evaluate and provide policy guidance to that;
- For Governor in exercising its powers, to assist and coordinate organizational, legal and business matters as well departments and units of the Secretariat and support in providing leadership to local administrations;
- To supply Citizen Representatives' Khural, Governor and lower-level administrative organizations with requisite information;
- To deliver, administer implementation, monitor and oversee implementation of legislation, decisions of a Government, Khural and Governor to the relevant organizations and officials;
- To maintain documents and correspondence of a Secretariat and administer addressing petitions, proposals, and complaints from citizen;
- Within the legislative framework, to organize training, retraining and professional development for administrative staff, supplement their working environment and social security;
- To ensure regular operation of the Khural, and administer material needs thereof;
- To provide the information required by the tax administration in connection with the implementation of its functions specified in the law, and
- To organize tax collection and reporting activities specified in the Personal Income Tax Law.

Figure 4.4.15 illustrates the organizational structure of local government. Table 4.4.12 shows functions of each department.



Source: JICA Project Team

Figure 4.4.15 Organizational Structure of Local Government

Table 4.4.12 Functions of Departments of Local Government

#	Departments	Functions
1	Public Administration and Management Department	- Provide policy advice and support to improve local governance through the implementation of public administration leadership at the Aimag level - Plan and organize the internal work of the office and the policy of the local administration personnel to organize their training, retraining and selection for the civil service - Receive and resolve citizens' petitions and complaints, and evaluate the implementation of legislation, government decisions and the National Program - Responsible for the Aimag's foreign relations
2	Investment, Development Policy and Planning Department	- Identify long-term and medium-term economic development perspectives, develop and plan long-term and medium-term policies in accordance with the National Development Policy, Government Action Program, and Aimag Governor's Action Plan - Increase investment efficiency, develop real industries, and increase the capacity of entrepreneurs.
3	Social Policy Development	- Plan and develop Aimag social development strategy and policy - Implement functions such as developing policies, programs, projects, providing advice and support, organizing and coordinating implementation in the fields of education, culture, science, health, sports, labor, social welfare, protection and population development
4	Finance and Treasury Fund Department	- Carry out budget planning, reporting and spending activities - Develop and organize the implementation of economic development policy to increase Aimag budget revenues and ensure the stability of budget revenues. - Plan, allocate and approve current expenditures for local and special-purpose transfers - Implement the approved budget and organize the economic analysis of budget and financial activities.

		- Implement and promote laws and government decisions, and provide professional and methodological guidance to soums and local organizations;
5	Legal Department	- Develop, implement and promote the decision of the Aimag Governor following the legislation; - Provide legal advice and other support in the implementation of the Government and Aimag Governor's policies;
6	Monitoring-Evaluation and Internal Audit Department	- Monitor and evaluate the implementation of Mongolian laws and policies, the activities of departments, agencies and affiliated organizations - Provide information and policy recommendations to support the improvement of public services

Source: The websites of Aimag Governor's Office of Bulgan, Khuvsgul, and Darkhan-Uul

8) Stakeholder analysis of Aimag Governor and Governor's office

The Aimag Governor is responsible for reporting to the Central Government and the Citizen Representatives' Khural of Aimag while cooperating with the central state administrative bodies. Table 4.4.13 describes the multiple stakeholders.

Table 4.4.13 Stakeholder Analysis of Aimag Governor's Office

Stakeholder name	Participation type	Main relationship	Stakeholder impact	
			Priority	Direct/Indirect Involvement
Government of Mongolia	Controlled	- Submit annual activity report to the GoM - Receive advice and support from the GoM in formulating policies - Submit draft proposals and decisions on the economic and social development of Aimag - Participate in the Cabinet meeting to discuss economic and social development issues of its territory and express their views and positions.	High	Direct
Citizen Representatives' Khural of Aimag	Controlled	- Organize the implementation of resolutions and decisions issued by the Khural and report the results - Report the results of activities in the Governor Action Plan	High	Direct
Central State Administrative Bodies (Implementing and Regulatory Agencies)	Partner	- Cooperate with the state central administrative body and coordinate its activities in organizing the implementation of state policy and legislation, sectoral and inter-sectoral policies.	Med	Indirect
Governor Office of Soum	Control	- Direct the activities of soum governors	Low	Direct
Affiliated organizations	Control	- Monitor the activities and provide management and methodical guidance	Low	Direct
Governors of other Aimags	Partner	- Cooperate and exchange experiences	Med	
Donor organizations	Partner	- Jointly implement project and programs	Med	Indirect
Private sector	Partner	- Jointly implement project and programs, provide the information	Low	Indirect

Non-governmental organizations	Monitor/ Partner	- Jointly implement public activities	Low	Indirect

Source: Law on Administrative and Territorial Units of Mongolia and Their Governance, and CA Survey

9) Organizational governance and planning capacity

Specialists of the Aimag Governor's Office can often formulate their development plan or urban master plan by themselves in both Aimags. Otherwise, depending on their budget sufficiency, they tend to hire external/professional team for the formulation. There are examples where some policy documents have been prepared by a professional body when the budget approved. For instance, in Khuvsgul, the tourism master plan was developed by the Mongolian Tourism Association. Also, the Mercy Corps, an international NGO, developed the Development Plans for seven Soums. As for Bulgan, the Aimag Comprehensive Development Plan for 2010-2020 was created by an external consulting team of scientist.

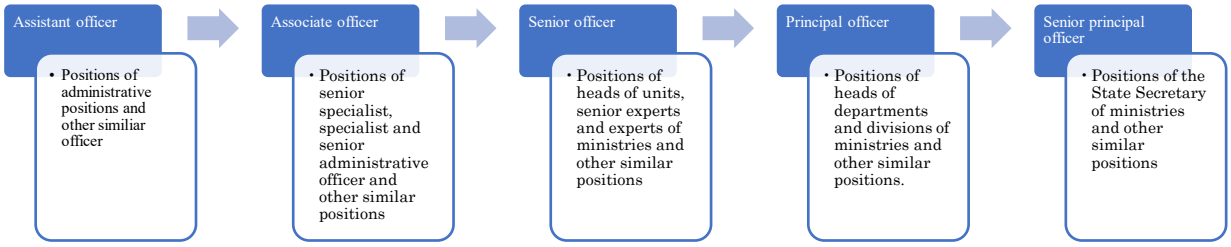
There is a great need to cooperate with professional institutions and get support from donor organizations for formulating development plans to improve the quality of planning documents and their skills. The main challenges for preparing the development plan and documents are:

- Knowledge and skills on research and analysis are low for the current specialists;
- Specialized experts in various fields are minimal, and
- Expert specialized in long-term comprehensive planning are not adequate.

Ethics issues are reflected in the organization's internal rule and regulation and the Law of Civil Service. The Aimag Governor's Office has an ethics committee, and it shall meet in the event of a breach of ethics. There are very few cases of this kind for both Aimags.

According to the Law on Civil Service, the civil service positions shall be divided into four categories: (i) political appointment positions, (ii) public administration positions, (iii) special state service positions, and (iv) public service positions, from which public administration position and special state service position are regarded as the core civil service positions. Civil service positions shall be divided into managerial, executive and support types.

Figure 4.4.16 shows the career path of public administration positions. Public administration positions are classified as senior principal officer, principal officer, senior officer, associate officer and assistant officer, and each has ranks of first, second, third and fourth levels. When assigning ranks, the duration of employment in the civil service and the given position, performance outcomes and qualifications shall be considered duly.



Source: Law on Civil Service (From December 2017, and the last amendment made in January 2021.)

Figure 4.4.16 Career Path of Public Administration Positions

As for selection and recruitment for core civil service positions, in case of a vacancy for a managerial position in the core civil service, a candidate shall be selected from civil servants working in government organizations according to career-based promotion of reserve candidates for managerial positions. In case of a vacancy for executive and support positions in the core civil service, a candidate shall be selected from civil servants working in the same organization or civil servants working in other related government organizations to fill the vacant positions. If it cannot be filled as per, a candidate shall be

selected from reserve candidates for the civil service. If it again cannot be filled, an open selection shall be announced.

Salaries of civil servants in public administration positions consist of the base salary of the job position and adjustments made for the duration of employment in the civil service, ranks, grades, PhD degree and additional allowances provided by laws.

10) Accessibility of training

The internal and external training is conducted in local governmental organizations. The organizations conduct internal training based on their own resources, whereas external training is mainly organized by the central government organizations and international donor organizations. Although the availability and accessibility of basic training like introducing new law and regulation, Mongolia script, working in the ERP system, etc., the retraining and specialization training for local civil servants are limited for the civil servants of regional governmental organizations.

11) Summary and conclusion

It can be concluded that the availability of the human resource in the local government organization is adequate in terms of quantity. There is an average of 18 people per civil servant at the local level, which is in line with international standards. In contrast, it can be said that the human capital quality is barely adequate in the local government organizations. A half of the organizations assess that their staff's knowledge and skills need to be improved. The main challenge faced in human resources of local public organizations is low salary.

Budget insufficiency is common for public organizations because of inadequate budget planning and deduction in the approval process. Service quality, including information disclosure and ensuring citizen participation, is relatively good. However, there is a great need to improve the quality of policy and planning documents in cooperation with professional institutions.

(6) **Law/institution**

1) Policies and measures formulated by local government initiatives

Local governments develop the following policy documents and measures, but the contents of these documents differ from Aimag to Aimag: Five-year guidelines for Aimag development, Governor's four-year action plan, Aimag annual development plan, Sector master plan and program[36], Local plans of national program[37], Internal regulations and rules, and Governor's decrees. These plans and programs, however, are not totally integrated and not structured with respect to multiple sectors.

2) Transparency/accountability/corruption in the public sector

The websites of Aimag Governor's Office have a menu for transparency. However, the availability and disclosure of information are at different levels. Compared to Bulgan, the openness in Khuvsgul Governor's Office is significantly high (Table 4.4.14).

Table 4.4.14 Transparency in the Local Government

Disclosed information	**Transparency level (Good, Fair, Poor*)**	
	Bulgan	**Khuvsgul**
Decrees and Decisions	Poor	Good
Budget information	Good	Good
Procurement	Good	Good
Human resource information	Good	Good

36 Khuvsgul Aimag formulated the Tourism master plan, Tourism management plan, and Long-life education program.
37 The local government organizations developed the local implementation plans for the government programs. Recently, they developed the local plan for the National Youth Development Program.

Activities	Poor	Fair

Source: Based on the websites of Aimag Governor's Office of Bulgan and Selenge
*Good=disclosed all available information; Fair=disclosed some of the available formation; Poor=information not disclosed

At the policy level, the following anti-corruption objectives are reflected in the Governor's Action Plan of Bulgan and Khuvsgul Aimag.

As for Bulgan,

> *"Multilateral measures will be taken to curb and prevent corruption at all levels of government organizations, and the local government will enable citizens to exchange this type of information".*

As for Khuvsgul,

- *"Conflict of interest prevention and education activities will be disseminated to the public, and an attitude will be developed to be free from corruption and official crimes".*
- *"Eliminate corruption at all levels of government and improve the exchange of information between the local government agencies and citizens".*

At the organizational level, most organizations of two Aimags developed their anti-corruption plan under the National Anti-Corruption Program. In this regard, the following activities are organized.

- Anti-corruption training for all civil servants
- The Legal Department of the Governor's Office monitors the decrees of affiliated organizations and formulate the list of illegal acts.
- Each organization formulates a brief report in the anti-corruption activities

3) Legal governance, legal system for decentralization

There is no direct document for decentralization for both Aimags. However, the aspects connected with decentralization are reflected in the Governor's Action Plan of two Aimags as shown in Table 4.4.15.

Table 4.4.15 Objectives Relevant to Decentralization

Objectives	Bulgan	Khuvsgul
Effectively implement E-governance at the local level, and create conditions for efficient, responsible and accessible delivery of public services, and save citizens' time and money.	X	X
Conduct a comprehensive analysis of functions in public administration organizations, streamline functions, and begin work to eliminate duplication functions.	X	X
A new Public Service Center will be established under the Aimag Governor's Office	X	
Effectively organize the activities of Public Service Center and increase the access to services		X
Support local self-governing bodies, improve decision-making activities and organizational structure, and improve quality and efficiency.		X
Improve Soum and bagh activities, and create opportunities for independent development		X

Source: Governor's Action Plan for 2021-2024 of Bulgan and Khuvsgul Aimag

4) Securing appropriate governance

The Law on Development Policy, Planning, and Administration ensures the sustainability and continuity of development policy and planning. Therefore, the suitable governance measures under the development policy and planning are secure within the local government. Although the management team is replaced every four years, it is possible to keep the main principle of governance. The reason is that experienced civil servants in local government organizations formulate the Governor's Action Plans in connection with long-term development policies.

"Sustainability of governance depends on mid-level civil servants and heads of affiliated organizations. There is an opportunity to continue the policy during the next governance if they make the new governor understand the continuity of their organization's policies and governance".

The local government organizations implement all national programs and resolutions of government in the local areas. In contrast, there is no opposite case.

4.4.3 Suggestions for capacity development to support regional development

(1) Vitalization of socio-economy in the regions

1) Formulating population policy and development plan

According to the capacity assessment survey on organizational planning capacity, local government organizations have capacity to formulate their development plans or urban master plans including population policy by themselves in both of the targeted Aimags. However, in reality, a large part of policy or plan formulation has been supported by NDA or other public organizations. Lack of comprehensive policy making capacity in most Aimags might be due to the staff balance inclined to many staff members specialized in narrow expertise. It might be necessary to improve the staff composition by increasing generalists who can manage and organize multiple sectors.

2) Promotion of industry development and implementing projects

In view of small size of population and economy in each Aimag, an effective development program such as the IRDPs proposed by the NCDP should be formulated and implemented for a region consisting of a few Aimags by mustering their resources including human resources. Also, the Central Government responsible for the development of the entire territory of Mongolia needs to redistribute national assets and resources to different regions in a well-balanced manner. Moreover, participation of multiple Aimags in formulating and implementing programs and projects would facilitate coordination and horizontal integration of development budget, contributing to reduction of disparities between Aimags and regions.

3) Provision of social services

Mongolian socio-economy should realize a shift in development paradigm from strongly centralized model to more decentralized model as advocated by the NCDP. In line with this concept, local government officials are required to work proactively, identifying local issues, formulating countermeasures, and implementing and evaluating them, instead of just providing social services. According to the survey, however, most participants were not able to show clear recognition of inclusive social service provision, which may be cultivated through communications with local residents in formulating development plans and projects. Social welfare services, for instance, would be made more effective by employment related support measures to be formulated by development planning involving also the private sector.

(2) Relationship between the Central Government and local governments

Among all Aimags, in 2021 only five Aimags have a budget surplus to be distributed to the Central Government, while other 16 Aimags rely on redistribution from the Central Government. The redistribution of enormous accumulation of wealth in Ulaanbaatar has been done by the Central Government initiative. In terms of human resources, most local governments do not rely on the Central Government. Also, there are many permanent civil servants in local governments not influenced by the government reform. Therefore, this would allow consistent development by region.

The survey has confirmed the local government initiatives to make an effort for citizens' participation in their development such as organizing LDF, etc. One of the important tasks of local governments is to ensure the welfare of the citizens by properly handling collaborative services affecting lives of the citizens in the region. In this aspect, the division of roles between the Central Government and local governments would be essential.

The basic idea is that a local government closest to the inhabitants should have authority and discretion and is responsible for local governance and administrative services. The role of the local government is important in working closely with local communities, residents' associations and neighborhood associations. However, in order to properly carry out these tasks, human resource development, system design, human resource allocation, decentralized organizations, etc. in local governments are indispensable, and it is also necessary to transfer some specific financial resources from the Central Government to local governments.

(3) Reducing disparities between regions

1) Budget balance by Aimag and region

As shown in Table 4.4.16, budget balance between Aimags is inconsistent and widely varied by Aimag, but budget balance is realized by region according to the new regional division proposed by the NCDP. While solving the disparities between Aimags and each Aimag becoming independent from the Central Government in terms of fiscal, administration and social capital are difficult, the goal of achieving self-reliant development may be attained more easily by region. Reallocation of national assets and resources may be more effectively realized between regions.

Table 4.4.16 Budget Balance by Aimag and Region in Mongolia

Aimag	Revenue	Expenditure	Profit/Loss	Population
Western Region				
Bayan-Ulgii	77,785.90	77,913.60	-127.7	94,994
Uvs	80,456.20	79,797.10	659.1	69,187
Khovd	70,832.50	68,989.70	1,842.80	77,957
sub-total	229,074.60	226,700.40	2,374.20	242,138
Khangai Region				
Arkhangai	68702.8	67550.4	1152.4	94,994
Bulgan	59,919.60	60,254.30	-334.7	88,672
Darkhan-Uul	77,727.30	72,723.60	5,003.70	62,089
Orkhon	95,978.70	96,039.90	-61.2	135,095
Khuvsgul	85,736.20	83,624.50	2,111.70	89,712
Selenge	44,843.00	44,241.20	601.8	107,634
Zavkhan	66,287.30	66,526.20	-238.9	116,732
sub-total	499,194.90	490,960.10	8,234.80	694,928
Altai Region				
Bayankhongor	76,612.40	69,878.80	6,733.60	108,530
Govi-Altai	59,639.60	61,701.20	-2,061.60	47,104
Uvurkhangai	108,864.10	99,513.60	9,350.50	83,223
sub-total	245,116.10	231,093.60	14,022.50	238,857
Southern Region				
Govisumber	82,848.00	79,916.10	2,931.90	57,748
Dornogovi	16,527.20	16,530.90	-3.7	82,054
Dundgovi	66,696.20	65,818.70	877.5	71,014
Umnugovi	68,690.30	69,022.30	-332	94,250
sub-total	234,761.70	231,288.00	3,473.70	305,066
Eastern Region				
Dornod	63,934.00	63,962.50	-28.5	107,018
Sukhbaatar	53,995.60	53,175.10	820.5	110,110
Khentii	65,947.80	64,532.10	1,415.70	17,928
sub-total	183,877.40	181,669.70	2,207.70	235,056

				Capital Region
Ulaanbaatar	1,381,386.40	1,353,132.60	28,253.80	1,539,810
Tuv	169,433.20	194,247.40	-24,814.20	63,182
sub-total	1,550,819.60	1,547,380.00	3,439.60	1,602,992
Total	2,942,844.30	2,909,091.80	33,752.50	3,319,037

Source: JICA Project Team based on NSO, 2019

2) Population distribution

As shown in Chapter 5, NSO has projected the population growth rate during 2018-2030 by Aimag. The projection implies highly varied population growth rates by Aimag. For instance, Tuv has the lowest annual average population growth of - 0.2% and Govisumber is the highest at 1.9%. The population distribution will aggravate in the future. The population growth would be strongly influenced by the situation of job opportunities and economy growth in any Aimag, and local governments should be made responsible in vitalizing socio-economy to generate sustainable job opportunities in order to achieve the well-balanced population distribution.

4.4.4 Recommendation for capacity development of Aimag administrations

The shift from the socialistic development paradigm to the capitalistic one has been successfully undertaken by the Central Government initiative to realize high economic growth. Mongolia has started another paradigm shift to realize sustainable development in line with the UN SDGs initiative. It is high time for Mongolia to pursue regional development for more balanced socio-economic and spatial development. This will help to realize robust and resilient Mongolia to compete successfully in the global society.

Most essential in pursuing regional development is to strengthen local governments. Specifically, Aimag administrations should be strengthened with respect to fiscal and human resources, and this may be realized most effectively by introducing a regional governance system in steps under the strong Central Government initiative. The integrated regional development programs (IRDPs) formulated by region according to the new regional division and the regional development councils (RDCs) to be established by region and institutionalized in steps will be instrumental for regional development in Mongolia.

Specific needs for capacity development of Aimag administrations have been identified as shown in Table 4.4.17 by individual, organizational and institutional level.

Table 4.4.17 Capacity Development Needs for Regional Development by Measure

	Item	Measure to be implemented by local government	Needs of CD in local government		
			Individual	Organization	Law/Institution
1	Region-wise approach including IRDP promotion for reginal development with RDC	Stepwise promotion of IRDP (1): Review and modify the components	✔		
		Stepwise promotion of IRDP (2): Implementation with establishment of RDC	✔	✔	✔
		Horizontal cooperation between regions within newly defined regional division	✔	✔	
		Self-reliant region utilizing indigenous resources and resilient economy linking with global economy	✔	✔	✔
2	Strengthening regional authority in stages	Evolution of laws and institutions related to regional development			✔
		Reducing the gap (fiscal budget, huma resource and industry) between regions	✔	✔	✔
		Stepwise reform of the taxation system		✔	✔

		Transparent and responsible budget/investment management for specific region	✔	✔	✔
		Conducting effective measures to control the spread of COVID-19 or other similar crises		✔	✔
		Utilizing indigenous energy resource such as renewable energy	✔	✔	
3	Promotion of DX/ICT for horizontal cooperation between Aimags	ICT network development among several Aimags or within the region	✔	✔	
		Establishment of LIP (Local Information Platform)	✔	✔	
		Establishment of ICT industrial estate in the center of the region	✔	✔	✔
		Establishment of data sharing system and API (Application Programming Interface)	✔	✔	
4	Community-based development with participatory approach	Community infrastructure and green development planning work	✔		✔
		Community infrastructure and green development implementation	✔	✔	
		Environmental monitoring by local government/residents	✔	✔	
		Establishment of frame for local people to unitize the indigenous resources for	✔	✔	
5	Promotion of decentralization	Development of related laws to promote decentralization		✔	✔
		Construction of localized infrastructure initiated by local government	✔	✔	✔
		Operation and maintenance of localized infrastructure initiated by local government	✔	✔	
		Local initiative frame/institution such as PPP promotion initiated by local government	✔	✔	✔
		Utilizing indigenous energy resource such as renewable energy or so	✔	✔	

Source: JICA Project Team