



**Ministry of
Construction and
Urban Development
(MCUD)**

**National Development
Agency
(NDA)**



**Japan International
Cooperation
Agency
(JICA)**

**The Project for Formulation of
National Comprehensive Development Plan**

**Final Report
Supplemental Report**

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OUTLINE

Chapter 1	Introduction	1-1
1.1	Amendment to the R/D for the Extension Period of the NCDP Project.....	1-1
1.2	Overview of the Extension Period.....	1-1
Chapter 2	Advisory for the HSP and the RDP Preparation.....	2-1
2.1	Coordination with MCUD/CDC and NDA	2-1
2.2	Correspondence with MCUD/CDC with Additional Data and Information	2-2
2.3	Correspondence with NDA with Additional Data and Information	2-3
2.4	Final Coordination Meeting	2-3
Chapter 3	Monitoring and Evaluation.....	3-1
3.1	Legal Requirements and Practice in Mongolia.....	3-1
3.1.1	Scope of monitoring and evaluation	3-1
3.1.2	Overall monitoring and evaluation system with division of responsibilities	3-1
3.1.3	Legal requirements for monitoring and evaluation of SDV2030.....	3-2
3.1.4	Monitoring and evaluation of other policies and plans	3-4
3.1.5	Database for monitoring and evaluation	3-8
3.2	Case on National Comprehensive Plans in Japan.....	3-9
3.3	Recommendations	3-12
Chapter 4	Reflection of NCDP Proposals in Development Policy Documents of Mongolian Government.....	4-1
4.1	Vision2050 with the HSP and the RDP	4-1
4.2	Correspondence with Government Action Plan	4-8
4.3	Correspondence between NCDP Anchor Projects and Development Policy Plans of Mongolian Government.....	4-9
4.4	Mongolia’s Medium-term Development Target Programs.....	4-11
Chapter 5	Coordination with ADB HSDP Project	5-1
5.1	Overall Coordination Activities.....	5-1
5.2	Review of DOAPs.....	5-3
5.3	Resolution of Specific Issues.....	5-3
Chapter 6	Promotion Activities.....	6-1
6.1	Promotion Seminars	6-1
6.2	NCDP Promotion Videos.....	6-9
6.3	Follow Up on Selected Pilot Projects.....	6-9
Chapter 7	Final Remarks.....	7-1
7.1	Project Period and Recognition of Need for Paradigm Shift.....	7-1
7.2	NCDP to Realize a Paradigm Shift.....	7-1
7.3	NCDP Meeting Challenge for Paradigm Shift	7-2

LIST OF FIGURES

Figure 3.2.1	Image of Revision of Monitoring System for Regional Development by National Development Plan	3-11
Figure 7.3.1	Livestock Cluster Linked by Transport and Communication System.....	7-3

LIST OF TABLES

Table 2.1.1	Main Activities Undertaken by the JPT during the Extension Period, July – December 2021	2-1
Table 2.1.2	Activities by the JPT during the Field Work Period, October 10 through 29, 2021.....	2-2
Table 3.1.1	Main Responsibilities of Key Organizations Involved in Monitoring and Evaluation .	3-1
Table 3.2.1	Examples of Monitoring and Evaluation Indices for National Development Plan in Japan Based on the Concept of “Circulation Promotion Type National Land”.....	3-11

Table 4.1.1	Comparison between the Vision2050 and the Development Vision Proposed by the NCDP	4-1
Table 4.1.2	Comparison of Development Alternatives and Selection of Best Alternative by the Vision2050 and the NCDP	4-1
Table 4.1.3	Comparison of Population and GDP Projections by the Vision2050 and the NCDP	4-2
Table 4.1.4	Comparison of Macro Development Objectives Defined by the Vision2050 and the NCDP	4-3
Table 4.1.5	Comparison of Basic Strategy Presented by the Vision2050 and the NCDP	4-3
Table 4.1.6	Comparison of Development Scenarios by the Vision2050 and the NCDP	4-4
Table 4.1.7	Correspondence between the Urban Hierarchy Proposed by the NCDP and Designation by the HSP	4-7
Table 4.2.1	Correspondence between Road Projects Proposed by the NCDP and Contained in the Government Action Plan 2020-24	4-8
Table 4.3.1	Correspondence between the NCDP Anchor Projects and Development Policy Plans of Mongolian Government	4-9
Table 5.3.1	Discussion Points Stated in the HSDP Team’s Comments and Responses by the JPT .	5-4
Table 6.1.1	Comments by Participants at NCDP Promotion Seminar	6-2

Chapter 1 Introduction

1.1 Amendment to the R/D for the Extension Period of the NCDP Project

The NCDP has been formulated and elaborated in steps. Its first draft was presented by the Interim Report submitted on December 15, 2019. Through further collaborative works between the JPT and the Mongolian counterpart team, a complete NCDP was prepared with sector reports and submitted as the Draft Final Report 1 (DF/R1) on June 30, 2020. At the fourth JCC meeting to present and discuss on the DF/R1, the Mongolian side expressed basic endorsement over the development direction and vision presented in the DF/R1. Also, the JCC agreed that the DF/R1 should be explained to the new administration of the Mongolian Government to be established following the forthcoming general election, and further elaboration of the NCDP will be undertaken through continued collaborative works between the JPT and the Mongolian counterpart team.

Extensive comments were received from JCC member ministries and agencies on the DF/R1. Reflecting these comments, the NCDP with sector reports were further elaborated through collaborative works and the Draft Final Report 2 (DF/R2) was submitted first in a draft form on December 15, 2020. The draft DF/R2 was distributed widely to related ministries and agencies, and revised by reflecting their comments, and the DF/R2 was submitted finally on February 28, 2020.

No JCC meeting was convened to present and discuss on the DF/R2, but extensive comments were received from practically all the related ministries and agencies as well as individual experts. Reflecting effectively all the comments, the NCDP with sector reports was further elaborated and Draft Final Report 3 (DF/R3) was submitted on June 29, 2021 containing the final NCDP with sector reports. In the meantime, a series of coordination meetings were organized with MCUD/CDC and NDA to discuss on how to reflect the NCDP proposals in the HSP and the RDP in preparation by MCUD/CDC and NDA respectively.

As the preparation of the HSP and the RDP was found to be delayed from the original schedule, JICA discussed with MCUD and NDA for possible extension of the NCDP project period and they agreed on the extension as stipulated in “Confirmation on way forward related to the extension of the Project duration” (Attachment A). Accordingly, the Record of Discussions for the Project agreed and signed on 22 August 2018 was amended 30 June 2021.

1.2 Overview of the Extension Period

A “Plan of Operation for the NCDP Project during extension period of July through December 2021” was prepared by the JPT as shown in Attachment B and submitted to MCUD and NDA. A pre-JCC meeting was proposed by the JPT to explain and discuss on the plan of operation, but not realized due to spread of COVID-19 constraining activities of the Mongolian counterpart experts as well as the Naadam holiday. Instead, communications in writing started between MCUD/CDC and NDA and the JPT on issues involved in preparation of the HSP and the RDP.

MCUD/CDC and NDA exchanged views and ideas on how to reflect the NCDP proposals in the HSP and the RDP as explained more specifically in Chapter 2. The pre-JCC meeting was finally convened online on August 27, 2021. At the meeting NDA and CDC presented progress of the RDP and the HSP preparation, and issues and need for additional information in preparing the HSP and the RDP were raised. The JPT responded to the issues raised with additional information as much as possible in the subsequent period.

A field work was planned and its schedule examined by the JPT communicating with MCUD/CDC and NDA. In particular, schedule and programs for the fifth JCC meeting and the NCDP promotion seminar were prepared jointly. The field work took place during October 10 through 29. During the quarantine period in Ulaanbaatar for the JPT members, the schedule and the programs of the fifth JCC meeting and the NCDP promotion seminar were finetuned and preparation of a NCDP promotion video proceeded through communications by mail and online meetings.

The fifth JCC meeting was convened at the Government building chaired by the Chief Cabinet Secretary on 26 October 2021. JCC agreed that in order to promote the implementation of the NCDP proposals, the NCDP as well as the HSP and the RDP should be disseminated widely to raise awareness for the NCDP proposals and cultivate understanding of the new development paradigm proposed in the NCDP. The Minutes of Meeting for the fifth JCC are shown in Attachment C. The NCDP promotion seminar and the promotion video are explained in Chapter 6.

Attachment A: Confirmation on way forward related to the extension of the Project duration (agreed with NDA)

1. Confirmation on way forward related to the extension of the Project duration (agreed with NDA)

(Extension is still under consideration and subject to the consensus of JPT)

Preambles

- 1) The NCDP is practically ready with submission of the DF/R2 in February 2021 as it satisfies all the terms of reference requirements as seen by JICA.
- 2) The remaining work of the Project is final revision of the NCDP by June 2021 based on the comments on the DF/R2 by the Mongolian side, the response to them submitted by the JPT and subsequent discussions between the Mongolian side and the JPT.
- 3) The main concern now is how to reflect the NCDP in preparation of the HSP by MCUD and the RDP by the NDA.
- 4) To facilitate the preparation of the HSP and the RDP for submission to forthcoming sessions of the Parliament, an extension of the Project period is contemplated, and this document defines the scope of work for the extension period.

(1) Project Extension and Submission of DF/R3

The project is expected to be extended for six (6) months, until the end of December 2021 after the submission of the DF/R3.

(2) Formulation of RDV/RDProgram Drafts

In the remaining period of the Project duration by the end of June 2021, NDA is expected to prepare the drafts of Regional Development Vision (RDV) and Regional Development Program (RDProgram) by reflecting the NCDP as much as possible.

According to NDA, the RDV is expected to be submitted to the Parliament first, followed by the RDProgram. Therefore, NDA and JICA have confirmed that the priority of preparation work is given to the RDV and the RDProgram preparation is subject to advice by the JPT as NDA makes specific requests related to parts of RDProgram.

(3) Roles of JPT

During the extension period, the JPT will support NDA to finalize drafts of the RDV and the RDProgram in advisory functions, supporting response to public comments and discussions at the Parliament through collaboration with NDA. The JPT will make sure to point out any discrepancies existing between the NCDP and the RDV/RDProgram for possible consideration by NDA.

(4) Available Data and Advices by JPT

In the course of preparing the RDV and the RDProgram, JICA recognizes that NDA would like to have data related to the NCDP. The JPT has assured practically all the data used for the NCDP are contained in the DF/R2 including detailed data by Aimag used for the affinity analysis on Aimag and development diagnosis by Aimag.

The JPT has clarified on various occasions during the Project, methodologies based on detailed data at Soum level as requested by NDA are not relevant for the NCDP. The JPT will explain methodologies based on the best available data used for the NCDP if requested by NDA.

(5) After the Project Duration

JICA and NDA have confirmed that the extension of the Project duration is basically exceptional and both will make the best efforts toward the target of submission of drafts of the RDV and the RDProgram to the forthcoming sessions of the Parliament. Further extension of the Project is not expected and any additional works as found necessary to finalize the RDV and the RDProgram after the extension period of the Project shall be undertaken by NDA.

2. Confirmation on way forward related to the extension of the Project duration (agreed with MCUD)

(Extension is still under consideration and subject to the consensus of JPT)

Preambles

- 1) The NCDP is practically ready with submission of the DF/R2 in February 2021 as it satisfies all the terms of reference requirements as seen by JICA.
- 2) The remaining work of the Project is final revision of the NCDP by June 2021 based on the comments on the DF/R2 by the Mongolian side, the response to them submitted by the JPT and subsequent discussions between the Mongolian side and the JPT.
- 3) The main concern now is how to reflect the NCDP in preparation of the HSP by MCUD and the RDP by the NDA.
- 4) To facilitate the preparation of the HSP and the RDP for submission to forthcoming sessions of the Parliament, an extension of the Project period is contemplated, and this document defines the scope of work for the extension period.

(1) Project Extension and Submission of DF/R3

The project is expected to be extended for six (6) months, until the end of December 2021 after the submission of the DF/R3.

(2) Formulation of HSP Drafts

In the remaining period of the Project duration by the end of June 2021, MCUD is expected to prepare the drafts of HSP by reflecting the NCDP as much as possible.

(3) Roles of JPT

During the extension period, the JPT will support MCUD to finalize drafts of the HSP in advisory functions, supporting response to public comments and discussions at the Parliament through collaboration with MCUD. The JPT will make sure to point out any discrepancies existing between the NCDP and the HSP for possible consideration by MCUD.

(4) Available Data and Advices by JPT

In the course of preparing the HSP, JICA recognizes that MCUD would like to have data related to the NCDP. The JPT has assured practically all the data used for the NCDP are contained in the DF/R2.

(5) After the Project Duration

JICA and MCUD have confirmed that the extension of the Project duration is basically exceptional and both will make the best efforts toward the target of submission of drafts of the HSP to the forthcoming sessions of the Parliament. Further extension of the Project is not expected and any additional works as found necessary to finalize the HSP after the extension period of the Project shall be undertaken by MCUD.

Attachment B: Plan of Operation for NCDP Project during extension Period of July through December 2021

Plan of Operation for NCDP Project during extension Period of July through December 2021

1. Premises

Upon the request by the Mongolian Government, JICA decided to extend the Project period for NCDP to the end of December 2021. The scope of works during the extension period was discussed between JICA and NDA and JICA and MCUD separately, and agreements were reached respectively as shown in the attachments to the Record of Discussions on the Project for Formulation of National Comprehensive Development Plan signed on August 22nd, 2018 as amended in June 2021.

The main concern during the extension period is how to reflect the NCDP in preparation of the HSP by MCUD/CDC and the RDP by NDA. The main function of the JPT during this period is advisory to MCUD/CDC and NDA in response to the requests related to reflection of the NCDP proposals into the HSP and the RDP, supporting response to public comments and discussions at the Parliament.

During the extension period, further modifications of the NCDP would not be undertaken unless changes in political or other situations make it necessary to revise the NCDP and JICA and the Mongolian side agreed on the revision.

2. Scope of Works for the Extension Period

Main works during the extension period are as follow:

- 1) Advisory on preparation of the HSP by MCUD and the RDP by NDA,
- 2) Support for responding to public comments and discussions at the Parliament related to the HSP and the RDP,
- 3) ICT incubation seminar,
- 4) Production of an NCDP promotion video and investment promotion seminar in Mongolia and/or Japan,
- 5) Promotion of the NCDP implementation, and
- 6) Preparation of the Final Report.

3. Procedure and Methods

(1) Regular meetings

The JPT and the Mongolian side will meet regularly to share the progress of the HSP and the RDP preparation, discuss on and resolve issues related to the contents of the HSP and the RDP. The JPT proposes in particular to discuss on the IRDP by Region one by one covering regional development vision, strategy and projects so that the regional development contents of Visio2050 will be consistent with the NCDP proposals.

Preparation of regional development vision, strategy and projects for Region A may proceed as follows:

- 1) Presentation by the JPT of the IRDP for Region A proposed in the NCDP, including regional development vision, strategy and projects covering urban and settlement development as well as socio-economic development,
- 2) Discussion on issues involved in consolidation of the NCDP proposals with the HSP and the RDP,
- 3) Preparation of the regional development contents for Region A in the HSP by MCUD/CDC and the RDP by NDA reflecting the discussions, and

- 4) Discussions based on the regional development contents for Region A prepared by MCUD/CDC and NDA as part of Vision2050.

This procedure may be repeated to cover all the six regions, taking six to seven meetings. Correspondence in writing with papers may complement or substitute a few meetings if found appropriate. Additional meetings may be organized to discuss on specific themes involved in the HSP and the RDP such as spatial structure, socio-economic projections and ICT promotion. Monitoring and evaluation (M&E) may be another subject for discussions with MCUD/CDC and NDA. The JPT will try to clarify practices of M&E actually undertaken for existing or past development policies/plans in cooperation with the Mongolian side, and recommend the method and procedure of M&E for Vision2050, the HSP and the RDP.

(2) ICT incubation seminar

The NCDP promotes ICT application to all the sectors and proposes some projects in different sectors and also the special program for ICT promotion and application. To facilitate ICT application by the private sector, an ICT incubation seminar will be conducted by the JPT in close collaboration with the JICA Mongolia office. Prospective investors in ICT application for businesses are invited to participate in the seminar and encouraged to submit business proposals. More promising proposals may be selected and business plans preparation may be supported by the JPT for subsequent implementation.

As part of the NCDP, the pilot project to establish industry-academia linkage in the ICT sector was implemented and the memorandum of agreement was signed between selected private firms, universities and research institutes and government organizations for continued cooperation. The cooperative structure established by the pilot project should be effectively utilized for preparation of the ICT incubation seminar and its follow-up activities.

(3) Promotion of NCDP implementation

A publicity video was prepared to facilitate broad understanding of the NCDP Project and its proposals. Another video will be produced to promote the NCDP implementation by cultivating broad public acceptance of the NCDP proposals and introduce some specific areas for private investments. By utilizing the NCDP promotion video, an investment promotion seminar will be organized by the JPT in close collaboration with MCUD and NDA. The seminar may take place in Ulaanbaatar and/or Tokyo.

(4) Other works and Final Report preparation

Related to the main advisory works, other works may be found necessary to ensure full reflection of the NCDP into the HSP and the RDP. Supplemental works may be planned and undertaken jointly by the JPT and the counterpart experts of MCUD/CDC and NDA. Requests will be made to JICA by the Mongolian side if such supplemental works involve substantively additional input on the part of the JPT.

The Final Report will be prepared by the JPT and submitted to the Mongolian side by the end of December 2021. In addition to the final version of the NCDP, a supplemental report may be prepared to report all the works during the extension period as part of the Final Report.

4. Work Plan

(1) Work schedule

All the works described above will be undertaken from July through December 2021. In view of situations with COVID-19 in both Mongolia and Japan, most meetings will be convened online based on the works to be undertaken by MCUD/CDC and NDA and the works to be undertaken by the JPT foreign experts in Japan in close collaboration with the JPT national members in Ulaanbaatar in cooperation with experts and officials of Mongolian organizations.

If the situations allow, the JPT will undertake field works in Mongolia for a short period of time. Timing of the field works will be determined later, but it is tentatively planned in the middle of September for 15 days. During the fieldwork period, a few meetings will be conducted with MCUD/CDC and NDA and a seminar will be organized as well. The promotion video will be produced by early September.

The work schedule is shown in Figure 1.

Task	July	August	September	October	November	December
Advisory to MCUD and NDA	-----	-----	-----	-----	-----	-----
Seminars			▲	▲		
Video production	=====					
Promotion activities		-----	-----	-----	-----	-----
Final Report preparation						=====▲

Figure 1 Work Schedule for Extension Period

(2) Staffing schedule

To undertake all the tasks described, four or five foreign experts of the JPT will be mobilized according to the schedule shown in Figure 2. The field assignments are tentatively planned in the middle of September 2021 for 15 days with the team leader and two or three foreign experts of the JPT. Considering the COVID-19 situations in Ulaanbaatar, the JPT and JICA would make judgements on feasibility of the field works or activities and schedule thereof.

Expert	July	August	September	October	November	December
Team leader	-----	-----	-----	-----	-----	-----
Deputy team leader and/or spatial planner		-----	-----		-----	
Sector expert(s) on demand			-----	-----	-----	
National spatial planning assistant/coordinator		-----	-----	-----	-----	-----

Figure 2 Assignment Schedule of JPT Experts during Extension Period

Attachment C: Minutes of Meeting of The 5th Joint Coordinating Committee for the project for
formulation of national comprehensive development plan

MINUTES OF MEETING

ON

THE 5th JOINT COORDINATING COMMITTEE

FOR

**THE PROJECT FOR FORMULATION OF
NATIONAL COMPREHENSIVE DEVELOPMENT PLAN**

AGREED UPON BETWEEN

JAPAN INTERNATIONAL COOPERATION AGENCY

AND

**MINISTRY OF CONSTRUCTION AND URBAN DEVELOPMENT
NATIONAL DEVELOPMENT AGENCY**

Ulaanbaatar, 26th October 2021

Ms. Eriko TAMURA
Chief Representative
JICA Mongolia Office

Mr. Tsuyoshi HASHIMOTO
Team Leader
JICA Project Team

Mr. Tsend NYAMDORJ
Chief Cabinet Secretary

Mr. S. MAGNAISUREN
State Secretary
Ministry of Construction and Urban
Development

Mr. Kh. BATJARGAL

Chairman

National Development Agency

The 5th Joint Coordinating Committee (hereinafter referred to as “JCC”) meeting for “the Project for Formulation of National Comprehensive Development Plan (NCDP)” was held on 26th October 2021 chaired by the Cabinet Secretary with attendance of Ministry of Construction and Urban Development (hereinafter referred to as “MCUD”), National Development Agency (hereinafter referred to as “NDA”), Mongolian related agencies, and the Japan International Cooperation Agency (hereinafter referred to as “JICA”).

At the JCC meeting, the JICA Project Team (hereinafter referred to as “JPT”) explained the contents of the Draft Final Report 3 (DF/R3) containing the final NCDP prepared by incorporating all the comments on the Draft Final Report 2 (DF/R2) received from ministries and related agencies as well as individual experts. As the conclusion of the JCC meeting, both sides agreed that the NCDP will be disseminated to raise awareness and understanding by a wide range of stakeholders, while the NCDP proposals will be effectively utilized for preparation of the Human Settlement Plan (HSP) by MCUD/CDC and the Regional Development Policy (RDP) by NDA.

1. Confirmed and Agreed

- (1) The JPT clarified that the final NCDP contained in the DF/R3 was prepared through collaborative works between the JPT and the Mongolian side since January 2019. In particular, all the comments on the DF/R2 received from the Mongolian side have been effectively incorporated in the DF/R3.
- (2) The JPT reminded that the Project period has been extended from July through December 2021 to support the preparation of the HSP and the RDP reflecting the NCDP based on the agreement between the Mongolian Government and JICA.
- (3) The Mongolian side assured that efforts would be continued to reflect the NCDP proposals in preparing the HSP and the RDP, and expressed expectation that the JPT would continue to provide further advisory for the purpose.
- (4) Both sides have agreed that in order to promote the implementation of the NCDP proposals, the NCDP as well as the HSP and the RDP should be disseminated widely to raise awareness for the NCDP proposals and cultivate understanding of the new development paradigm proposed in the NCDP.
- (5) The JCC shared the information that the NCDP promotion seminar would be organized on 27th October and an investment promotion seminar would be organized in Tokyo subsequently.
- (6) Preparation of the HSP and the RDP has been delayed, while the NCDP Project will terminate with the extension period at the end of December. The JCC expressed expectation that even after the Project termination, the Mongolian Government and JICA would discuss on how to ensure cohesion and consistency of these policy planning documents.
- (7) While the NCDP contained in the DF/R3 is considered final, the JPT is receptive of additional comments and contributions by the Mongolian side and will make the best efforts to reflect them in the Final Report to be submitted in December.

2. Comments and Q & A

Major comments raised and questions and answers exchanged during the JCC meeting are presented below. Answers by the JPT are indicated by “→”.

- (1) (NDA): NDA and JPT worked together by visiting Aimags to clarify their existing

situation and development potentials. We are planning to use results of the NCDP for the formulation of RDV and regional development target program.

- (2) (Cabinet Secretariat): MCUD have sum development projects and measures approved by the Cabinet. Is the document consistent with the NCDP? Also, are other development plans being formulated at different ministries consistent with the NCDP?
 - ➔ (MCUD response): In June of 2021, the ‘Sum Development: Supply of Engineering Infrastructure’ project was approved by the Cabinet. It was prepared in line with the HSP and relevant studies by NDA. Therefore, on a policy level, the documents are consistent.
 - ➔ (JPT response): For the record, I had a session with ADB HSDP Team this morning. We have agreed that HSDPs and NCDP are very much in line in terms of Aimag level plans.
- (1) (MNE): Green economy development concept included in the regional development vision and strategies, and plans regarding sustainable development of industries and consumption are in line with MNE’s policies.
- (2) (Cabinet Secretariat): It is said that goals in the Vision 2050 are ambitious. Have you analyzed 73 indicators of Vision 2050? When you say ambitious, how big were the differences? Also, have you made the analysis taking COVID-19 into account?
 - ➔ (JPT response): Population projections by NCDP and Vision 2050 are practically the same. We projected economic and population projections consistently. Their consistency can be checked by assessing labor productivity by sector. If economic projections require very high increase of labor productivity by any sector, I say that is it too ambitious projection. We examined effects of COVID-19.
- (3) (Cabinet Secretariat): Are there proposals that are consistent with Mongolia’s social and economic conditions and characteristics to achieve SDGs?
 - ➔ (JPT response): SDGs are the base for SDV 2030. In Chapter 2 of the NCDP report, a comprehensive review of attainment level of SDV 2030 is given in reference to Vision 2050.
- (4) (Cabinet Secretariat): What are the policy goals and objectives that can be proposed as part of 7 target programs which are stipulated in the law?
 - ➔ (JPT response): We understand the 7 targeted development programs are in the making. For one of them, a regional development target program, we are trying to work with NDA as part of NCDP Project. We expect NCDP would provide reference to adjust sector-wise works. In that process, the relationships between different SDGs would be clarified, and probably also which targets would be more important in view of comprehensive development plan of Mongolia.
- (5) (Cabinet Secretariat): Are the pilot project proposals in line with 2021-2025 PIP?
 - ➔ (JPT response): We decided to formulate and implement PPs to facilitate NCDP proposals. It is not comprehensive. We could implement only 5 PPs. PPs collectively do not cover the area covered by PIP. My expectation was PPs to be included in the PIP, but it is not the case so far. Most of the PPs have been followed up in one way or another.
- (6) (Cabinet Secretariat): How were the comments submitted from Cabinet Secretariat back in April is reflected in the NCDP report?
 - ➔ (JPT response): We received extensive comments, particularly for DFR2 including 12 ministries and experts and advisors in writing. Only few comments were beyond

the scope of NCDP. All the other comments were reflected in the DFR3. All of the Cabinet Secretariat's comments were reflected in the DFR3.

- (7) (MEDS): Related to regional development, establishment of universities in different regions have been in talks. Just as of last week, the Cabinet discussed about relocating universities in 3 Aimags. What were the major conclusions and proposals regarding education sector for Aimags' development trends/plans after working in Aimags?
- ➔ (JPT response): You cannot relocate or establish universities from scratch. A better strategy is to use existing universities. NCDP proposes to build on existing universities. Plans such as developing higher education institutes and research centers in Khovd, research and incubation base at the Dornod University, and education and health training centers in Altai were proposed.
- (8) (MEDS): How are the capital region proposals consistent with the UB Development Master Plan until 2040 that is being formulated? Did the Project Team submit their comments for the draft?
- ➔ (JPT response): We know the UB Master Plan 2040, and we believe the NCDP does not obstruct its proposals.
- (9) (MOE): Expansion of power systems and power supply for local areas are reflected in the NCDP. Development of green energy were emphasized in couple of areas. However, goals such as development of energy sources compatible with Mongolia's characteristics and establishment of national power transmission network which connects the sources are lacking. Such plans need to be reflected in the target program.
- ➔ (JPT response): NCDP proposals are not deep in power generation and power grid extension except for major HPP implemented in Khovd and power extension which would reduce dependence on imported power. We did not emphasize large scale coal fired thermal plant and extension of power grid that cover the entire territory beyond what is planned and implemented by MOE. We rather emphasized renewable energy development and use to complement the grid electricity.
- (10) (MOE): Improvement of heat supply at Aimag centers were mentioned in the NCDP. It is an important plan that needs to be well thought out to ensure improved quality of public buildings and to provide public service.
- ➔ (JPT response): For heat supply, NCDP covered a general plan. Plans of heat supply in rural areas would be too detailed for national level development plan.

3. Final Statements by the Chairman

First of all, thank you for your works that you did to formulate the NCDP. Since implementing the NCDP project, a couple of important events took place. First one was the approval of the Law on Development Policy and Planning, and its Management, and the second one was revision of the Law on Administrative, Territorial Units and their Governance related to the revised Constitution of Mongolia. As result of these, a new legal environment is being created. There are plans to establish Ministry of Economic Development and Ministry of Digital Development and Communications. Establishment of these ministries should be reflected accordingly in the NCDP. In the future, development policy and planning will be one of the roles of the Ministry of Economic Development. It means that the work you have done will be submitted to the Cabinet through this ministry to get approval to implement the proposals in the plan.

There are three Aimags in the Western Region. Zavkhan is in the Khangai Region and Govi-Altai and Bayankhongor are grouped together in one region. The regional division needs to be reconsidered because it concerns Mongolia's demographic issues and delicate issues concerning different ethnic sub-groups. Back in 2003, the current RDV was approved and these issues were taken into account in

detail, and finally we have come up with this division.

During the past 30 years, very dramatic changes took place in Mongolia. I would like to thank the Government of Japan and JICA for their continued support in this and would like to wish success in their works.

4. Schedule for Forthcoming Period

- (1) The NCDP promotion seminar will be organized on 27th October, 2021 combining in person meeting in Ulaanbaatar and online participation.
- (2) An ICT incubation seminar will be organized in November to promote private investments related to NCDP proposals for ICT application.
- (3) An investment promotion seminar based on the NCDP will be organized in Tokyo linked for online participation in December.

End of Minutes

Annex: (1) Summary of the Draft Final Report 3

(2) List of Attendance

(3) Copy of the Record of Discussion of the Project as amended in June 2021

Chapter 2 Advisory for the HSP and the RDP Preparation

2.1 Coordination with MCUD/CDC and NDA

During the extension period from July through December 2021, the JPT coordinated with MCUD/CDC and NDA in preparation of the HSP and the RDP respectively reflecting the NCDP. Due to the conditions under COVID-19, coordination activities were mainly through online meetings and communications in writing by e-mail, but a short field work was undertaken by the JPT during October 10 through 29. Main activities by the JPT are summarized in Table 2.1.1 Activities during the field work period are summarized in Table 2.1.2.

Table 2.1.1 Main Activities Undertaken by the JPT during the Extension Period, July – December 2021

Date	JPT activities	Notes
July 7	Proposal for pre-JCC meeting after Naadam holiday	Not realized
July 14	Proposal for works during extension period	Comments and counter proposals by CDC and NDA
July 27	Response to CDC comments with additional data provision	
July 29	Response to NDA proposals	
August 5	Provision of “Regional Data and Analyses” with detailed and updated regional data	
August 10	Request for pre-JCC meeting	Pre-JCC set on August 27
August 18	Preparation of agenda for pre-JCC meeting	
August 25	Response to MCUD requests for extension period with additional information	Requests received on August 24
August 27	Pre-JCC meeting	Presentations by CDC and NDA on HSP/RDP preparation
September 3	Submission of “Regional Development Programs” extracted from NCDP to NDA	Following up pre-JCC
September 6	Submission of “Consideration of Water Balance for Mergers of Soums” to CDC	Following up pre-JCC
September 13	Response to issues raised by CDC with additional information	
September 23	Preparation of field work schedule	Revising earlier proposal
September 28	Submission of “Review on ADB HSDP Project” based on review of DOAPs	DOAPs for nine Aimags shared by ADB HSDP team
September 28	Online meeting with MCUD Director for field works and HSP progress	
October 1	Proposal for programs of JCC meeting and NCDP promotion seminar	
October 10 - 29	Field works	Table 2.1.2 for details
November 29	Submission of “Discussions with the ADB HSDP Team” to CDC	
December 8	Final coordination meeting with MCUD/CDC and NDA	

Source: JICA Project Team

Table 2.1.2 Activities by the JPT during the Field Work Period, October 10 through 29, 2021

Date	JPT activities
October 10	Arrival in Ulaanbaatar
11	Confirmation of schedule etc.
12	Communication with ADB HSDP team on schedule etc.; review of promotion video draft
13	Advice on NCDP promotion video; examination of seminar venue
14	Preparation for presentation at NCDP promotion seminar
15	Online meeting on NCDP promotion video
16	Review of presentation materials by ADB HSDP on national issues and urban hierarchy
17	Preparation for presentation at 5th JCC meeting; review of water balance analysis
18	Online meeting with Dir. Erdenebayar of NDA; preparation of comments on ADB HSDP presentation materials
19	Review of legislations related to Mid-term Development Target Programs; online meeting with JICA Mongolia office
20	Finalization of program for NCDP promotion seminar; preparation for presentation at 5th JCC meeting
21	Revision of field work schedule; preparation of briefing material for high ranked officials
22	Online meeting with Dir. Sarantogos, Dept. of Asia and the Pacific, MFA; finalization of program for NCDP promotion seminar
23	Communications with ADB HSDP on discrepancies between NCDP and HSDP
24	
25	Meeting with Dir. Bayarbat of MCUD; review of comments by ADB HSDP on NCDP
26	Coordination meeting with ADB HSDP team; 5 th JCC meeting
27	NCDP promotion seminar; presentation of regional development programs to working group for the Regional Mid-term Development Target Program
28	Briefing to MCUD Deputy Minister; meeting with CDC; report to Japanese Embassy
29	Departure from Ulaanbaatar

Source: JICA Project Team

2.2 Correspondence with MCUD/CDC with Additional Data and Information

In response to the proposal for the extension period, CDC and MCUD submitted comments on additional works that they expected to be undertaken by the JPT. Their comments and the responses by JPT are included in Attachment A to this chapter.

During the pre-JCC meeting, MCUD/CDC presented issues to be looked into further: 1) regional division, 2) planning approach, 3) roles and functions of cities, 4) administrative re-division, and 5) artery network. The JPT responded to them by preparing “Clarification of Issues Raised by MCUD/CDC” as shown in Attachment B.

At the pre-JCC meeting, the JPT proposed to summarize the water balance analysis conducted as part of the NCDP hoping it may be useful in determining possible mergers of Soums. The JPT prepared “Consideration of Water Balance for Mergers of Soums” as shown in Attachment C and submitted it to CDC.

The NCDP Project has been expected to coordinate with the ADB HSDP project implemented in parallel to ensure consistency between the macro and meso level development planning supported by JICA and micro level development planning supported by ADB. Coordination was constrained by COVID-19 since the two teams met in September 2019. The JPT obtained from the HSDP team the

draft Development Oriented Aimag Plans (DOAPs) for Selenge and Darkhan combined and Bulgan and Orkhan combined in May 2020, and the draft DOAPs for Khentii, Bayankhongol, Sukhbaatar, Arkhangai and Khuvsgul in September 2021. The JPT reviewed them and prepared “Review on ADB HSDP Project” and submitted it to MCUD and NDA, which is shown in Attachment D.

During the field work by the JPT in October, the JPT discussed with the ADB HSDP team to assess consistency between the NCDP and the DOAPs. Outcomes of the discussions were shared with CDC.

2.3 Correspondence with NDA with Additional Data and Information

In response to the proposal for the extension period, NDA submitted requests for additional works expected to be undertaken by the JPT. In response, the JPT prepared “Regional Data and Analysis” and submit it to NDA together with detailed and updated data by region as shown in Attachment E.

To facilitate the preparation of the RDP reflecting the NCDP proposals, the JPT extracted the regional development programs from the NCDP. The regional development programs have been elaborated further by clarifying development phasing with implementation timing of proposed projects and programs as shown in Attachment F. They were presented to the working group for the Regional Mid-term Development Target Programs on October 27 during the field work period.

The JPT provided “Review on ADB HSDP Project” and recommended strongly that NDA should make effective use of detailed data and analyses contained in the draft DOAPs in preparing the RDP as well.

In response to the request by NDA conveyed to JICA Mongolia office to clarify which parts of the NCDP (DF/R3) should be reflected in the RDP prepared by NDA, the JPT prepared “NCDP to Support the RDP Formulation” as shown in Attachment G and submit it to NDA.

During the field work by the JPT in October, a session was organized after the NCDP promotion seminar with members of the working group to prepare the Medium-term Regional Development Targeted Program in preparation by NDA. The JPT presented the integrated regional development programs contained in the NCDP.

2.4 Final Coordination Meeting

The final coordination meeting with MCUD/CDC and NDA was convened online on December 8, 2021. CDC made a presentation on some outcomes of the HSP in preparation including population projection by Aimag and major city/area, public service needs based on the projected population, prospects of mining in view of water availability and transport network, tourism development clusters, urban hierarchy, road network development with logistic centers, regional division and inter-Soum centers. It was clarified that 90 inter-Soum centers were determined through working with NDA.

NDA reported on the progress of RDP and RDP program preparation conducted with two working groups for the regional development targeted program consisting of representatives of ministries and for coordination of HSP, RDP, Ulaanbaatar master plan 2040 and other related development policy plans. NDA and CDC have clarified that both the HSP and the RDP will be finalized for submission to the Parliament during its spring session in 2022.

JICA expressed its intension to follow up the HSP and the RDP preparation and implementation after the NCDP completion, and it was agreed that regular meetings would be convened for the purpose. Participants shared the view that the NCDP would serve as a foundation for the HSP, the RDP and related development policy plans and its outcome should be **shared** widely.

Attachment A: Responses by the JPT to Comments by MCUD/CDC on the Extension Period

1. Response by the JPT to:

Proposal for works by the JPT during the extension period

1. Compare alternatives for regional division and define each region by indices representing geographic, social and economic factors

Three alternatives for regional division are compared in “6.1.4 Comparison of alternative regional division”. Geographic and socio-economic characteristics of different regions may be clarified by the detailed data presented in “Table 6.1.1 Comparison of 21 Aimags by Many Indices”. Moreover, “6.2 Characterization of Regions” shows how these detailed data may be used to characterize each Region classified by the NCDP. The same can be done for other regional divisions.

2. Clarify specific measures for legal environment and implementing arrangements to realize effective regional division and regional policies in the next 20 years and project attainment levels of the policies

The NCDP proposals generally recommend slow and steady step-wise localization of development administration in Mongolia. This is in line with the Government policy as described in “(5) Decentralization policy of Mongolia” in “11.2.1 Conditions for regional development”. As specific institutional measures, establishment of RDC is recommended as detailed in “(3) Proposed institutional measures” in “11.2.2 Proposed institutional measures for regional development.” As a legal measure, amendment to the Law on Development Policy, Planning and Management is necessary as described in “(2) Evolution of laws and institutions related to regional development” in “11.2.1 Conditions for regional development.”

Performance of regional development policies and associated institutions should be measured by monitoring and evaluation (M&E). Indices for M&E are proposed in “11.4.4 Monitoring and evaluation of Vision2050, HSP, RDP and NCDP.” Specifically, it is stated “Since the NCDP aims at vitalizing local socio-economy by regional development, the ratio of local population is a good index to measure the effects of regional development.” Population by Region represents a simple but good index to evaluate the regional development effects, and the total effects of regional development may be measured by the total population in all the Regions except Ulaanbaatar and compared to the projected population.

3. Based on land and urbanization suitability evaluation, and various infrastructure, environment and sustainable road transport development plans, project the population of the Capital City in a realistic way, and clarify measures to realize sustainable development in line with the UBMP2040

In the NCDP, population of Ulaanbaatar was projected on the condition that the primacy of the Capital City will be maintained at the present level. This is a pre-condition to plan for regional development as the main theme of the NCDP Project. In other words, future population of Ulaanbaatar was prescribed by the external conditions/requirements. To project the Ulaanbaatar population by internal conditions is totally different. Given the projected population, urban land use, transport system and other infrastructure may be planned to realize better urban living environment, not the other way around.

Population of Ulaanbaatar is determined largely by the external conditions (limited development activities in Aimags). If the urban environment in Ulaanbaatar is improved, more people will be attracted to the Capital City, which may apply pressure to degrade the urban environment.

4. Propose urban infrastructure development projects that can be implemented by socio-economically effective ways in line with natural conditions; specifically define central infrastructure facilities and

regional/local infrastructure facilities for large, medium and small cities considering importance and capacity depending on population size and urban hierarchy, reflecting experiences in Japan and other countries

The NCDP defines the urban hierarchy and urban functions of each city. For Khangai Region for instance, they are summarized as follows. Facilities necessary for these functions may be planned by master development plans for each city as recommended in the urban sector of the NCDP “(2) Development strategy for urban development” in “3.5.4 Urban development.”

Designation	City	Functions
Regional city	Erdenet-Bulgan	Erdenet: Service base for transit trade and tourism; Medipas hospital as the regional hospital Bulgan: Service base for transit trade and tourism
Aimag city	Darkhan	Innovation and dissemination center of new farming technologies utilizing ICT, AI and 5G
	Murun	Tourism gateway
	Uliastai	Social service base for western Aimags
	Tsetserleg	ICT center in Central Mongolia; Base for winter tourism
Other centers	Sukhbaatar	Border trade base
	Altanbulag	FZ

Experiences in Japan and other countries may not be very useful as specific requirements are different in Mongolia due to unique climatic conditions and infrastructure development depends on financial, institutional and other conditions unique to Mongolia. This issue will be further examined.

5. Propose public-private partnership arrangements suitable for Mongolia based on experiences in foreign countries with lessons

In most other countries, especially advanced countries, urban development is mainly the private sector undertaking. The public sector exercises control or regulates urban development mainly by land use zoning, building code, safety requirements, land tax system and public utilities provision. Only rarely, the public sector is involved directly in major urban development projects but usually in the form of public-private partnership. The role of the public sector is usually responsive: providing permit and approval to proposals by the private sector.

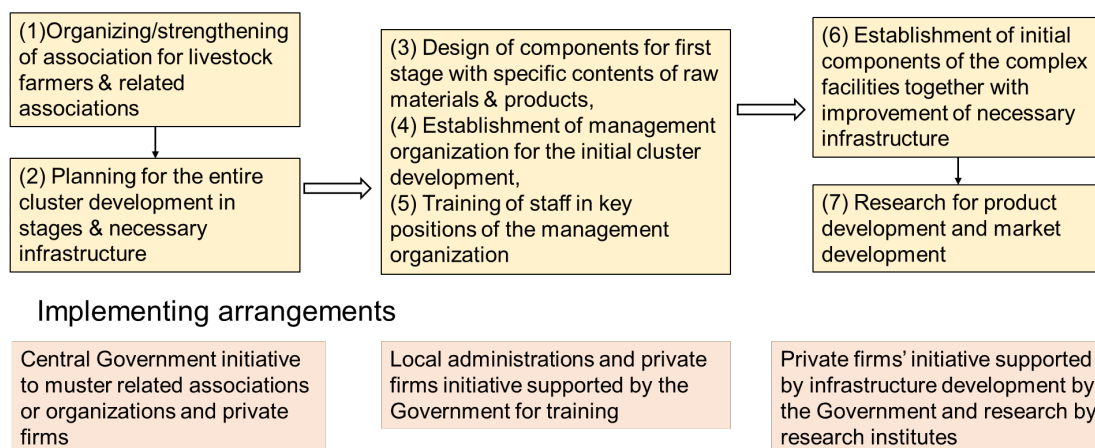
Land re-adjustment is a typical method for urban renewal involving residents/land owners and the public sector interested in improving infrastructure and urban environment. This may be applied to districts in Ulaanbaatar such as the Ger district.

6. Propose on how to realize competitive and self-reliant urban development related to New Zuunmod Airport City in the next 20 years

New Zuunmod (formerly AeroCity) is planned for residential complex for airport employees and others, FZ and commercial center for domestic and import goods according to the NCDP. A key for the new city to develop by the public-private partnership involving domestic and foreign investors is complementary development of the FZ and the commercial center. The FZ should be instrumental for technology import and development and design import and creation to support value-added final processing of products from all over the Country. Products from Aimags should be subject to value-added final processing at the FZ including branding for export as well as domestic sale at the commercial center. New technology and design imported for value-added final processing may support domestic production in Aimags as well.

7. Based on competitiveness of Aimags, determine priority of sectors and projects to be implemented in the next 20 years, and project effects of the development

The IRDPs for the six Region specify priority economic activities and projects to be implemented in each Region in the next 20 years. Many proposed economic activities take a form of an industrial cluster encompassing primary production, primary processing, value-added processing and marketing for domestic and export markets. Stagewise implementation should be planned for the industrial cluster development following general procedure proposed in the NCDP by involving private firms and the governments. For instance, the livestock industrial cluster may be implemented in three stages as illustrated below. A master development plan should be prepared in Stage 1, and a feasibility study (F/S) should be undertaken on the initial development in Stage 2. Targets to be attained should be specified by the F/S.



8. Based on competitiveness of cities in Mongolia, determine priority of sectors and projects to be addressed in the next 20 years, and project the effects of the implementation

Competitiveness of cities in Mongolia depends on many factors including population, economic structure, natural resources, human and cultural resources, infrastructure, legal status, access to other cities and regions etc. Regional division proposed by the NCDP reflects competitiveness of Regions. Then, competitiveness of cities depends on their positions in the respective Region. Designation of cities in the urban hierarchy reflects their positions in the respective Region, which is associated with urban functions of the cities also specified by the NCDP. In fact, urban functions of any larger city represent priority activities and projects such as logistic center, livestock processing base, tourism gateway etc.

9. Analyze existing conditions of administrative and territorial division of national land of Mongolia and propose their stage-wise changes based on experiences and lessons for Japan and other countries

At the highest level, regional division should be changed all at once, not in stages. At the lowest level, merger of villages with a large village or into a town is commonly undertaken in many countries as population distribution changes. Possible merger of Soum in Mongolia was once explained to Mr. Davaanyam in reference to cases in Japan. Possible changes in administrative division at Aimag level should be carefully examined in view of historical and cultural background of each Aimag. Realistically, changes in regional division are likely to be less controversial if each region is not defined as an administrative division initially as proposed by the NCDP. Changes in administrative division at Aimag level in each Region may be considered if found necessary through planning and administrative procedure at the regional level.

10. Comment on revisions of rules to prepare urban and settlement master plans and detailed district plans

The NCDP recommends in its urban development sector: 1) improvement of urban planning tools such as urban renewal, regulation of floor area ratio and building cover ratio, other building code, and land taxation system, 2) formulation of general development plans for local core cities, 3)

preparation of guidelines for housing planning and implementation, and 4) formulation of guidelines specifying requirements and components of plans at different administrative levels. Also, regulations related to earthquake resistance of historical/cultural building and structures were examined at pilot level as part of overall legal reform in the urban sector. These recommendations and initial actions should be properly followed up possibly with continued donors' supports.

CDC, Davaanyam, Human Settlement and Regional Study and Planning Section, July 24, 2021

2. Response by T. Hashimoto, JPT Team Leader, July 27,2021 to:

Proposal for works to be done in the second half of 2021 by JPT of the NCDP Project

Regional division

1. Conduct public discussion on comparisons of alternatives for regional division; and define indicators/criteria for defining regions

Three alternatives for regional division are compared in “6.1.4 Comparison of alternative regional division”. Geographic and socio-economic characteristics of different regions may be clarified by the detailed data presented in “Table 6.1.1 Comparison of 21 Aimages by Many Indices”. Moreover, “6.2 Characterization of Regions” shows how these detailed data may be used to characterize each Region classified by the NCDP. The same can be done for other regional divisions.

I don't know what is meant by “public discussion”, but at the coordination meeting with MCUD/CDC and NDA on May 14, I presented the following under “Resolution on Regional Division for Establishing Vision, Strategy and Program by Region” (slide 30):

- A new regional division will have to be discussed at public consultation involving all stakeholders before adaption, which will take long time.
- In accordance with the Law on Regional Development Management and Coordination, a regional development program shall be approved by the Government.
- Such a program shall be formulated under a strategy commonly applicable to the entire territory of the region.
- Therefore, development strategy and development programs are developed under the regional division proposed by the NCDP.

Re: Urban development & other:

2. Prepare guideline/advice for planning and implementing urban development and engineering network projects in line with population and natural conditions of the city/settlement in a socially and economically efficient manner; For example, to define prioritization and capacities of centralized or unit infrastructure when population and natural conditions/resources of small and medium-sized, and large cities are considered based on Japan and other countries experiences

The NCDP defines the urban hierarchy and urban functions of each city. For Khangai Region for instance, they are summarized as follows. Facilities necessary for these functions may be planned by master development plans for each city as recommended in the urban sector of the NCDP “(2) Development strategy for urban development” in “3.5.4 Urban development.”

Designation	City	Functions
Regional city	Erdenet-Bulgan	Erdenet: Service base for transit trade and tourism; Medipas hospital as the regional hospital

		Bulgan: Service base for transit trade and tourism
Aimag city	Darkhan	Innovation and dissemination center of new farming technologies utilizing ICT, AI and 5G
	Murun	Tourism gateway
	Uliastai	Social service base for western Aimags
	Tsetserleg	ICT center in Central Mongolia; Base for winter tourism
Other centers	Sukhbaatar	Border trade base
	Altanbulag	FZ

Experiences in Japan and other countries may not be very useful as specific requirements are different in Mongolia due to unique climatic conditions and infrastructure development depends on financial, institutional and other conditions unique to Mongolia. This issue will be further examined.

In my response to questions by Mr. Davaanyam of CDC on December 15, 2020, I clarified that in Japan piped water supply system is provided to a town when its population exceeded 5,001. Such a guideline specific to a country cannot be applied to other countries such as Mongolia.

3. Prepare guideline/advice for implementation of PPP for urban development based on other countries' lessons and Mongolia's characteristics

In most other countries, especially advanced countries, urban development is mainly the private sector undertaking. The public sector exercises control or regulates urban development mainly by land use zoning, building code, safety requirements, land tax system and public utilities provision. Only rarely, the public sector is involved directly in major urban development projects but usually in the form of public-private partnership. The role of the public sector is usually responsive: providing permit and approval to proposals by the private sector.

Land re-adjustment is a typical method for urban renewal involving residents/land owners and the public sector interested in improving infrastructure and urban environment. This may be applied to districts in Ulaanbaatar such as the Ger district.

4. Analyze current situation of division of administrative and territorial units of Mongolia, and prepare guideline/advice for making changes in stages based on Japan and other countries experiences

At the highest level, regional division should be changed all at once, not in stages. At the lowest level, merger of villages with a large village or into a town is commonly undertaken in many countries as population distribution changes. Possible merger of Soum in Mongolia was once explained to Mr. Davaanyam in reference to cases in Japan. Possible changes in administrative division at Aimag level should be carefully examined in view of historical and cultural background of each Aimag. Realistically, changes in regional division are likely to be less controversial if each region is not defined as an administrative division initially as proposed by the NCDP. Changes in administrative division at Aimag level in each Region may be considered if found necessary through planning and administrative procedure at the regional level.

5. Prepare proposals to improve methods and standards used for formulation of regional and national level development plans /HSP & NCDP etc.

The NCDP recommends in its urban development sector: 1) improvement of urban planning tools such as urban renewal, regulation of floor area ratio and building cover ratio, other building code, and land taxation system, 2) formulation of general development plans for local core cities, 3) preparation of guidelines for housing planning and implementation, and 4) formulation of guidelines specifying requirements and components of plans at different administrative levels. Also, regulations related to earthquake resistance of historical/cultural building and structures were

examined at pilot level as part of overall legal reform in the urban sector. These recommendations and initial actions should be properly followed up possibly with continued donors' supports.

As for regional and national level development plans, the NCDP Project has shown methods and standards for planning to be applied, and it is precisely for this reason why we expect the HSP to be prepared reflecting the NCDP.

Department of Urban Development and Land Affairs Policy Implementation and Coordination,
MCUD, August 24, 2021

Attachment B: Clarification of Issues Raised by MCUD/CDC

Clarification of Issues Raised by MCUD/CDC

(in reference to presentation by CDC at the pre-JCC meeting on August 27, 2021)

1. Regional division

MCUD/CDC comments that the new regional division proposed by NDA/NCDP is based only on limited existing conditions and more detailed quantitative and qualitative information should be reflected to improve the proposal. Aspects to be further considered according to MCUD/CDC are: 1) economic and trade diversification, 2) foreign trade relationships and transit trade opportunities, and 3) development potentials for foreign trade and FTZs. These aspects depend mainly on existing socio-economic conditions, natural resources and locational conditions by Aimag.

“Economic and trade diversification” depends on existing economic size and structure of Aimag as the base for diversification and resources to be utilized to produce new export products. “Foreign trade relationships and transit trade opportunities” depend on location of Aimag in relation to borders with neighboring countries and main transport infrastructure. “Development potentials for foreign trade and FTZs” depend, in turn, on these conditions enumerated above.

Thus, the existing economic size and structure, natural resources represented by land and water resources as well as mineral resources, and locational conditions largely determine characteristics and development potentials of Aimags. Other factors that should better be reflected include socio-cultural conditions, which relate to histories of different Aimags. In the affinity analysis on Aimags for the NCDP, most of these conditions are reflected in 30 indices used as much as existing data allow. In addition, financial conditions are partly reflected. Locational conditions are not represented explicitly, but inter-Aimag relationships reflecting main transport infrastructure is exactly what the affinity analysis deals with. Locational conditions in relation to borders are naturally reflected in the outcome of the analysis; i.e. those Aimags sharing borders with Russia or China tend to be grouped together in the same region, respectively.

The affinity analysis conducted by the NCDP is most comprehensive as far as existing and readily available data are concerned. The outcome is almost indisputable. However, revision of regional division is a highly political matter and therefore, it should be discussed at public consultation involving various stakeholders. It may take long time before adoption, but it is most important that all stakeholders should be involved in discussions and as a prerequisite the results of the affinity analysis by the NCDP should be fully explained to provide the basis for the discussions. Those proposing alternative regional divisions should prepare justification as elaborate as the affinity analysis by the NCDP.

2. Urban and settlement planning

The NCDP represents national and regional development planning. This should be followed logically by Aimag and city/settlement planning. “Optimal and efficient planning” as expressed by MCUD/CDC should be ensured by a hierarchical planning system, which has been legally established in Mongolia. To make it effective in meeting needs of local people, communities and private firms,

participatory planning and development will be most important. On the one hand, a bottom-up mechanism should be established to reflect needs and aspiration of local people, communities and private firms, who are most familiar with local conditions including resources availability. On the other hand, effects of implementation should be monitored by the local initiative guided by the Government, and feedback mechanism should function properly to modify plans and implementation as necessary.

The Integrated Regional Development Programs (IRDPs) and the Regional Development Councils (RDCs) by region proposed by the NCDP would provide effective testing media for participatory development planning and implementation. "Aimag" should be the key administrative level in preparing Aimag, city and settlement development plans by the local initiative guided by the Government. These local development plans should be coordinated with sector development plans prepared usually by sector agencies through discussion at the Aimag level first and then preferably further discussed, coordinated and integrated at the regional level according to the regional division proposed by the NCDP.

3. Diversifying roles and functions of cities

The NCDP proposes roles and functions of all the major cities at higher tiers of urban hierarchy. Most functions are extension of existing ones but some new functions are also proposed for selected cities. The proposed functions are consistent with the overall visions and strategy of national and regional development. These newly proposed functions should be discussed by stakeholders of relevant Aimags and cities, and infrastructure and public facilities to support such functions should be planned by participatory approach.

Further explanation of new urban functions of major cities in Khangai Region as an example (from development diagnosis by Aimag)

Erdenet, Orkhon:

"Orkhon Aimag with the Erdenet city could be one of the bases of industry and manufacturing in Mongolia due to some advantages such as population concentration, skilled workers, infrastructure, rich mineral resources and good access to urban and export markets. ~ With the function of transit city (of Erdenet), Orkhon Aimag will drive the economic development of Mongolia by accumulating people, goods, money and knowledge."

Bulgan, Bulgan:

"Bulgan is located along the artery linking Ulaanbaatar and Murun and beyond through Erdenet. A major tourism and trade corridor are conceived along the road, possibly linked also to the Bryard Republic of Russia. Bulgan is in the best position as a transit city providing tourism and trade related services. ~"

Bulgan will continue to be an agro-related supply and service base and agro-related technology center base as well.

Uliastai, Zavkhan:

"The capital city of Uliastai should strengthen its urban functions to provide more effective links between Ulaanbaatar and Western Region as a whole for complementary provision of necessary infrastructures including those related social services and administrative functions. ~"

This area (inside the ring artery) may become a driving force for Mongolian development in the 21st century supported by high grade infrastructure. Another telecommunication backbone may be established in the near future linking Uliastai in the west and Undurkhaan in the east through Ulaanbaatar (from 5.3.2 (4) Proposed spatial structure (Figure 1)).

Tsetserleg, Arkhangai:

"ICT could be introduced in various ways such as mutual information transactions between herders

and administration, tele-medicine, distance education, weather resistant farming practice and semi-intensive and intensive livestock activities and tourism information provision. ~”

Tsetserleg is located in the central part of Mongolian territory and the core of the ring artery; with good access from the Capital and facing the northern slopes of the Khangai mountains suitable for skiing, the city may become a base for winter tourism.

4. Administrative re-division

The MCUD/CDC comments refer to the JPT response in December 2020 to early requests by CDC related to merger of villages and small towns, and requests additional clarifications.

Administrative status of a village in Japan is no different from that of small cities and towns. They are not autonomous administrations and have only a limited set of autonomous functions. They can introduce own ordinances and rules within the legal limits related to borders with neighboring villages, establishment and number of members of local assemblies, and some public facilities etc. as well as routine administrative works. A village may become a town if the population exceeds 5,000 in general or 8,000 in some cases, and a city if the population exceeds 30,000 in general or 50,000 in some cases, respectively stipulated by law.

In Japan, there exists a procedure for merging villages stipulated by law. Usually, a merger council/assembly is formed by related villages contemplating merger, and a merger plan is prepared and discussed. The merger is finally determined based on a referendum by villagers. How to reflect opinions and ideas in the merger plan provides a leverage for the merger. No social and economic leverage applies to the merging process.

5. Vertical axes and artery network

The NCDP proposes the ring artery to strengthen links between most Aimags and to improve access to neighboring countries from the ring artery to those Aimags neighboring on Russia and China. The ring artery is more cost-effective than the multiple north-south axes as it passes through most productive areas of Mongolia linking most Aimag capitals. However, it should be established in steps. Inter-Aimag roads extend from the ring artery to link other Aimags. Urban functions and linkages proposed by the NCDP are shown in Figure 2.

Of the four vertical axes, 2. Sukhbaatar-Darkhan-UB-Zamyn-Uud axis should be upgraded in steps as proposed by the NCDP. Axis 1. Ereentsab-Choibalsan-Bichigt is proposed by the NCDP as shown in Figure 2. Axis 3. Artssuuri-Shiveekhuren axis may benefit from the western section of ring artery to be strengthened, but the section between Altai and Shiveekhuren may be strengthened only in the long term. Of 4. Tsagannuur-Khovd-Bulgan axis, the section between Tsagannuur and Khovd should be strengthened early.

Of transport axes, development potentials of alternative east-west axes are examined in detail in comparison with the northern and the southern sections of the ring artery in sub-section 5.3.2 (3) of the NCDP. The northern section of the ring artery proposed by the NCDP (Ring corridor 4b) is most important in terms of population served along the route. It also links three Aimags bordering on Russia: Selenge, Bulgan and Khuvs gul of Khangai Region, where trade and tourism development linked with Russia is considered important.

The northern section of the ring artery proposed by CDC (Central route: green line on Figure 5.3.6) is less important than the three routes compared in terms of population served along the route. However, it provides an important link between Ulaanbaatar, Uliastai and Khovd, and will serve as the bypass once the ring artery is established as proposed by the NCDP (Figure 1). Also, this future bypass will provide the second telecommunication backbone to support the development of the core region inside the ring artery as shown in item 3. above for Uliastai. Therefore, it is strongly recommended that the ring artery proposed by the NCDP should be adopted as essential part of the future artery network in Mongolia.

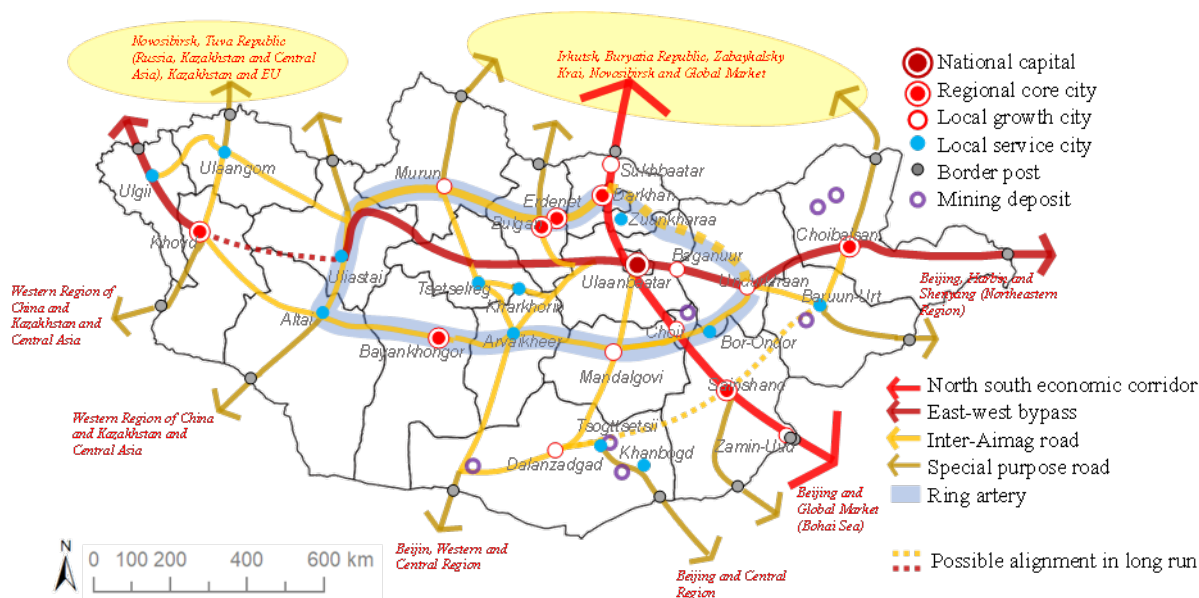


Figure 1 Proposed Spatial Structure of Mongolia in 2040

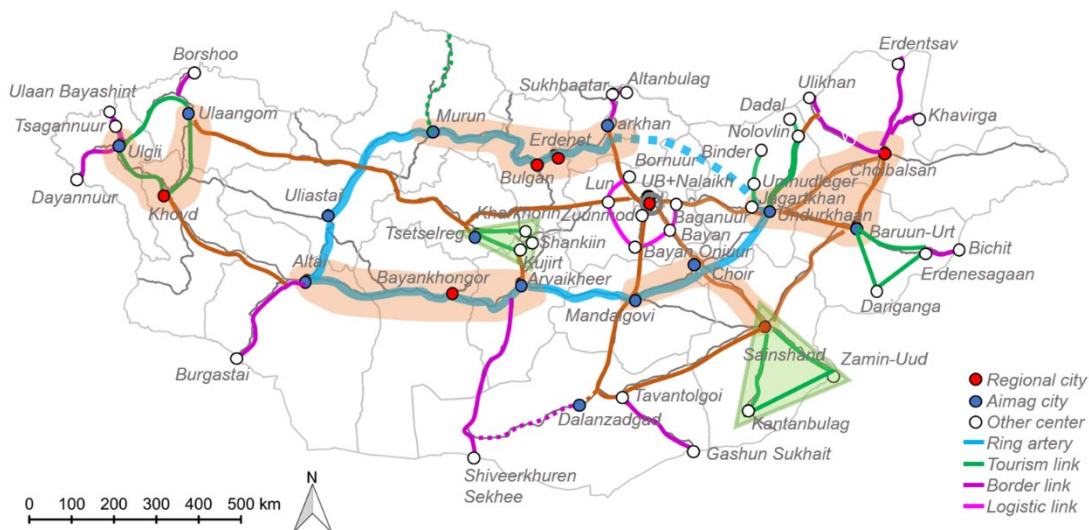


Figure 2 Urban Functions and Linkages for Mongolia Proposed by the NCDP

Attachment C: Consideration of Water-Balance for Mergers of Soums

Consideration of Water Balance for Mergers of Soums

As part of the NCDP formulation, a detailed water balance analysis was conducted by river basin/subbasin, Aimag and Soum. Complete results are presented in Chapter 3 of the Sector Report on Natural and Social Environment and Water Resources of the NCDP. Its summary is contained in the Main Report of the NCDP, where it is reported as follows (sub-section 5.5.2).

A total of 20 Soums in 15 Aimags will face shortages of surface water, which are quite serious in some Soums with deficit ratios over 60%. A total of 13 Soums in 10 Aimags will face shortages of groundwater.

Based on these results, it is recommended:

These Soums may be considered for merger or annexation with neighboring Soums to develop new water sources together.

To prepare the HSP in line with the NCDP, MCUD/CDC has been examining possible administrative re-division including mergers of some Soums. To facilitate reflection of the water balance analysis in the re-division of Soums, the relevant results of the NCDP are summarized in this paper. Soums facing possible water shortages by 2040, the target year of the NCDP, are presented in Table 1. Apart from Districts in Ulaanbaatar, where separate measures are recommended by the NCDP, a total of 24 Soums may face shortages of surface water or groundwater or both. CDC recommends some Soums to be merged with respective Aimag centers as shown in Table 2.

Table 1 Soums Facing Possible Water Shortages by 2040

Soum/District	Aimag/Capital	Water Balance (Dry Year) 2040 (million m ³ /year)		
		Surface water	Groundwater	Total
Bayangol	Ulaanbaatar	-5.03	-34.67	-39.70
Bayanzu'rx	Ulaanbaatar	51.54	-25.42	26.12
Songinohairhan	Ulaanbaatar	-2.22	1.79	-0.43
Su'xbaatar	Ulaanbaatar	4.16	-19.62	-15.46
Xan-Uul	Ulaanbaatar	14.71	-17.29	-2.57
Chingeltei	Ulaanbaatar	-0.93	-24.13	-25.06
Kherlen	Dornod	-9.25	112.62	103.37
Dashbalbar	Dornod	-0.25	609.91	609.66
Kherlen	Khentii	-8.06	54.63	46.57
Zuunmod	Tuv	-3.06	-39.21	-42.27
Sukhbaatar	Selenge	-70.53	8.15	-62.38
Bayangol	Selenge	-2.46	105.98	103.51
Zuunburen	Selenge	-1.19	253.47	252.28
Saikhan	Selenge	-19.46	50.52	31.06
Shaamar	Selenge	-8.46	141.35	132.88
Zamyn U'ud	Dornogovi	0.55	-19.90	-19.35
Sainshand	Dornogovi	0.04	-3.03	-2.99
Darkhan	Darkhan-Uul	-33.56	0.19	-33.37
Sharyngol	Darkhan-Uul	-2.88	8.11	5.23
Dalanzadgad	Umnugovi	-4.05	-8.17	-12.23
Bayan-Undur	Orkhon	-3.24	1.94	-1.31
Arvaikheer	Uvurkhangai	-7.62	-7.21	-14.84
Bulgan	Bulgan	-6.86	-4.44	-11.30
Bayankhongor	Bayankhongor	-4.55	-8.46	-13.01

Erdenebulgan	Arkhangai	-19.94	-0.88	-20.82
Murun	Khusvgul	-2.22	-13.08	-15.30
Rashaant	Khusvgul	287.58	-1.10	286.48
Uliastai	Zavkhan	-4.06	-1.34	-5.40
Ulgii	Bayan-Ulgii	-1.58	-1.61	-3.19
Jargalant	Khovd	-2.89	-4.39	-7.27

Table 2 Soums That May Be Merged with Aimag Centers According to CDC

Aimag	Soum	Distance from Aimag center, km	Aimag center
Bayan-Ulgii	Bugat	4	Ulgii
Dornod	Bayantumen	10	Kherlen(Choibalsan)
Tuv	Sergelen	15	Zuunmod
Bayankhongor	Ulziit	17	Bayankhongor
Bulgan	Orkhon	22	Bulgan
Selenge	Shaamar	22	Sukhbaatar
Khentii	Bayankhutag	22	Kherlen(Undurkhan)
Darkhan-Uul	Khongor	23	Darkhan
Bayankhongor	Bayan-Ovoo	24	Bayankhongor
Umnugovi	Khankhongor	25	Dalanzadgad
Khovd	Buyant	25	Jargalan(Khovd)
Govisumber	Bayantal	26	Choir
Khentii	Murun	27	Kherlen(Undurkhan)
Arkhangai	Ikhtamir	27	Erdenebulgan(Tsetserleg)
Bayan-Ulgii	Sagsai	28	Ulgii
Bayankhongor	Erdenetsogt	28	Bayankhongor
Arkhangai	Tsenkher	29	Erdenebulgan(Tsetserleg)
Uvs	Tarialan	30	Ulaangom
Orkhon	Jargalant	31	Erdenet
Zavkhan	Aldarkhaan	32	Uliastai
Khovd	Khovd	32	Jargalan(Khovd)
Uvs	Turgen	34	Ulaangom
Uvurkhangai	Taragt	35	Arveykheer
Arkhangai	Bulgan	35	Erdenebulgan(Tsetserleg)
Khovd	Myangat	36	Jargalan(Khovd)
Bayan-Ulgii	Altantsugts	41	Ulgii

Govi-Altai	Taishir	43	Altai
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The results of the water balance analysis by the NCDP and the CDC recommendation are combined as shown in Table 3 to obtain further insight into more rational mergers of Soums. It is noted from Table 3 that 14 Aimag centers will face water shortages by 2040 and thus water supply capacity would have to be expanded. It makes sense then to develop additional water supply capacity to serve neighboring Soums as well.

Of all the Soums suggested for merger with respective Aimag center, only Shaamar in Selenge Aimag will face water shortages by 2040. This Soum should better be merged early with Aimag center of Shukhbaatar to expand water supply together. A few other Soums recommended by CDC for merger may be served by water supply systems for Aimag centers. These are Buyant and Myangat in Khovd, Turgen in Uvs, Tsenkher in Arkhangai and Taragt in Uvurkhangai. Especially, Buyant and Myangat in Khovd, Tsenkher in Arkhangai and Taragt in Uvurkhangai can take advantage of water supply expansion for respective Aimag centers that will face water shortages by 2040.

Other Soums to take advantage of water supply expansion for respective Aimag centers although they will not face water shortages by 2040 are Bugat, Sagsai and Altantsugts in Bayan-Ulgii, Khovd Soum in Khovd Aimag, Ikhtamir and Bulgan in Arkhangai, Jargalant in Orkhon, Aldarkhaan in Zavkhan, Bayan-Ovoo and Erdenetsogt in Bayankhongor, Khankhongor in Umnugovi, Bayantumen in Dornod, Murun in Khentii, and Sergelen in Tuv. Integration of these Soums into respective water supply systems may be undertaken in steps as population and water demand increase.

Seven other Soums will face water shortages by 2040, but cannot be served by water supply from any Aimag centers as they are located rather far from them. They are Bayangol, Zuunburen and Saikhan in Selenge, Sharyngol in Darkhan-Uul, Zamyn-Uud in Dornogovi and Rashaant in Khuvsgul. Of these Soums, Bayangul and Saikhan may develop a common water supply system as they are located close to one another. Bayangul is close to Sumber in Tuv and CDC suggests to merge these Soums. Zuunburen is 49km from the Aimag center of Selenge. These four Soums share tributaries of Orkhan River, and therefore the water supply expansion for them should be planned together. Other Soums will have to develop their own water sources, respectively.

Table 3 Possible Mergers of Soums from Viewpoint of Water Balance

Aimag	Aimag center	Soum to be merged with Aimag center	Distance from Aimag center, km	Soum to face water shortages by 2040
Bayan-Ulgii	Ulgii	Bugat	4	
		Sagsai	28	
		Altantsugts	41	
Khovd	Jargalan(Khovd)	Buyant	25	
		Khovd	32	
		Myangat	36	
Uvs	Ulaangom	Tarialan	30	
		Turgen	34	
Bulgan	Bulgan	Orkhon	22	
Selenge	Sukhbaatar	Shaamar	22	Bayangol Zuunburen Saikhan

Darkhan-Uul	Darkhan	Khongor	23	Sharyngol
Arkhangai	Erdenebulgan(Tsetserleg)	Ikhtamir	27	
		Tsenkher	29	
		Bulgan	35	
Orkhon	Bayan-Undur(Erdenet)	Jargalant	31	
Zavkhan	Uliastai	Aldarkhaan	32	
Uvurkhangai	Arveikheer	Taragt	35	
Bayankhongor	Bayankhongor	Bayan-Ovoo	24	
		Erdenetsogt	28	
Govi-Altai	Altai	Taishir	43	
Govisumber	Choir	Bayantal	26	
Umnugovi	Dalanzadgad	Khankhongor	25	
Dornod	Kherlen(Choibalsan)	Bayantumen	10	Dashbalbar
Khentii	Kherlen(Undurkhan)	Murun	27	
Tuv	Zuunmod	Sergelen	15	
Dornogovi	Sainshand			Zamyn-Uud
Khuvsgul	Murun			Rashaant

Notes: Soums in red may face water shortages by 2040; Soums in green are suggested for merger by CDC.

Attachment D: Review on ADB HSDP Project (September 22, 2021; JPT-Hashimoto)

Review on ADB HSDP Project
(September 22, 2021; JPT-Hashimoto)

The ongoing ADB HSDP project has been reviewed based on limited documents made available so far as follows:

First Interim Report, April 2020:

- Draft Development Oriented Aimag Plans (DOAPs) for:
 - 1) Selenge and Darkhan-Uul, and
 - 2) Bulgan and Orkhon; and

Draft Development Oriented Aimag Plans (DOAPs) for Khentii (May 2021), Bayankhongol (March 2021), Sukhbaatar (April 2021), Arkhangai (October 2020), and Khuvsgul (June 2021).

1. Overview of Draft DOAPs

The draft DOAPs for Selenge and Darkhan-Uul , and Bulgan and Orkhon were obtained on May 30, 2020, and the other DOAPs on September 6, 2021. Despite widely separated dates of publication, these two sets of DOAPs are basically consistent in scope and structure and also in depth of analyses.

These draft DOAPs contain the following in common:

- 1) Thematic maps showing distribution of water resources, climatic conditions, environmental

problems, land resources and uses in Mongolia and each Aimag, and analysis on comparative position of the Aimag;

- 2) Economic data and analyses including GRDP, its structure and growth, employment structure and comparative position of the Aimag;
- 3) Detailed data and analyses at the Soum level covering economic activities such as crop production, livestock farming, mining, manufacturing, trade and tourism, and social services such as education and training, health care and labor, demographic and urban aspects including migration, urban infrastructure and utilities, and financial and institutional aspects;
- 4) Soum typology analysis to classify all the Soums by population size, demographic and economic dynamics, infrastructure provision, and economic functions by the method established by the project; sustainability of Soums is also assessed based on water availability, land resources quality and economic functions, and position of Soums in the Aimag with respect to distribution of population, economy and social services is also assessed;
- 5) SWOT analyses on the Aimag conducted by sector, and
- 6) Key development issues facing the Aimag identified by all the above.

The draft DOAPs for the Aimags obtained recently present key economic development areas and more specific economic activities in promising areas, identify priority locations for promising economic activities, and recommends linkage development between the priority locations. They recommend also functions to be strengthened at larger urban centers and priority development zones for particular economic activities. The draft DOAP for Selenge and Darkhan-Uul recommends “Project Fund Approach” to support private sector initiatives in coordination with public stakeholders.

The draft DOAPs present a thorough review of all the planning documents and policy/strategy papers including sector plans at the Aimag level. In addition, the draft DOAPs for some Aimags present main projects recently implemented or under definition by donors.

2. Overall Assessment

The draft DOAPs obtained so far are assessed as follows.

- 1) The detailed data and analyses at the Soum level are quite comprehensive; this was presumably made possible by the ADB project implementation structure with many national experts by sector, and efforts by the national experts are commendable.
- 2) The detailed data represent breakdowns of practically all the data at macro and Aimag levels presented in the NCDP into the Soum level; the detailed data demanded by NDA for the RDP must be all available if the draft DOAPs for all the 21 Aimags are shared and effectively utilized.
- 3) Some analyses contained in the draft DOAPs such as SWOT analysis and location quotient (LQ) analysis are useful in clarifying characteristics and position of respective Aimags in the national socio-economy.
- 4) No projection has been made of population and economy at the Aimag level.
- 5) While some development directions are indicated, no specific projects nor institutional measures have been proposed in the draft DOAPs, meaning they are not planning documents yet.
- 6) The SWOT analysis will help to establish a development vision and derive a development scenario, and the LQ analyses and comparative analyses based on detailed Soum data including Soum typology analysis will help to establish development objectives and strategy for each Aimag and by sector in the Aimag; these should be undertaken to prepare a DOAP together with proposal of specific projects and institutional measures.

The draft DOAPs obtained so far seem to be generally consistent with the NCDP as follows.

- (1) No significant/serious inconsistency or contradiction is observed between the NCDP and the draft DOAPs for characterization of each Aimag and identification of development potentials.
- (2) Only emphasis is different between the NCDP and the draft DOAPs, and the draft DOAPs contain more detailed descriptions of existing conditions at the Soum level and more microscopic development potentials in different Soums of each Aimag.

3. Project Ideas by Draft DOAPs Compared with the NCDP Proposals

Although the draft DOAPs do not contain proposed projects, many project ideas are presented based on the analysis of existing conditions and position of each Aimag and development potentials and directions identified for different Aimags. They are compared with the NCDP proposals as shown in Table 1 through Table 7.

Table 1 Comparison between Project Ideas of DOAP and the NCDP Proposals in Selenge and Darkhan-Uul

	DOAP for Selenge and Darkhan-Uul	NCDP proposals
1	Selenge and Bulgan River Valleys Authority for crop farming	Integrated implementation of the NCDP proposal: Integrated farming with semi-intensive livestock and fodder in Selenge with I4.1Fodder production expansion, I5.1Irrigation development and I3.1Smart agriculture promotion
2	Darkhan city university program: Darkhan as a university city with a scientific technologic park centered on agriculture and livestock	Consistent with the NCDP proposal to designate Darkhan as dissemination center of new farming technologies utilizing ICT, AI and 5G
3	Darkhan city brownfield regeneration program: rehabilitation of industrial areas, Project Development Fund (PDF) for PPP etc.	Consistent with the NCDP proposal: Assessment of existing facilities and land rights and renovation of selected facilities possibly with re-designation of the Darkhan industrial park
4	Equipment leasing for SMEs with technical assistance, partnership promotion among stakeholders etc.	Consistent with the NCDP proposal of institutional measures to support SMEs
5	Sukhbaatar multi-modal logistic center (or dry port with industrial zone) or Altanbulag FZ re-activation with a logistic center	NCDP proposes re-activation of Altanbulag FZ with improvement of infrastructure and custom office operation based on planning
6	Secondary cities program for Sukhbaatar, Mandal and Saikhan: intermediary services in education and health, financing for agriculture, primary processing, agro-tech park etc.	Functions of secondary cities are consistent with the urban hierarchy proposed by the NCDP
7	Livestock sector program: rangeland management, development of semi-intensive and intensive farms, veterinary services, training, financing, organizational strengthening, processing etc.	Consistent with the NCDP proposal of I12.2Livestock industrial cluster development and Establishment of controlled pasture areas and improved management of pasture land
8	Forest regeneration program: market study, infrastructure, finance, organization etc.	Consistent with the NCDP environmental strategy: Protection of forest areas, watershed areas and other vulnerable areas

9	Agribusiness development along the Selenge and Orkhon Rivers	Consistent with the NCDP proposal: Integrated farming with semi-intensive livestock and fodder in Selenge and Bulgan with I3.1 Innovative agriculture development and I3.3 Agro IT parks development
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Table 2 Comparison between Project Ideas of DOAP and the NCDP Proposals in Bulgan and Orkhon

	DOAP for Bulgan and Orkhon	NCDP proposals
1	Selenge and Bulgan River Valleys Authority for crop farming	Integrated implementation of the NCDP proposal: Integrated farming with semi-intensive livestock and fodder in Bulgan with I4.1 Fodder production expansion, I5.1 Irrigation development and I3.1 Smart agriculture promotion
2	Livestock program: water wells, animal shelters, fodder storage, veterinary services, traceability system, finance, organizational strengthening etc.	Specific proposals of I2.2 Livestock industrial cluster development
3	Rangeland management with control of livestock numbers land degradation	Consistent with the NCDP proposal: Establishment of controlled pasture areas and improved management of pasture land
4	Erdenet economic diversification: development of industrial area and logistic center through PPP etc.	Specific proposal to realize the NCDP proposal: Promotion of metal industry, tannery, food processing, chemical and other light industries in Erdenet
5	Secondary cities program for Bulgan, Khutag-Undur and Dashinchilen	Not within scope of work for the NCDP
6	Forest regeneration program	Consistent with the NCDP environmental strategy: Protection of forest areas, watershed areas and other vulnerable areas
7	Orkhon-Govi water transfer	Same as the NCDP proposal: III12 Orkhon River water diversion to Govi
8	Egg River hydropower development	Specific proposal of IV9 Selenge River hydropower dam development
9	Agribusiness development along the Selenge River	Consistent with the NCDP proposal: Integrated farming with semi-intensive livestock and fodder in Selenge and Bulgan with I3.1 Innovative agriculture development and I3.3 Agro IT parks development

Table 3 Comparison between Project Ideas of DOAP and the NCDP Proposals in Khuvsgul

	DOAP for Khuvsgul	NCDP proposals
1	Khuvsgul north-south axis development	Specific proposal of III3 Aimag special purpose roads improvement - Murun~Shine-Ider~Jargalant ~Tsetsuuh road

2	Tourism development linked with Arkhangai: Sangiin Dalai lake – Terkhlin Tsagaan national park	Consistent with the NCDP proposal: Diversified and integrated tourism such as nature tourism, wellness tourism, cultural tourism and other forms of alternative tourism
3	Integrated livelihoods improvement and sustainable tourism in Khuvsgul lake (ongoing supported by ADB)	Endorsed by the NCDP Consistent with the NCDP proposal: Khuvsgul tourism diversification
4	Sustainable and economically inclusive tourism	Consistent with the NCDP proposal: Khuvsgul tourism diversification
5	Competitive and sustainable livestock sector and food industry	Consistent with I2.2Livestock industrial cluster development and I4.1Fodder production expansion
6	Urban system development: Khatgal as the tourism center and a proposed inter-Soum center, Khankh and Tsagannur as secondary tourism destinations, Tarialan as a crop farming center	Not within scope of work for the NCDP
7	Tarialan – east-west axis link strengthening	Specific proposal of III3Aimag special purpose roads improvement
8	Comprehensive water resources development and management with hydropower development, water storage and conservation, and water transfer to other regions	May be integrated with the NCDP proposal: Comprehensive resource inventory to assess forest resources and identify potential raw materials for non-wood forest products, and master planning for optimal use of forest resources in medium to long terms

Table 4 Comparison between Project Ideas of DOAP and the NCDP Proposals in Arkhangai

	DOAP for Arkhangai	NCDP proposals
1	Erdenemandal as inter-Soum center in the north with manufacturing and construction material industries, Tariat as inter-Soum center in the west, and Tuvshruulekh for fodder and crop farming	Not within scope of work for the NCDP
2	Regeneration of brownfields in Tsetserleg	Not included in the NCDP
3	Fodder and crop farming in southeastern Soums	More specific proposal of: I4.1Fodder production expansion and I5Crop production expansion program
4	Tsetserleg urban infrastructure upgrading	Specific proposal of III11Regional and local cities development
5	Meat processing plant development, yak value chain development with yak wool products	Specific proposals of I2.2Livestock industrial cluster development
6	Animal traceability system establishment	Specific proposal in line with the NCDP proposal: I4.2ICT monitoring and support system for livestock
7	Construction of 1 mw floating solar power plant on the surface of Terkhlin	In line with the NCDP proposal for renewable energy development and use

	Tsagaan lake (ongoing)	
8	“Payment for Ecosystem Service” as an institutional measure	Consistent with the NCDP environmental strategy: Establishing locally based environmental monitoring system involving local people and administrations
9	Tourism development linked with Khuvsugul: Terkhin Tsagaan national park	Terkhin Tsagaan lake highlighted in the NCDP tourism sector of Arkhangai
10	Sustainable and economically inclusive tourism: Khogno Khan natural park, Kharkhorin, Orkhon valley etc.	Consistent with the NCDP proposal: Tourism triangle proposed linking Kharkhori, Orkhon valley and Tsetserleg
11	Competitive and sustainable livestock sector and food industry	Consistent with I2.2Livestock industrial cluster development and I4.1Fodder production expansion

Table 5 Comparison between Project Ideas of DOAP and the NCDP Proposals in Bayankhongor

	DOAP for Bayankhongor	NCDP proposals
1	Business incubation centers activation	Consistent with the NCDP proposal of institutional measures to support SMEs
2	Bayankhongor, Bayan-Uvur, Ulziit and Erdenetsogt water supply expansion	More specific proposals of IV7.1Urban centers water supply improvement and IV7.2Rural water supply expansion
3	Bayankhongor and Ulziit solid waste disposal site development	Not included in the NCDP
4	Tourism promotion with Shargaljuut hot springs	Specific proposal in line with the NCDP proposal: III11Regional and local cities development-Bayankhongor health tourism and medical science center
5	Bogt, Bayanlig and Erdenetsogt tourism development	Not included in the NCDP
6	Sustainable livestock and cashmere value chain development	Specific proposal in line with the NCDP proposal: II2.2Livestock industrial cluster development
7	Inter-Soum development program: Bogd, Bayantsgaan and Buutsagaan as inter-Soum centers	Not within scope of work for the NCDP
8	Shinejinst sustainable model cashmere production	Specific proposal in line with III1.1Herder communities support facilities
9	Development of mobile services (ger kindergartens, e-health services) for herders near the southern border	Specific proposal in line with III1.1Herder communities support facilities
10	Sustainable livestock program for water wells, animal shelters, fodder storage and other infrastructure, veterinary services, finance, traceability system, organizational strengthen etc.	Specific proposal in line with the NCDP proposal: II2.2Livestock industrial cluster development

11	Rangeland management with control of livestock population and land degradation	Consistent with the NCDP proposal: Establishment of controlled pasture areas and improved management of pasture land
12	Irrigated fodder production	More specific proposals of I5.1Irrigation development
13	Forest management in the Khangai mountains	Consistent with the NCDP environmental strategy: Protection of forest areas, watershed areas and other vulnerable areas
14	Small scale production of high value crops including vegetables, medicinal plants and saffron	Specific proposal in line with the NCDP proposal: Crop production diversification
15	Road improvement program: Bayankhongor~Bogt, Bayankhongor~Bayantsagaan, and Bayankhongor~Erdenetsogt	Specific proposals of III3Aimag special purpose roads improvement and III1Ring artery establishment

Table 6 Comparison between Project Ideas of DOAP and the NCDP Proposals in Khentii

	DOAP for Khentii	NCDP proposals
1	Competitive and sustainable livestock sector and food industry	Consistent with I2.2Livestock industrial cluster development and I4.1Fodder production expansion
2	Irrigated crop farming in Kherlen and Onon River Basins	More specific proposals of I5.1Irrigation development
3	Sustainable and economically inclusive tourism in Binder, Dadal, Umnudelger and Batshireet	Consistent with the NCDP proposals for Dadal eco-tourism center, and Binder tourism and agro-related service center, and Jargaltkhaan~Umunudelgel road improvement
4	Undurkhaan as a logistic hub for the Eastern region	Specific proposal of III1Regional and local cities development
5	Bor-Undur~Undurkhaan axis upgrading	Specific proposal of III3Aimag special purpose roads improvement
6	Ecotourism in Dadal, crop farming and forestry in Umnudelger, dairy farms in Bayan-Adaarga and around Undurkhaan, and crop farming in Bayan-Ovoo, Murun, Delgerkhaan, Norovlin	Consistent with the NCDP proposals for Dadal eco-tourism center Specific proposal of I5Crop production expansion program and I6Integrated cattle production promotion
7	Bor-Undur as inter-Soum center in the south, Binder as inter-Soum center in the north, Berkh village as a medium-level services and facilities for the livestock economy	Not within scope of work for the NCDP
8	Bor-Undur ~Dalanjargalan road improvement (ongoing)	Specific proposal of III2Inter-Aimag roads construction and upgrading
9	Undurkhaan~Berk~Dadal road (under construction)	Specific proposal of III3Aimag special purpose roads improvement - tourism road
10	Cashmere production and horse breeding in Galshir and Darkhan in the south	Specific proposals of I2.2Livestock industrial cluster development

11	Forestry in the northwest from Tsenkhermandal to Dadal	Consistent with the NCDP proposal: Wood products industry in Khentii
12	Central zone integrated farming in the south of Binder, Umnudelger, Batnorov, Undurkhaan, Bayan-Ovoo and Gaishar	Specific proposal of I4Integrated crop-livestock farming promotion

Table 7 Comparison between Project Ideas of DOAP and the NCDP Proposals in Sukhbaatar

	DOAP for Sukhbaatar	NCDP proposals
1	Sustainable livestock program for water wells, animal shelters, fodder storage and other infrastructure, veterinary services, finance, traceability system, organizational strengthen etc.	Specific proposals of I2.2Livestock industrial cluster development
2	Rangeland management with control of livestock population and land degradation	Consistent with the NCDP proposal: Establishment of controlled pasture areas and improved management of pasture land
3	Support to preservation of local livestock breeds: Bayandelger red goat for cashmere, Uzemchin sheep for meat, and red cattle for meat	Consistent with the NCDP proposal to establish a gene bank for both traditional and high productivity species of livestock in Sukhbaatar
4	Establishment of disease-free zones and traceability system for livestock	Consistent with the NCDP proposal: Disease free livestock zone establishment
5	Irrigation development in Tumentsgot with the Kherlen River water	More specific proposals of I5.1Irrigation development Consistent with the NCDP proposal: Kherlen River irrigation development
6	Establishment of winter greenhouse farming	Consistent with I3.2Greenhouse agriculture promotion
7	Secondary cities program: Erdenetsagaan, Ongon and Tumentsgot	Not within scope of work for the NCDP
8	Road improvement program: Baruun-Urt~Bichigt, Erdenetsagaan~Dariganga, Baruun-Urt~Choibalsan, and Baruun-Urt~Ongon	Specific proposals of III3Aimag special purpose roads improvement and III2Inter-Aimag roads construction and upgrading
9	Bichigt border crossing point improvement	Consistent with the NCDP proposal: Stagewise expansion of border trade with China and Russia
10	Daringanga - Erdenetsagaan integrated tourism development: natural park, Shiliin Bogd volcano, immersion within the Dariganga tribe camp and Uzemchin tribe in Erdenetsagaan	Consistent with the NCDP proposal: Promotion of border tourism linking Erdenetsagan and Dariganga, and Border tourism and trade promotion
11	Sukhbaatar industrial technology park re-activation	Consistent with the NCDP proposal: Light manufacturing industry expansion
12	Baruun-Urt water supply expansion and quality improvement	Specific proposal of IV7.1Urban centers water supply improvement, and consistent with the NCDP proposal: Baruun-Urt water supply improvement

13	Baruun-Urt livestock support base development	Consistent with the NCDP proposal: Baruun-Urt livestock support center
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Attachment E: Regional Data and Analysis

1. Regional Data and Analysis

1) Comparison of Six Regions

(1) Population

Table 1 Basic Indices of Six Regions

Region	Land area (km ²)	Population 2019	Population 2017	Population 2015	Population 2010	Population density 2019 (/km ²)	Population growth rate 2010-15 (% p.a.)	Population growth rate 2015-17 (% p.a.)	Population growth rate 2010-17 (% p.a.)	Population growth rate 2015-19 (% p.a.)	Urbanization rate 2019 (%)
Western Region	191,400	281,500	271,700	264,500	238,200	1.24	2.12	1.35	1.90	1.57	36.5
<i>Khangai Region</i>	332,400	689,700	677,300	658,100	602,300	1.81	1.79	1.45	1.69	1.18	47.0
<i>Altai Region</i>	320,300	263,100	259,200	252,500	231,100	0.72	1.34	1.32	1.65	1.03	31.9
<i>Southern Region</i>	355,100	205,200	196,600	187,900	172,500	0.49	1.72	2.29	1.89	2.23	46.2
<i>Eastern Region</i>	286,200	223,300	216,200	208,100	186,900	0.65	2.17	1.93	2.10	1.78	41.5
<i>Capital Region</i>	78,700	1,634,100	1,557,000	1,486,700	1,329,800	16.90	2.26	2.34	2.28	2.39	95.3
Mongolia	1,564,100	2,939,500	2,824,800	2,714,900	2,444,300	1.56	2.12	2.00	2.09	2.01	67.2

Population growth was accelerated from 2010-15 to 2015-19 in Southern Region due to mining development and Capital Region due to further concentration of economic activities. It was decelerated most significantly in Khangai Region, followed by Western and Eastern Regions. The decelerated growth may be due to rather matured economic structure in Khangai Region, and Western and Eastern Regions are apparently less developed economically. Population growth rates in Altai Region were consistently low during this period reflecting rather stagnated economy.

Population density is the highest by far in Capital Region at 16.9/km², followed by Khangai Region at 1.81/km² and 1.24/km² in Western Region. Other three regions have population density smaller than 1.0/km². Urbanization rate is by far the highest in Capital Region at 95.3%, followed by Khangai Region at 47.0%, Southern Region at 46.2% and Eastern Region at 41.5%. Western and Altai Regions have low urbanization rates reflecting dominant rural economy.

(2) Economy

Table 2 Comparison of Six Regions by Economic Indices (1/2)

Region	Agriculture GRDP 2019	Industry GRDP 2019	Services GRDP 2019	GRDP share of industry & services	GRDP 2019	Per capita GRDP 2019	Capital expenditure per capita	Aimag revenue per capita
	%	%	%	%	MNT10 ⁶	MNT10 ³	MNT10 ⁶	MNT10 ³
Western Region	38.8	25.1	36.1	61.2	1,355,608	4,816	221	814
<i>Khangai Region</i>	26.6	49.7	23.8	73.5	5,475,615	7,939	238	789
<i>Altai Region</i>	50.6	18.9	30.4	49.3	1,436,090	5,458		844
<i>Southern Region</i>	29.8	31.5	38.7	70.2	1,787,629	8,712	1,634	1,460
<i>Eastern Region</i>	34.6	45.0	20.5	65.5	27,784,284	8,694	178	823
<i>Capital Region</i>	1.7	41.5	56.9	98.4	25,842,826	15,815		896

Mongolia	10.6	39.4	50.0	89.4	37,839,225	12,873	1,103	1,001
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Per capita GRDP is by far the largest in Capital Region at MNT15.8 million in 2019, followed by MNT8.71 million in Southern Region and MNT8.69 million in Eastern Region. Despite the similar levels of per capita GRDP, the economic structure is totally different between these regions and Khangai Region with per capita GRDP at MNT7.94 million supported by more diversified economic structure. The GRDP share of industry are larger in Khangai Region than Southern and Eastern Regions. Per capita GRDP is smaller at MNT5.46 million in Altai Region and at MNT4.82 million in Western region having more dominant GRDP shares of agriculture.

Per capita capital expenditure and per capita Aimag revenue are by far the largest in Southern Region due to dominant mining activities. Capital Region ranks second by both indices. Per capita capital expenditure is the lowest in Western Region, followed by Eastern and Altai Regions. Levels of per capita Aimag revenue are similar in the other four Aimags.

Livestock activities in the six regions vary considerably reflecting natural conditions and proximity to main markets for livestock products. The number of livestock per herder household is the largest in Southern Region, followed by Eastern and Altai Regions, reflecting dominant large scale livestock farming. The number of livestock per pasture area is the largest in Khangai Region, followed by Capital and Altai Regions, representing more intensive livestock farming. Western Region ranks the lowest by the number of livestock per herder household and second lowest by the number of livestock per pasture area after Southern Region probably due to dominance of traditional livestock farming.

The shares of herders in total employment are largest in Altai Region, followed by Eastern and Western Regions. The share is the lowest in Capital Region, followed by Southern and Khangai Regions, which are considered more advanced with respect to livestock farming.

Unemployment rate is lowest in Southern Region, followed by Altai and Khagai Regions. Labor productivity is the highest in Eastern Region, followed by Capital and Khangai Regions. Western Region is ranked the lowest by both indices. Eastern Region has the highest labor productivity but rather high unemployment rate. In contrast, Southern Region has the lowest unemployment rate but rather low labor productivity. The contrast may be explained by much larger GRDP share of services in Southern Region. Poverty rate is also lowest in Southern Region, followed by Capital and Khangai Regions

Table 3 Comparison of Six Regions by Economic Indices (2/2)

Region	Livestock population per herder household 2019	Livestock population per 100ha pasture land 2019	Share of herders in total employment 2019	Unemployment rate (2019)	Labor productivity (2019)
			%	%	MNT10 ³
Western Region	340	468	36.1	13.8	9,686
<i>Khangai Region</i>	386	1,129	35.0	9.4	16,984
<i>Altai Region</i>	389	777	49.2	7.7	9,802
<i>Southern Region</i>	544	353	33.6	5.3	15,210
<i>Eastern Region</i>	534	529	39.7	12.0	20,624
<i>Capital Region</i>	366	1,006	4.8	10.6	17,570
Mongolia	414	643	24.9	10.0	15,825

(3) Social performance

Performance of the six regions varies less by social indices. Enrollment rates in kindergarten are generally higher than 80% except 66.9% in Bayan-Ulgii in Western Region. Pupil-to-teacher ratios are in the range of 25~32 except 21 in Bayan-Ulgii and 22 at Govi-Altai and 36 in Orkhon. Infant mortality rates vary more widely between Aimags and generally higher in Western and Altai Regions as well as a few Aimags in other regions. Availability of medical personnel does not reflect economic levels, and availability of physicians is the lowest in Khangai Region, followed by Eastern and Western Regions. Infectious diseases per population are largest in Capital and Eastern Region, smallest in Western Region.

Numbers of vocational students per population clearly reflects availability of employment opportunities and are largest in Southern Region, followed by Capital, Eastern and Khangai Regions. Availability of vocational teachers is the highest in Khangai Region, followed by Southern and Eastern Regions. It is the lowest in Altai Region, followed by Capital Region.

Table 4 Comparison of Six Regions by Social Indices

Region	Enrollment in kindergarten 2018	Pupill-to-teacher ratio at primary education 2018	Infant mortality rate 2019	No. of people per physician 2019	Infectious diseases per 10,000 people	Poverty incidence 2018	Vocational students per 1,000 population 2019/20	Vocational teachers per 1,000 population
	%		/1,000births			%		
Western Region	66.9~86.4	21~29	14~21	400	63	31.2	9.4	1.27
Khangai Region	78.4~92.3	25~36	8~18	413	105	30.7	10.0	1.57
Altai Region	87.3~91.0	22~29	13~15	388	111	35	9.9	1.19
Southern Region	78.0~89.3	25~32	7~21	293	118	21.6	13.9	1.51
Eastern Region	87.0~90.4	27~31	7~16	412	166	37	10	1.36
Capital Region			13~15	215	166	26	12.5	1.25
Mongolia			13	271	154	28.4	12.9	1.50

(4) Land and water resources

Development potentials in the regions vary widely reflecting diversified geographic, topographic, climatic and other natural conditions. Khangai Region has forested area of 70,809 km², accounting for over 70% of the total forested area in Mongolia. High Dzd risk area is distributed mainly in Khangai Region (51%), Altai Region (29%) and Western Region (20%). High and moderately dry land is found in Southern Region (100%), Altai Region and Western Region.

Largest area highly suitable for fodder is found in Eastern Region, followed by Western and Khangai Regions. Moderately suitable land for oil seed is found dominantly in Southern Region accounting for 73% of total land area in this category. Largest area highly and moderately suitable for fruits is found in Eastern Region, followed by Southern, Western and Altai Regions. Capital Region has the largest share of land suitable for intensive livestock farming with about 30%, while about 24% of land is classified for controlled grazing in Western Region.

Table 5 Comparison of Six Regions by Land Related Indices

Region/aimag	Forest area (%)	Sown area (ha)	Controlled grazing (%)	Intensive livestock (%)	High dzud risk area (km ²)	High & moderate ly dry (%)	Highly suitable for fodder (km ²)	Moderately suitable for oil seed (km ²)	High & moderately suitable for fruit (km ²)
Western Region	6,002	15,254	23.7	5.1	32,930	15~68	74,950	3,896	145,281
Khangai Region	70,809	103,914	0.0	6.7	85,545	0~40	64,449	1,227	97,743
Altai Region	17,028	12,609	0.0	2.5	49,262	61~88	24,472	17,900	142,398
Southern Region	9,809	438	0.4	8.5	62	61~75	30,385	191,401	155,407
Eastern Region	13,048	71,608	0.0	2.8	0	100	178,047	48,231	272,252
Capital Region	6,472	109,664	0.0	29.8	29	19~74	20,793	380	30,978
Mongolia	100,409	192,039	8.3	6.5	118,555	0~39	329,395	261,808	717,098

Availability of water resources also varies widely between the regions. Khangai Region has by far the largest amount of water available per unit land at 145,000 m³/km². Western Region is a distant second at 49 m³/km² followed by Capital Region at 43 m³/km². Per capita availability of water resources is less varied for the five regions ranging between 19 m³/km² and 44 m³/km² except Capital Region at 2.1 m³/km².

Table 6 Comparison of Six Regions by Water Potentials

Region	Water potential per km ² land (1,000m ³ /km ²)			Water potential per population (1,000km ²)		
	SW	GW	Total	SW	GW	Total
Western Region	25.87	23.56	49.44	17.59	16.02	33.62
Khangai Region	54.44	90.75	145.19	16.47	27.46	43.93
Altai Region	8.75	16.66	25.41	10.66	20.28	30.94
Southern Region	1.89	8.94	10.82	3.27	15.46	18.73
Eastern Region	4.20	29.65	33.85	5.38	38.00	43.38
Capital Region	13.86	29.16	43.02	0.67	1.40	2.07
Mongolia	15.33	29.67	45.00	6.70	12.96	19.66

2. Ranking and Position of Six Regions

Capital Region ranks high by economic indices and also by labor productivity and poverty due to more advanced economic structure and higher income levels. It suffers from the over-concentration to make it ranked low by the number of vocational teachers per population and infectious diseases per population. Eastern Region is highest ranked by labor productivity due to dominant mining activities, and at the same time ranked high by livestock related indices.

Southern Region is ranked highest by Aimag revenue per capita and capital expenditure per capita thank to lucrative mining activities. It is ranked highest by poverty incidence, and ranking by vocational students per population and vocational teachers per population is also high reflecting increasing opportunities for skilled employment. Livestock activities in Southern Region is represented by extensive farming capitalizing on large land.

Altai Region is a livestock region with the largest share of herders in total employment. Economic performance is reasonable if not superb and people benefit from relatively large revenue and capital expenditure and low unemployment rate, although opportunities for skill upgrading seem limited. Khangai Region, as it has more advanced economic structure than other regions supported more by private sector activities, its performance is mixed but more or less close to the average. Livestock farming in Khangai Region is more intensive. Its per capita GRDP is the second largest next only to

Capital Region.

Western Region seems to be most deprived as seen from many economic and social indices. The share of herders in total employment in Western Region is ranked third, but livestock population per herder household and per pasture area are both low ranked. Western Region is ranked lowest by both unemployment rate and labour productivity. These unfavourable conditions are reflected in decelerating population growth in recent years.

Table 7 Ranking of Six Regions by Socio-economic Indices (1/2)

	Western	Khangai	Altai	Southern	Eastern	Capital
Economic indices						
Population growth 2015-19	4	5	6	2	3	1
Per capita GRDP	5	2	6	3	4	1
Aimag revenue per capita	5	6	3	1	4	2
Capital expenditure per capita	6	3	4	1	5	2
Social indices						
Unemployment rate	6	3	2	1	5	4
Labor productivity	6	3	5	4	1	2
Poverty	4	3	5	1	6	2
Vocational students per population	6	3	5	1	4	2
Vocational teachers per population	4	1	5	2	3	5
No. of people per physician	4	6	3	2	5	1
Infectious diseases per population	1	2	3	4	5	5
Livestock related indices						
Livestock population per herder household	6	4	3	1	2	5
Livestock population per pasture area	5	1	3	6	4	2
Share of herders in employment	3	4	1	5	2	6

Western Region seems to have relatively favourable potentials for land and water resources. It is suited to crop farming for fodder and fruits, but opportunities for intensive livestock farming may be limited. Western Region is ranked second by water potential per land area. Khangai Region is at present the main crop producer in Mongolia, but its ranks are not so high except fodder. It has reasonable potential for intensive or semi-intensive livestock farming. Water potentials in Khangai Region are high with respect to both water potential per land area and water potential per population.

Altai Region has some potentials for crop farming with fodder, oil seed and fruits but land for intensive farming is limited. Altai Region is ranked fifth by water potential per land area and fourth by water availability per population. Southern Region is ranked relatively high for land suitable for crop farming, but ranked low for water potentials and availability.

Eastern Region is ranked high by land suitable for fodder, oil seed and fruits, and has potentials for intensive or semi-intensive livestock farming. Eastern Region is ranked low by water potentials and availability. Capital Region is ranked lowest for crop production but highest by land suitable for

intensive livestock farming. It is ranked third by water potential per land area but lowest by water availability per population.

Table 8 Ranking of Six Regions by Socio-economic Indices (2/2)

	Western	Khangai	Altai	Southern	Eastern	Capital
Land suitable for fodder	2	3	5	4	1	6
Land suitable for oil seed	4	5	3	1	2	6
Land suitable for fruits	3	5	4	2	1	6
Land for intensive livestock	4	3	6	2	5	1
Water potential per land area	2	1	5	6	4	3
Water availability per capita	3	1	4	5	2	6

3. Detailed data

Region/aimag	Land area (km ²)	Population 2019	Population 2017	Population 2015	Population 2010	Population density 2019 (1/km ²)	Population growth rate 2010-15 (% p.a.)	Population growth rate 2015-17 (% p.a.)	Population growth rate 2010-17 (% p.a.)	Population growth rate 2015-19 (% p.a.)	Urbanization rate 2019 (%)	Agriculture GRDP 2019 (%)	Industry GRDP 2019 (%)	Services GRDP 2019 (%)	GRDP share of industry & services (%)	GRDP 2019 (MNT106)	Per capita GRDP 2019 (MNT103)	Forest (ha)	Sown area (ha)	Controlled grazing (%)	Intensive livestock (%)	High dzud risk area (km ²)	High & moderately dry (%)
Western Region	191,400	281,500	271,700	264,500	238,200	1.24	2.12	1.35	1.90	1.57	36.5	38.8	25.1	36.1	61.2	1,355,608	4,816	6,002	15,254	23.7	5.1	32,930	
Bayan-Ulgii	45,700	108,600	102,600	100,200	88,200	1.93	2.58	1.19	2.18	2.03	37.5	42.2	15.3	42.5	57.8	425,584	3,919	226	1,222	9.0	29.6	4,806	15
Uvs	69,600	83,200	82,700	80,800	73,200	1.05	2.00	1.17	1.76	0.73	37.0	46.2	15.8	38.1	53.9	396,436	4,765	1,102	11,775	0.1	0.0	13,492	68
Khovd	76,100	89,700	86,400	83,500	76,800	1.01	1.69	1.72	1.70	1.81	34.9	30.5	29.6	38.4	68.0	533,589	5,949	4,674	2,257	0.4	10.7	14,632	58
Khangaï Region	332,400	689,700	677,300	658,100	602,300	1.81	1.79	1.45	1.69	1.18	47.0	26.6	49.7	23.8	73.5	5,475,615	7,939	70,809	103,914	0.0	6.7	85,545	
Arkhangai	55,300	95,000	95,100	92,100	84,600	1.53	1.71	1.62	1.69	0.78	21.9	64.2	15.1	20.7	35.8	605,914	6,378	10,826	11,509	0.0	0.0	13,477	6
Bulgan	48,700	62,100	61,300	60,000	53,700	1.10	2.24	1.08	1.91	0.86	25.3	57.7	17.1	25.2	42.3	369,841	5,956	19,050	48,559	0.1	16.9	6	9
Darkhan-Uul	3,300	107,000	104,100	100,900	94,900	28.76	1.23	1.57	1.33	1.48	79.8	9.3	41.5	49.2	90.7	524,207	4,899	720	22,528	0.0	2.4	1	0
Orkhon	800	107,600	104,000	100,700	90,900	113.63	2.07	1.63	1.94	1.67	96.3	0.9	87.5	11.7	99.2	2,103,313	19,548	159	2,603	0.0	0.2	0	0
Khuvsgul	100,600	135,100	131,600	128,200	114,900	1.14	2.21	1.32	1.96	1.32	32.9	52.8	18.8	28.4	47.2	707,041	5,233	40,054	18,714	0.0	6.1	19,908	0
Selenge	41,200	110,100	109,600	106,300	97,900	2.38	1.66	1.54	1.63	0.88	34.5	27.5	42.2	30.3	72.5	739,908	6,720	15,339	208,968	0.0	3.9	106	0
Zavkhan	82,500	72,800	71,600	69,900	65,400	0.79	1.34	1.21	1.30	1.02	22.4	49.0	14.8	36.2	51.0	425,393	5,843	4,906	1,863	0.0	0.0	52,047	40
Altai Region	320,300	263,100	259,200	252,500	231,100	0.72	1.34	1.32	1.65	1.03	31.9	50.6	18.9	30.4	49.3	1,436,090	5,458	17,028	12,609	0.0	2.5	49,262	
Bayankhongor	116,000	88,700	86,600	83,900	76,200	0.66	1.94	1.60	1.84	1.40	36.1	51.2	16.3	32.5	48.8	453,977	5,118	3,307	754	0.0	16.6	22,802	75
Gove-Altai	141,400	57,700	57,500	56,200	53,500	0.38	0.99	1.15	1.04	0.66	32.5	52.0	17.5	30.5	48.0	333,345	5,777	12,213	1,320	0.2	0.0	20,479	88
Uvurkhangai	62,900	116,700	115,100	112,400	101,400	1.61	2.08	1.19	1.83	0.94	28.4	49.6	21.4	29.0	50.4	648,767	5,559	1,508	10,536	0.1	0.0	5,981	61
Southern Region	355,100	205,200	196,600	187,900	172,500	0.49	1.72	2.29	1.89	2.23	46.2	29.8	31.5	38.7	70.2	1,787,629	8,712	9,809	438	0.4	8.5	62	
Goveisumber	5,500	17,900	17,400	16,500	13,300	2.42	4.41	2.69	3.91	2.06	59.8	22.5	26.7	50.8	77.5	112,643	6,293	0	39	0.0	11.6	0	100
Dornogovi	109,500	71,000	68,100	65,300	58,900	0.54	2.08	2.12	2.10	2.11	64.0	29.6	16.7	53.6	70.3	460,604	6,487	1,585	122	65.7	2.8	0	100
Dundgovi	74,700	47,100	45,800	44,400	38,700	0.52	2.79	1.56	2.44	1.49	26.6	59.4	16.7	23.9	40.6	372,606	7,911	687	92	0.0	7.0	0	100
Umnugovi	165,400	69,200	65,300	61,700	61,600	0.37	0.03	2.88	0.84	2.91	37.7	17.8	46.8	35.4	82.2	841,776	12,164	7,537	185	31.7	5.9	62	100
Eastern Region	286,200	223,300	216,200	208,100	186,900	0.65	2.17	1.93	2.10	1.78	41.5	34.6	45.0	20.5	65.5	27,784,284	8,694	13,048	71,608	0.0	2.8	0	
Dornod	123,600	82,100	79,400	76,500	69,600	0.56	1.91	1.88	1.90	1.78	56.4	21.4	60.6	18.0	78.6	951,635	11,591	1,746	34,246	0.0	5.6	0	33
Sukhbaatar	82,300	63,200	61,100	59,000	51,400	0.62	2.80	1.76	2.50	1.73	29.5	39.0	42.2	18.8	61.0	514,237	8,137	1	9,219	0.0	0.0	0	74
Khenti	80,300	78,000	75,700	72,600	65,900	0.82	1.96	2.11	2.00	1.81	35.6	56.1	16.7	27.2	43.9	475,586	6,097	11,301	28,143	0.0	1.9	0	19
Capital Region	78,700	1,634,100	1,557,000	1,486,700	1,329,800	16.90	2.26	2.34	2.28	2.39	95.3	1.7	41.5	56.9	98.4	25,842,826	15,815	6,472	109,664	0.0	29.8	29	
Ulaanbaatar	4,700	1,539,800	1,463,000	1,396,300	1,244,400	264.77	2.33	2.36	2.34	2.48	100.0	0.3	42.0	57.7	99.7	25,217,038	16,377	741	825	0.0	62.3	18	0
Tuv	74,000	94,300	94,000	90,400	85,400	1.15	1.14	1.97	1.38	1.06	18.0	57.4	18.5	24.1	42.6	625,788	6,636	5,731	108,839	0.0	27.8	11	39
Mongolia	1,564,100	2,939,500	2,824,800	2,714,900	2,444,300	1.56	2.12	2.00	2.09	2.01	67.2	10.6	39.4	50.0	89.4	37,839,225	12,873	100,409	192,039	8.3	6.5	167,828	57

*The Project for Formulation of National Comprehensive Development Plan
Final Report: Supplemental Report*

Region/aimag	Sensitivity to mining (%)	Highly suitable for fodder (km2)	Moderately suitable for oil seed (km2)	High & moderately suitable for fruit (km2)	Livestock population per herder household 2019	Livestock population per 100ha pasture land 2019	Share of herders in total employment 2019 (%)	Unemployment rate (2019) (%)	Labor productivity (2019) (MNT103)	Enrollment in kindergarten 2018 (%)	Pupil-to-teacher ratio at primary education 2018	Infant mortality rate 2019 (/1,000birth)	No. of people per physician 2019	Infectious diseases per 10,000 people	Poverty incidence 2018 (%)	Vocational students per 1,000 population 2019/20	Vocational teachers per 1,000 population	Capital expenditure per capita (MNT106)	Aimag revenue per capita (MNT103)
Western Region	60.8	74,950	3,896	145,281	340	468	36.1	13.8	9,686	66.9–86.4	21~29	14–21	400	63	31.2	9.4	1.27	97	814
Bayan-Ulgii	79.9	789	0	1,675	248	248	28.2	24.2	7,559	66.9	21	21	436	37	24.3	6.7	0.97	87	716
Uvs	71.5	7,636	1,954	27,105	358	768	48.9	6.6	11,767	86.4	25	14	423	75	29.6	11.0	1.49	122	967
Khovd	39.6	2,865	715	20,433	411	602	35.3	11.3	10,666	80.0	29	18	334	84	40.9	11.2	1.44	86	790
Khangai Region	72.2	64,449	1,227	97,743	386	1,129	35.0	9.4	16,984	78.4–92.3	25–36	8–18	413	105	30.7	10.0	1.57	384	789
Arkhangai	89.1	8,667	28	12,464	366	1,650	58.5	4.8	9,812	81.5	28	15	464	56	38.2	15.2	1.38	115	723
Bulgan	100.0	16,387	192	21,751	398	1,466	51.0	5.7	11,342	78.4	25	18	459	87	36.8	9.1	1.63	337	965
Darkhan-Uul	100.0	1,750	22	2,016	243	1,972	5.5	18.7	13,833	85.8	33	8	366	143	32.8	19.1	2.41	381	623
Orkhon	100.0	369	0	509	133	3,256	3.7	11.7	52,573	92.3	36	8	278	85	25.1	8.5	1.52	335	1,012
Khuvsgul	57.7	10,409	112	15,371	341	1,377	51.4	12.4	10,341	81.0	30	18	490	169	25.3	3.4	0.55	141	710
Selenge	99.6	12,605	55	14,896	318	1,045	16.9	4.7	14,828	80.5	29	10	437	66	34.0	6.2	1.40	769	706
Zavkhan	47.0	14,262	818	30,736	392	556	49.0	5.0	10,870	89.7	27	16	399	98	25.7	11.0	2.73	725	911
Altai Region	27.4	24,472	17,900	142,398	389	777	49.2	7.7	9,802	87.3–91.0	22–29	13–15	388	111	35	9.9	1.19	258	844
Bayankhongor	25.3	7,939	7,303	41,501	357	1,312	52.5	7.3	10,065	90.9	29	13	414	182	29.6	12.7	1.21	311	864
Govi-Altai	18.3	7,077	3,657	77,815	494	418	45.7	10.7	11,574	91.0	22	15	313	71	45.1	6.2	1.28	172	1,034
Uvurkhangai	51.5	9,456	6,940	23,082	335	989	48.5	6.3	8,754	87.3	28	15	406	77	34.1	9.7	1.13	260	735
Southern Region	8.4	30,385	191,401	155,407	544	353	33.6	5.3	15,210	78.0–89.3	25–32	7–21	293	118	21.6	13.9	1.51	3,434	1,460
Govi-sumber	100.0	3,010	411	4,615	608	956	16.6	10.0	13,894	89.3	30	12	264	93	51.9	37.9	4.64	219	923
Domogovi	7.2	10,884	69,430	38,451	507	264	23.6	3.9	11,772	78.5	32	7	280	158	23.4	12.6	1.11	1,396	967
Dundgovi	12.7	16,414	43,648	50,532	534	573	52.5	4.9	13,714	78.9	25	7	305	86	21.7	13.1	1.51	172	952
Umnugovi	4.2	77	77,912	61,809	437	262	32.6	6.0	20,114	78.0	32	21	306	107	11.8	9.4	1.11	8,577	2,448
Eastern Region	45.1	178,047	48,231	272,252	534	529	39.7	12.0	20,624	87.0–90.4	27–31	7–16	412	166	37	10.3	1.36	178	823
Dornod	34.8	90,116	36,698	111,756	467	304	26.4	20.9	29,929	87.0	31	7	410	268	42.5	14.5	1.66	146	779
Sukhbaatar	23.6	43,763	10,485	75,470	478	498	54.1	7.6	17,641	90.4	31	10	430	153	30.2	5.9	0.81	130	854
Khenti	82.9	44,168	1,048	54,048	584	961	40.3	7.1	13,785	86.8	27	16	400	68	38.0	9.6	1.49	249	845
Capital Region	89.7	20,793	380	30,978	366	1,006	4.8	10.6	17,570			13–15	215	166	26	12.5	1.25	1,052	896
Ulaanbaatar	100.0	1,184	16	1,422	162	2,070	0.9	11.0				13	201	172	25.9	12.3	1.17	1,098	897
Tuv	89.0	19,609	364	29,556	387	962	37.1	4.1	11,956	86.8	27	15	437	76	20.5	15.9	2.52	309	879
Mongolia	43.0	329,395	261,808	717,098	414	643	24.9	10.0	15,825			13	271	154	28.4	12.9	1.50	1,103	1,001

Attachment F: Reflection of Regional Development Plans Not Approved as Part of the Vision2050 in the NCDP Regional Development Scenarios

Reflection of Regional Development Plans Not Approved as Part of the Vision2050 in the NCDP Regional Development Scenarios

In the following tables, implementation phasing of component projects in the integrated regional development programs for the six regions proposed by the NCDP is shown as development scenarios for respective regions. Those projects included or implied in the Regional Development Plans by region of the Long-term Development Plan (LTDP) 2050 are highlighted in “green”, and projects not included in the LTDP2050 that should better be included in the Regional Development Targeted Programs by region are shown in “red”. Characterization of Phase 1, Phase 2 and Phase 3 of the regional development scenarios by region is newly proposed consistent with the NCDP.

Eastern Region Development Scenario (Vision: Integrated Agro-trade-tourism Frontier Region)

		Phase 1 (2021~25)	Phase 2 (2026~30)	Phase 3 (2031~40)
Characterization		Preparation of expansion base with primary production, cross border trade and tourism	Expansion of processing of primary products, trade with Russia and China and heritage tourism	Upgrading of processing of primary products, expansion of trade, and tourism diversification with border tourism etc.
Agriculture & agro-processing	Livestock development & processing cluster	- Intensification of livestock farming at selected locations	- Processing of livestock products for high-end market - Designation of livestock disease free zone	- Expansion of livestock farming and processing - Expansion of livestock disease zone
	Crop production	- Expansion of horticultural crops production	- Continued crop expansion for import substitution	- Expansion of fruits and vegetables production under irrigation
Industry and trade	Border trade	- Stagewise expansion of border trade with China and Russia	- Stagewise expansion of border trade with China and Russia	- Further expansion of border trade with China and Russia, and beyond
Tourism		- Promotion of heritage tourism in Khentii - Planning for border tourism in Bichigt combined with shopping opportunity on border with FZ	- Further promotion of heritage tourism linked to Sukhbaatar - Promotion of border tourism linking Erdenetsagan and Dariganga	- Promotion of tourism development in Ganga Nuur National Reserve
		Phase 1 (2021~25)	Phase 2 (2026~30)	Phase 3 (2031~40)
Roads	Border access roads	- Comprehensive study on alternative border access roads for prioritization	- Improvement of border access to China through Khavirga, Ereentsav and Bichigt	- Improvement of border access to Russia through Ulikhan
	Tourism access roads		- Jargaltkhaan~ Umunudelgel road improvement	- Norovrin~Dadal road improvement

	Mining access road		- Govi-sumber~Khentii (Darkhan Soum) road improvement	
	Artery/sub-artery roads		- Choibalsan~Undurkhan road upgrading	- Choibalsan~Baruun-Urt road improvement
Other infrastructure	Dornod airport internationalization	- Planning for Dornod airport internationalization & stage 1 implementation	- Completion of Dornod airport internationalization	- Upgrading of Dornod international airport facilities and functions
	Urban infrastructure	- Improvement of water quality and expansion of water supply capacity for piped water for Baruun-Urt	- Undurkhan urban infrastructure development including water supply and sewerage	- Choibalsan urban infrastructure development including water supply and sewerage, power, telecommunication and urban roads
Urban center development		- Planning for urban centers development	- Choibalsan international logistic and business center - Baruun-Urt livestock support center	- Undurkhan tourism gateway
		Phase 1 (2021~25)	Phase 2 (2026~30)	Phase 3 (2031~40)
Institutional measures	Responsible mining	- Establishment of principles for responsible mining	- Strengthening Aimag administrations to enforce responsible mining	- Institutionalizing people's participation in monitoring & evaluation
	Livestock farming	- Support for nomadic livestock farming by ensuring seasonal move according to water and supplemental feed availability	- Designation of livestock disease free zone	- Expansion of livestock disease free zone
	Tourism		- Brand development and proactive marketing for integrated Eastern Region tourism	
	Others	- Introduction of simplified administrative procedure and tax and tariff incentives for border trade - Support for locally based SMEs for trade and tourism related services and other new economic activities	- Continued support for locally based SMEs - Comprehensive program for business development	- Continued support for locally based SMEs

Southern Region Development Scenario (Vision: Responsible Mining and Community Development Model Region)

		Phase 1 (2021~25)	Phase 2 (2026~30)	Phase 3 (2031~40)
Characterization		Preparation for responsible mining to support community development for variety of new economic activities	Active transformation of economic structure for integrated mining, manufacturing and tourism development	Establishment of integrated socio-economic complex supported by ICT and advanced technology

Agriculture & agro-processing	Livestock development & processing	- Intensification of livestock farming at selected locations - Initiation of water supply expansion	- Improvement of water supply for selected locations - Processing of livestock products for high-end market	- Expansion of water supply and livestock activities
	Crop production & processing	- Expansion of oil crop cultivation - Cultivation of medicinal herbs as livelihood activities of local people	- Processing of oil crops and medicinal herbs by locally based SMEs	- Expansion of oil crop and medicinal herbs production and processing
Industry and trade	FZ development	- Feasibility study on ICT industrial estate in Govi-sumber	- Initial development of Govi-sumber ICT industrial estate	- Further development of Govi-sumber ICT industrial development
Tourism	Tourism triangle	- Planning for triangle tourism circuit linking Sainshand, southern semi-desert and Zamyn-Uud	- Establishment of tourism facilities including man-made attractions	- Diversification of tourism attractions
		Phase 1 (2021~25)	Phase 2 (2026~30)	Phase 3 (2031~40)
Roads	Ring artery		- Mandalgovi~Govi-Ugtaal~Choir road upgrading	- Mandalgovi~ Erdenedalai~Arveikher road upgrading
	Other roads	- Initial implementation of Tavantolgoi~Gashuun Sukhait road improvement	- Continued improvement of Tavantolgoi~Gashuun Sukhait road	
Other infrastructure	Railway	- Continued implementation of Tavantolgoi~Gashuun Sukhait railway	Completion of Tavantolgoi~ Gashuun Sukhait railway Planning for other railway sections	- Implementation of new priority railway lines
	Others	- Expansion of water supply for Choir	- Expansion of water supply for nomadic livestock farming	
Urban center development	Tourism triangle	- Zamyn-Uud border trade and tourism center	- Sainshand logistic and tourism center development	- Govi environmental technology center development
	Others	- Choir automobile repair and service center	- Choir clean energy development center - Mandalgovi logistic center	- Sainshand environmental education center
		Phase 1 (2021~25)	Phase 2 (2026~30)	Phase 3 (2031~40)
Institutional measures	Responsible mining	- Establishment of principles for responsible mining	- Strengthening Aimag administrations to enforce responsible mining	- Institutionalizing people's participation in monitoring & evaluation
	Implementing arrangements	- Preparation for clean energy center with implementing arrangements	- Cooperative arrangements between Aimags for developing and managing tourism triangle and circuit	

	SME supports	- Support for locally based SMEs for trade and tourism related services and other new economic activities	Continued support for locally based SMEs Comprehensive program for business development	- Continued support for locally based SMEs
	Others	- Introduction of simplified administrative procedure and tax and tariff incentives for border trade - Promotion of environmental technology and education	- Preparation of guidelines for use of water and feed supply provided for semi-intensive livestock by nomadic herders - Establishment of Community Development Fund by using mining income	- Development of common brand for products in Govi area

Altai Region Development Scenario (Vision: Diversified Agriculture and Energy Reserve Region)

		Phase 1 (2021~25)	Phase 2 (2026~30)	Phase 3 (2031~40)
Characterization		Preparation through planning for livestock industrial cluster, crop diversification, tourism network, renewable energy center and Kharkhorin cultural capital	Initial implementation of high-grade economic activities, renewable energy development and various urban centers development	Establishment of high productivity livestock belt, urban network for processing, social and cultural functions, and renewable energy center
Agriculture & agro-processing	Livestock industrial cluster	Planning for stagewise development and stage 1 implementation	Establishment of major processing plant and export of meat products	Processing for value-added products for export to other regions
	Crop production & processing	- Diversification of crop production including fruits, oil seed, herbs and medicinal plants	- Processing of fruits and herbs by locally based SMEs	- Water saving irrigation to expand production and processing
Tourism		- Preparation of strategic plan for Orkhon Valley area tourism development	- Development of cultural tourism in Kharkhorin and the Orkhon valley	- Promotion of health tourism by utilizing hot springs and medicinal plants
		Phase 1 (2021~25)	Phase 2 (2026~30)	Phase 3 (2031~40)
Roads	Ring artery		- Altai-Uliastai road upgrading	- Altai, Bayankhongor and Arvaikheer section upgrading
	Tourism access roads	- Arveikher-Khujirt road	- Kharkhorin~Shankhiin~ Tuvkhun road	- Khujirt-Ulaantsutagan ~Shargaljuut~Bayankhongor road
	Border access roads		- Altai~Burgastai road	- Arveikher~Shiveekhuren road
Other infrastructure	Renewable energy development & research center	- Comprehensive study for stagewise development	- Pilot implementation of solar and wind application - Geothermal exploration	- Expansion of solar and wind uses - Application of geothermal resources for multiple uses
	Zavkhan River multi-purpose	- Feasibility study for irrigation and hydropower development	- Initial implementation	- Continued implementation

	dam development			
Urban center development	Kharkhorin cultural capital	- Comprehensive study for stagewise establishment of cultural capital	- Initial development of cultural capital	- Diversification of functions and facilities related to cultural capital
	Others	- Establishment of training centers for education and health personnel in Altai	- Altai tourism base development for nature, culture and health tourism - Arvaikheer logistic center development	- Bayankhongor health tourism and medical science center development
		Phase 1 (2021~25)	Phase 2 (2026~30)	Phase 3 (2031~40)
Institutional measures	Pasture management	- Establishment of controlled pasture areas	- Improved management of pasture land	- Institutionalizing people's participation in monitoring & evaluation
	Livestock industrial cluster	- Facilitation of organizing/strengthening of producers' association of products for livestock industrial cluster	- Facilitation of technology adaptation for product development and marketing of products for livestock industrial cluster	
	Others	- Support for locally based SMEs for trade and tourism related services and other new economic activities	Continued support for locally based SMEs Comprehensive program for business development	- Continued support for locally based SMEs

Western Region Development Scenario (Vision: Green Development Model Region)

		Phase 1 (2021~25)	Phase 2 (2026~30)	Phase 3 (2031~40)
Characterization		Preparation through planning for livestock industrial cluster, tourism network, Tsaganuur FZ activation, and Khovd international airport etc.	Accelerated development of industrial clusters, FZs, tourism network, and urban centers for processing, trade, and higher education and research	Upgrading of industrial clusters for export products, integrated tourism network, and advanced education and research to support new socio-economic activities
Agriculture & agro-processing	Livestock industrial cluster	Planning for stagewise development & stage 1 implementation	Establishment of major processing plant and export of meat products	Processing for value-added products for export to other regions
	Seaberry industrial cluster	Planning for stagewise development & stage 1 implementation	Establishment of major processing plant and export of meat products	Processing for value-added products for export to Europe
Industry and trade	FZ development	Activation Tsaganuur FZ for agro-related industries and services	Development of other FZs for other industries	Expansion of selected FZs

Tourism	Integrated tourism development	Planning for integrated tourism network	Development of individual tourism sites	Continued development of individual tourism sites
		Phase 1 (2021~25)	Phase 2 (2026~30)	Phase 3 (2031~40)
Roads		- Khovd~Ulaangom road improvement - Ulgii~Tashanta road improvement	- Ulgii~Ulaangom road improvement	- Dayannuur~Ulgii road improvement
Other infrastructure	Khovd airport internationalization	- Planning for Khovd airport internationalization and stage 1 implementation	- Completion of Khovd airport internationalization	- Upgrading of Khovd international airport facilities and functions
	Others	- Completion of Erdeneburen hydropower development - Continued Khovd ~Ulgii ~Ulaangom power grid extension	- Further planning and development of Khovd River hydropower	- Implementation of Khovd River hydropower
Urban center development		- Planning for Khovd higher education and research center and stage 1 implementation	- Full development of Khovd higher education and research center - Ulgii nature and culture tourism center development - Ulaangom trade center development	- Strengthening of urban centers functions
		Phase 1 (2021~25)	Phase 2 (2026~30)	Phase 3 (2031~40)
Institutional measures	Responsible mining	- Establishment of principles for responsible mining	- Strengthening Aimag administrations to enforce responsible mining	- Institutionalizing people's participation in monitoring & evaluation
	Pasture management	- Establishment of controlled pasture areas	- Improved management of pasture land	- Institutionalizing people's participation in monitoring & evaluation
	Industrial clusters	- Facilitation of strengthening of producers' association of products for seaberry and livestock industrial clusters	- Facilitation of technology adaptation for product development and marketing of products for livestock and seaberry industrial clusters	- Facilitation of strengthening of producers' associations and other support measures for other industrial clusters
	Others	- Introduction of simplified administrative procedure and tax and tariff incentives for border trade - Support for locally based SMEs for trade and tourism related services and other new economic activities	- Preparation of a comprehensive water resources and management plan for Buyant, Bulgan, Khovd and Senkher Rivers - Continued support for locally based SMEs	- Continued support for locally based SMEs

Khangai Region Development Scenario (Vision: Advanced Socioeconomic Complex Region)

		Phase 1 (2021~25)	Phase 2 (2026~30)	Phase 3 (2031~40)
Characterization		Strengthening of high productivity crop and livestock farming and processing supported by ICT and other advanced technology	Further development of high productivity crop and livestock farming and processing, diversification of trade and tourism linked with Russia, and multi-function urban centers development	Development of technology center functions to support various socio-economic activities linked also to other regions by ICT network
Agriculture & agro-processing	Livestock development & processing	- Integration of semi-intensive livestock and fodder production - Establishment of ICT-linked livestock industrial cluster	- Further development of integrated farming - Production of high value livestock products by livestock cluster	- Export of high value livestock products
	Crop production & processing	- Promotion of smart and mechanized agriculture - Planning for water-saving irrigation	- Further development of smart and mechanized agriculture - Implementation of water-saving irrigation	- Further development of water-saving irrigation
Industry and trade	FZ development	Further development of Altanbulag FZ	Development of other FZs	Expansion of selected FZs
Tourism	Khuvsgul tourism diversification	Planning for stagewise diversification of Khuvsgul tourism	Development of individual tourism sites and proactive marketing	Continued development of individual tourism sites and diversification of tourism circuits for foreign tourists
		Phase 1 (2021~25)	Phase 2 (2026~30)	Phase 3 (2031~40)
Roads	Tourism access roads	- Arvaikheer~Kharkhorin road	- Khutgal~Khankh road - Bulgan~Khasig-Ondor~Gurvanbulag road - Bat-Olziit~Tsetserleg road	- Murun~Shine-Ider~Jargalant~Tsetsuuh road
	Border access roads		- Khutag-Ondor~Teshig~ Baga Ilenkh road	- Nomlog~Tes~Artssuuri road
	Ring artery	- Darkhan~Erdenet section upgrading	- Murun~Burentogtokh ~ Tasgaan-Uul~Dolbunzaminsalah section improvement	- Upgrading of entire sections
Other infrastructure	ICT development	- Planning for Darkhan and Tsetserleg ICT network development	- Implementation of Darkhan and Tsetserleg ICT network development	- Upgrading of Darkhan and Tsetserleg ICT network

Urban center development		- Khuvsgul tourism center development - Sukhbartaar border trade base strengthening - Uliastai social service base development	- Darkhan farming technology center development - Erdenet-Bulgan service bases development for transit trade and tourism - Tsetserleg ICT center and winter tourism base development	- Strengthening of urban centers functions - Erdenet-Bulgan twin city development
		Phase 1 (2021~25)	Phase 2 (2026~30)	Phase 3 (2031~40)
Institutional measures	Responsible mining	- Establishment of principles for responsible mining	- Strengthening Aimag administrations to enforce responsible mining	- Institutionalizing people's participation in monitoring & evaluation
	Forest management	- Comprehensive forest resources inventory	- Improved management of forest resources and use of non-wood forest resources	- Continued use and management of forest resources
	Development administration	- Designation of Darkhan-Uul as autonomous city	- Promotion of local autonomy and stepwise devolution of administrative functions	- Establishment of decentralized regional development model
	Others	- Support for locally based SMEs for trade and tourism related services and other new economic activities	- Continued support for locally based SMEs - Establishment of drought forecast and alarm system for farmers	- Continued support for locally based SMEs

Capital Region Development Scenario (Vision: Advanced Processing and Logistic Base Region)

		Phase 1 (2021~25)	Phase 2 (2026~30)	Phase 3 (2031~40)
Characterization		Initial transformation of economic and spatial structure for post-COVID-19 socio-economic development	Strengthening of R&D and design functions to support high value-added economy, while upgrading quality of living environment with satellite cities	Realization of robust economy and resilient society centering on UB as a global city with plenty of greenery and amenity facilities
Agriculture & agro-processing	Livestock development	- Intensive livestock farming combined with increased fodder production for integrated farming	- Research & development for high productivity livestock farming with livestock gene bank	- High quality livestock products export for international fame
Industry and trade		- Planning for re-location of some public facilities in satellite cities in Tuv	- Promotion of value added final processing of products from other Aimags for export including design and branding	- Export of high quality processed goods for international fame
Tourism		- Planning for post-COVID-19 tourism development in Mongolia including	- Development of high quality tourism facilities including some artificial attractions	- Development of advanced amusement facilities

		virtual tourism with UB as the tourism gate and base		
		Phase 1 (2021~25)	Phase 2 (2026~30)	Phase 3 (2031~40)
Roads	North-south economic corridor	- Continual improvement along Ulaanbaatar~Zamyn-Uud	- Upgrading of Ulaanbaatar~Choir section	- Upgrading with additional lanes
	Ulaanbaatar urban roads	- Establishment of priority for improvement according to revised urban master plan	- Stagewise improvement of artery roads	- Continue stagewise road improvement together with development of pedestrian ways network
	Logistic link roads	- Planning for stagewise improvement of logistic links	- Stagewise improvement of logistic links	- Completion of Bornuur~Lun~Bayan Onjuur~Bayan ~Baganuur logistic links
Other infrastructure	Railway		- Bogd Khan rail link improvement	- North-south corridor rail capacity development
	Water supply	- Implementation planning for water supply expansion for Ulaanbaatar and satellite cities	- Initial implementation of Ulaanbaatar water supply expansion	- Further expansion of Ulaanbaatar water supply
Urban center development	Ulaanbaatar urban development		- Ulaanbaatar trunk ICT base station upgrading	- Ulaanbaatar model mega green city development
	New cities development	- Completion of detailed planning and initial implementation	- Full scale development	- Expansion
		Phase 1 (2021~25)	Phase 2 (2026~30)	Phase 3 (2031~40)
Institutional measures	New cities development	- Designation of new airport side FZ - Clarification of water right situations associated with water resources development and supply to satellite cities and vicinities	- Provision of legal base and administrative procedure for de-concentration of political and administrative functions - Establishment of new Capital Region administration	- Capacity development of Capital Region administration
	Others	- Institutional strengthening for technology development and adaptation	- Cooperative arrangements for establishing the logistic circle in Tuv	

Attachment G: NCDP to Support the RDP Formulation

NCDP to Support the RDP Formulation

1. Macro Development Alternatives and the Best Alternative

Definition of development alternatives

Macro development alternatives are defined by the NCDP as shown in Table 1.

Table 1 Macro Development Alternatives Defined and Examined by the NCDP

Alternative	Definition	Explanation
A. Mining-led development	Continued reliance on mining for economic and export growth with minimal processing of mining products and agro-products	Represents the trend development except agricultural growth set at realistic sustainable rate (3%), which will continue relying on mining development as the prime driving force
B. High manufacturing development	Processing industries of mining and agricultural products as driving force for development	Relies on high growth of manufacturing sector to process higher shares of mining and agricultural products than currently undertaken, while mining would grow at a modest rate
C. Transit trade-oriented development	Transit trade across Mongolia as another driving force for development with highest growth of services sector	Relies more on the transit trade between China and Russia, while manufacturing would continue to grow steadily following more or less the trend
D. High growth hybrid development	Processing industries of mining and agricultural products and transit trade to attain highest economic growth	Combines Alternative B for high industrialization and Alternative C for transit trade as the driving force to attain high economic growth

The macro development alternatives are evaluated by the NCDP as shown in Table 2.

Table 2 Evaluation of Macro Development Alternatives by Selected Indices

Alternative	A: Mining-led development	B: High manufacturing development	C: Transit trade-oriented development	D: High growth hybrid development
Population in 2030, thousand	3,740			
Economic growth, % p.a.			6.7	7.1
Per capita GDP in 2030, MNT thousand			17,933	18,848
Labor requirement, thousand	1,562	1,559	1,556	1,555
Manufacturing GDP growth	7.0	9.4	7.6	9.4
Service GDP growth	7.5	7.5	8.0	8.3

Urbanization and population distribution	Continued population concentration in Ulaanbaatar with increased primacy Continued out-migration of people Decrease of population in rural areas and local towns	Development of local towns with manufacturing industries and associated services Ulaanbaatar primacy at similar level as present No net out-migration of people	Development of local towns along major arteries more with services Slightly increased primacy of Ulaanbaatar with more services orientation No net out-migration of people	Large in- and out-migration Development of local towns as well as Ulaanbaatar as global city with higher order services Better balance between regions
Social effects	Increased urban-rural disparities due to limited employment generation particularly in rural areas -Disruption of social and family ties due to continued out-migration	Reduced urban-rural disparities due to employment generation in local towns Better social and family ties due to processing of primary products and reactivated agriculture and livestock farming in rural areas and local towns	Continued urban-rural disparities due to concentration of urban population along limited arteries Social problems associated with urbanization of local towns and service-oriented development	Decrease in urban-rural disparities Large employment generation and better social and family ties in rural areas due to processing of primary products - Possible conflicts with in-migrants
Environmental effects	Adverse environmental effects due to expansion of mining Aggravation of urban environment in Ulaanbaatar due to continued over-concentration	Generation of new urban environmental problems in local towns Reduced environmental problems associated with mining	Possible aggravation of urban environment in Ulaanbaatar Generation of urban environmental problems in local towns Reduced environmental problems associated with mining	Possible aggravation of urban environment in Ulaanbaatar Generation of urban environmental problems in local towns

Development management	Increased management needs to deal with social and environmental problems Difficult development management due to limited capital accumulation	Need to support manufacturing industries for products development with technology and market development Need to deal with environmental problems in local towns by local administration	Need to expand infrastructure capacity in Ulaanbaatar and local towns High management need for Ulaanbaatar to enhance competitiveness for services Need for infrastructure development in local towns by local administration	High management needs to make Ulaanbaatar a global city Technology and skill development to support manufacturing industries Need for infrastructure development in local towns by local administration
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Source: Table 4.3.5 in the NCDP

Recommended alternative

The four alternatives examined in Section 4.3 (in the NCDP) will have the similar level of population and employment but implications of technological development vary between them. For Case B of high manufacturing development and as Case D of high growth hybrid development, significant technology development will be required to realize the highest labor productivity. Needs for technology development in services will be required progressively for Case B, Case C and Case D. Higher growth in manufacturing with technological development tends to increase growth in services as well. Consequently, the high growth hybrid development attains the highest growth and the largest per capita GDP and is therefore considered most desirable. This alternative will realize most diversified economy in manufacturing and services together and is environmentally favorable as well as shown in Table 4.3.5 (in the NCDP).

2. Regional Development Alternatives

Relevance of macro development alternatives

Depending on the characteristics of each region, emphasis on different alternatives of macro development alternatives varies between regions. Relevance of macro alternatives A), B) and C) is assessed by region as shown in Table 3. Importance of agriculture, which also varies between regions, is also indicated in the table.

Table 3 Relevance of Three Macro Development Alternatives and importance of Agriculture by Region

Region	Relevance of macro development alternatives*			Importance of agriculture**	
	A: Mining-led development	B: High manufacturing development	C: Transit trade-oriented development	Crop	Livestock
Western	△	○	◎	△	○
Khangai	○	◎	◎	○	○
Altai	△	○	○	○	◎
Southern	◎	○	△	△	△
Eastern	○	○	◎	○	◎
Capital	△	◎	◎	△	○

Note: *◎ Most relevant, ○ Relevant, △ Not relevant

**◎ Most important, ○ Important, △ Less important

Best alternative by region

Based on relevance of macro development alternatives and importance of agriculture assessed by region, the best development alternative for each region is defined as the regional development vision respectively as presented in 6.3 Development Vision and Strategy by Region of the NCDP. The vision for Western Region is presented below as an example.

Regional Development Vision for Western Region
Western Region is developed as the Green Development Model Region characterized by trade and tourism related services capitalizing on access to Russia and China, rich and diversified nature and cultural resources, while preserving pastureland and alleviating effects by Dzud by strengthened Aimag administrations and active people’s participation.

3. Development Scenario for Phased Development

Macro development scenario

The macro development scenario at the national level is described in detail in 8.1 Development Scenario in the NCDP.

Regional development scenarios

Development scenarios by region are presented by the PP materials prepared based on the NCDP and submitted to NDA on September 3, 2021. The development scenario for Western Region is shown in Table 4 as an example.

Table 4 Development Scenario for Phased Development by Region for Western Region

		Phase 1 (2021~25)	Phase 2 (2026~30)	Phase 3 (2031~40)
Agriculture & agro-processing	Livestock industrial cluster	Planning for stagewise development & stage 1 implementation	Establishment of major processing plant and export of meat products	Processing for value-added products for export to other regions
	Seaberry industrial cluster	Planning for stagewise development & stage 1 implementation	Establishment of major processing plant and export of meat products	Processing for value-added products for export to Europe
Industry and trade	FZ development	Activation Tsagannuur FZ for agro-related industries and services	Development of other FZs for other industries	Expansion of selected FZs
Tourism	Integrated tourism development	Planning for integrated tourism network	Development of individual tourism sites	Continued development of individual tourism sites
Roads		- Khovd~ Ulaangom road improvement -Ulgii~Tashanta road improvement	-Ulgii~Ulaangom road improvement	-Dayannuur~Ulgii road improvement

Other infrastructure	Khovd airport internationalization	- Planning for Khovd airport internationalization and stage 1 implementation	- Completion of Khovd airport internationalization	- Upgrading of Khovd international airport facilities and functions
	Others	- Completion of Erdeneburen hydropower development - Continued Khovd ~Ulgii ~Ulaangom power grid extension	- Further planning and development of Khovd River hydropower	- Implementation of Khovd River hydropower
Urban center development		- Planning for Khovd higher education and research center and stage 1 implementation	- Full development of Khovd higher education and research center - Ulgii nature and culture tourism center development - Ulaangom trade center development	- Strengthening of urban centers functions
Institutional measures	Responsible mining	- Establishment of principles for responsible mining	- Strengthening Aimag administrations to enforce responsible mining	- Institutionalizing people's participation in monitoring & evaluation
	Pasture management	- Establishment of controlled pasture areas	- Improved management of pasture land	- Institutionalizing people's participation in monitoring & evaluation
	Industrial clusters	- Facilitation of strengthening of producers' association of products for seabery and livestock industrial clusters	- Facilitation of technology adaptation for product development and marketing of products for livestock and seaberry industrial clusters	- Facilitation of strengthening of producers' associations and other support measures for other industrial clusters
	Others	- Introduction of simplified administrative procedure and tax and tariff incentives for border trade - Support for locally based SMEs for trade and tourism related services and other new economic activities	- Preparation of a comprehensive water resources and management plan for Buyant, Bulgan, Khovd and Senkher Rivers - Continued support for locally based SMEs	- Continued support for locally based SMEs

Regional development strategy and measures

Development strategy and measures by region are described also in 6.3 Development Vision and Strategy by Region of the NCDP, which in fact explain the development scenario by region.

The development strategy and measures for Western Region are presented below as an example extracted from the NCDP.

Economic aspects

Western Region is less developed with low per capita GRDP, low labor productivity and high unemployment rate. Forest and sown areas are relatively small and Dzud risk is high. Given these conditions, Western Region should be specialized in trade and tourism related services, semi-intensive livestock farming, sea buckthorn industrial cluster development, construction materials industry and distribution of construction materials and commodities. Only limited mining activities should be allowed for strictly responsible mining under monitoring by the local administrations and residents. Its specialization in trade and tourism related services should be strengthened by:

- (a) Promotion of trade with Russia and China by upgrading border facilities at Borshoo, Ulaan Bayshint and Dayannuur,
- (a) Activation of the Tsagaannuur FZ near Ulgii mainly for agro-related industries,
- (b) Establishment of integrated tourism network for nature and culture tourism,
- (c) Specialization in higher education and research in dryland agriculture, biodiversity to improve livestock, sea buckthorn processing, multi-ethnicity and culture, and tourism services.

Crop production and livestock in Western Region are promoted by:

- (a) Semi-intensive livestock farming mainly in Uvs together with increased fodder production for integrated farming,
- (b) Nomadic livestock activities and lifestyle preserved with enhanced productivity and profitability with market outlets provided in Uvs, serving also for culture tourism,
- (c) Sea buckthorn expansion as the first step of industrial cluster development in Uvs and Khovd along the artery linking Ulaangom and Khovd cities, and
- (d) Establishment of a processing base for sea buckthorn also along the artery.

The integrated tourism network is established by:

- (a) Linking nature tourism in Bayan-Ulgii and Khovd with the Altai mountains and in the Uvsnuur basin with the lake in Uvs, and culture tourism based on multi-ethnicity in Bayan-Ulgii and Khovd, and

Khovd city serving as a tourism gateway for Western Region with direct air access from other regions and countries.

Infrastructure

To support these development prospects in economic aspects, infrastructure should be much improved:

- (a) The Erdeneburen hydropower plant on the Khovd River completed with the installed capacity of 90 megawatt (MW) to meet power demand in Western Region fully without relying on power import from Russia and China,
- (b) Power grid extension to Bayan-Ulgii and Uvs,

- (c) Road links between Ulaangom, Khovd and Ulgii to be improved to facilitate the establishment of integrated tourism network, procurement of fodder for semi-intensive livestock farming, marketing of livestock products and distribution of construction materials and commodities, and
- (d) Improvement of the road link from China at Dayannuur on A15 through Ulgii to Tashanta in Russia, and
- (e) Internationalization of Khovd city airport.

Urban functions

Urban functions to be strengthened for the three Aimag capitals are summarized below. Of the three Aimag capitals, Khovd is identified as the regional core city by the urban hierarchical analysis.

Aimag capital	Major functions
Ulgii, Bayan-Ulgii	Tsagaannuur FZ for processing and service activities Center for nature and culture tourism
Ulaangom, Uvs	Center for trade with Russia Distribution center for construction materials and commodities
Khovd, Khovd	Higher education and research center in dryland agriculture, biodiversity, sea buckthorn processing etc. Tourism gateway to Western Region Construction materials industry and supply base

Institutional measures

The following institutional measures should be taken to support the new economic activities:

- (a) Establishment of principles for responsible mining and strict enforcement by Aimag administrations,
- (b) Management of pastureland to prevent further degradation,
- (c) Simplified administrative procedure and tax and tariff incentives for border trade with Russia and China,
- (d) Preparation of a comprehensive water resources and management plan encompassing the Buyant, Bulgan, Khovd and Senkher rivers,
- (e) Facilitation of formulation/strengthening of producers' association, technology adaptation for product development and marketing of products for sea buckthorn industrial cluster development, and
- (f) Support for locally based small and medium-sized enterprises (SMEs) for trade and tourism related services, construction materials industry and other new economic activities.

Chapter 3 Monitoring and Evaluation

3.1 Legal Requirements and Practice in Mongolia

3.1.1 Scope of monitoring and evaluation

Any development policies and plans need to be monitored, their effects evaluated, and revised as necessary to ensure expected outcomes are obtained or new policies and plans introduced reflecting the outcomes. Development concept, vision and guidelines to prepare specific policy and planning documents may also be subject to monitoring and evaluation and modified if found necessary. Thus, monitoring and evaluation constitute essential part of development management.

Monitoring of development projects and programs consists broadly of implementation monitoring and performance monitoring. Implementation monitoring of development projects and programs monitors timing of implementation, budget execution and schedule of project/program progress and completion. Operation and management of project may also be monitored to evaluate performance of the physical facilities involved in the projects under evaluation as well as performance of operation and management staff. Performance monitoring monitors effects of development to be realized by a project or overall effects of a set of development projects and programs or policy implemented in accordance with a development plan.

Monitoring and evaluation of long-term development policies and plans in Mongolia have been examined during the extension period by a national expert under the guidance of the JPT focusing on the SDV2030 and other policy documents. Existing legal base and practices have been reviewed and recommendation for monitoring and evaluation of the HSP and the RDP has been derived. A case of monitoring and evaluation for national comprehensive plans in Japan was studied as a reference.

3.1.2 Overall monitoring and evaluation system with division of responsibilities

The monitoring and evaluation system in Mongolia is stipulated in the Law on Development Policy Planning and Management, approved on 26th November 2015, amended on 20th May 2020. The purpose of the law is to ensure the sustainability and continuity of Mongolia's development policy and planning at the national, regional and local levels. It defines principles to be followed, procedure for formulating development policy, planning, effective implementation, monitoring, evaluation and reporting by an integrated and rational system.

Division of responsibilities particularly for monitoring and evaluation is described in detail for the Parliament, the Central Government organizations, Governors of local administrations, the Central Bank and related research and other institutes. Main responsibilities of key organizations are summarized in Table 3.1.1.

Table 3.1.1 Main Responsibilities of Key Organizations Involved in Monitoring and Evaluation

Entity	Main responsibilities
Parliament	<ul style="list-style-type: none">- Discuss and approve development policy and planning documents and budget execution report- Evaluate development policy and planning documents by the third party and direct the Government for necessary changes in policy based on its reports

Government (Cabinet)	<ul style="list-style-type: none"> - Manage the implementation of development policy and planning documents, monitor and evaluate their implementation at the national level - Approve guiding rules for monitoring and evaluation - Report to the Parliament on the implementation of development policy and planning documents and its progress - Monitor and evaluate implementation of development policy plans for qualitative evaluation of implementation and evaluation of effects of outcomes - Develop, review, plan, implement and monitor the implementation of development policy and planning documents, and monitor the results - Transfer the relevant information to the state administrative body in charge of national development policy and planning for placement in the unified policy and planning database.
Sector ministries and agencies, e. g. MCUD	<ul style="list-style-type: none"> - Draft development policy documents in accordance with the Government directions - Implement development policy and planning objectives within the sector - Monitor and evaluate the progress of development policy plans within the scope of responsible sector and report to the Cabinet - Create and submit data necessary for planning, monitoring and evaluation of development policy plans
NDA	<ul style="list-style-type: none"> - Integrate and organize development policy and planning activities at the national, sectoral, inter-sectoral and regional and local levels - Evaluate consistency of development policy plans and their implementation by sector - Establish, manage, update and apply database - Collect information required for development policy and planning, research, proposals, conclusions and draft plans on specific sector development from all levels of government and other relevant organizations
NSO	<ul style="list-style-type: none"> - Process official statistical information required for monitoring and evaluation from time to time - Develop criteria required for the development of policy and planning documents, their sources and methods required for calculation and calculation methods
State Audit Office	<ul style="list-style-type: none"> - Audit development policy and planning documents specified in the Law on State Audit and submit them to the Parliament
Aimag and Capital City Governors	<ul style="list-style-type: none"> - Develop an action plan, annual development plans of Aimags, the Capital City and cities, and submit the proposal to the Citizens' Representatives Khural of the respective level - Prepare and submit reports on implementation of long-term development policy and programs - Submit to the Cabinet a progress report and impact report on the implementation of development policy and planning objectives at the local level

3.1.3 Legal requirements for monitoring and evaluation of SDV2030

The SDV2030 was nullified as the Vision2050 was approved by the Parliament in May 2020. It is

meaningful, however, to examine how the SDV2030 was in fact implemented and monitored in order to clarify the monitoring and evaluation system for development policy documents of the Mongolian Government and clarify issues involved in monitoring and evaluation in practice.

(1) Legal requirements for monitoring and evaluation of SDV2030

“Global Sustainable Development Goals 2030” (SDGs) was adopted by UN General Assembly in September 2015 with a total of 17 goals, 169 objectives and 244 indicators. In response, the Parliament of Mongolia approved the “The Sustainable Development Vision of Mongolia 2030” (SDV2030) by the Resolution No.19 of 5 February 2016. The Resolution states that to “establish a permanent structure and system to manage, monitor and evaluate the implementation of the Sustainable Development Concept of Mongolia” (Section 2, Paragraph 3), "monitor and evaluate the implementation of the SDV2030 of Mongolia every two years and present it to the relevant Standing Committee of the Parliament of Mongolia" (Section 2, Paragraph 4) and also "Instruct the Standing Committee on State Structure of the Parliament of Mongolia to monitor the implementation of this resolution" (Section 2, Paragraph 3).

“General rule for monitoring and evaluating the implementation of policy documents and the activities of administrative organizations” was approved by the Government Resolution No.89 of March 15, 2017 (updated and approved by Government Resolution No. 206 of 2020), in pursuance to the Article 20.2 of the Law on Development Policy and Planning and the Article 2.3 of the Parliament Resolution No.19 of 2016. Detailed description of implementation of policy documents, legislation, resolutions, reporting period of the organization's activities, type of report, organizations in charge of monitoring and evaluation, organizations that reports to be submitted, frequency, reporting organization and timings are defined in Annex 1 of the above-mentioned rule.

According to Annex 1, the State central administrative organizations or Ministries shall submit a biennial monitoring, analysis and evaluation report on the implementation of the SDV2030 within their area of responsibility by September 1, 2018, and submitted to the State central administrative organization in charge of budget or the Ministry of Finance, the State central administrative organization in charge of finance and budget or the Ministry of Finance shall consolidate the report and submit it to the Cabinet Secretariat of Government by October 1, 2018 and will be presented to the Government in November 2018, to the Parliament in December 2018.

In accordance with the methodology specified in the above rule, the Monitoring, Evaluation and Internal Audit Department of the Ministries prepared a monitoring and evaluation report respectively on the implementation of the SDV2030 within its area of responsibility and submitted it on September 1, 2018. The reports submitted by the Ministry of Finance were consolidated and submitted to the Cabinet Secretariat of Government by October 1, 2018. It is not clear whether it was delivered on time. Within 7-14 days, the senior expert in charge of the Monitoring, Evaluation and Internal Audit Department of these organizations received and compiled the reports submitted by the relevant departments, agencies and organizations.

(2) Practice of monitoring and evaluation of SDV2030

According to E. Bat-Ider, Head of the Monitoring, Evaluation and Internal Audit Department of the Cabinet Secretariat of Government, the monitoring and evaluation report on the implementation of the SDV2030 was presented to the Cabinet meeting and submitted to the Parliament Standing Committee on State Structure within the timeframe specified in the regulation, but was not presented to the Parliament.

According to a source found on the Parliament's website on February 7, 2018, Parliament's members such as S. Byambatsogt, N. Amarzaya, B. Battumur, D. Oyunkhorol and D. Erdenebat have questioned the Prime Minister of Mongolia about the implementation process of the SDV2030. Accordingly, G. Zandanshatar, Minister of Mongolia and Chief of the Cabinet Secretariat of Government, sent an official reply to the Parliament's members on March 3, 2018, by official letter

No. 627. The Prime Minister of Mongolia U. Khurelsukh presented the answer to the questionnaire at the spring session of the Parliament on May 24, 2019. (Source: <http://parliament.mn/files/35568>).

The questionnaire states that development policy is a legal document that must preserve the continuity of public policy in which any party or coalition that comes to power shall clarify how development policies and objectives are being implemented. For example, it was asked how the goal of diversifying the economy and making it multi-pillar, which is the main goal of Mongolia's development reflected in the SDGs, is being implemented. Also asked was a clear answer on whether there is a permanent structure and system for managing, monitoring and evaluating the implementation of this policy, and which organization is monitoring and analyzing the implementation process.

In addition, clear answers should be provided on whether the funds required for the implementation of the SDGs are adequately reflected in the annual state and local budgets, and how the sector development policies, programs and objectives submitted by the Government to the Parliament are related to the SDGs, and whether the objectives set for the first phase of the SDGs will be fully operational by 2020.

(3) Assessment of monitoring and evaluation of SDV2030

Based on the survey conducted during the extension period, the following are clarified related to monitoring and evaluation of the SDV2030, which may be indicative of monitoring and evaluation of long-term development policy documents in general.

- 1) In accordance with the Law on Development Policy, Planning and Management and relevant regulations, the monitoring, analysis and evaluation report on the implementation of the Mongolian SDV2030 was submitted to the Government in November 2018 and to the Parliament in December 2018, but was not put on agenda at the Parliament.
- 2) It is not clear when the report on the implementation of the SDV2030 for 2017-2018 and the first half of 2019 prepared by the Monitoring, Evaluation and Internal Audit Department of the Cabinet Secretariat of Government was presented to the Parliament.
- 3) In connection with the change in the structure and organization of the Government, there are problems such as constant changes in the human resources of the Monitoring, Evaluation and Internal Audit Departments and divisions, insufficient human resource capacity, and lack of relevant training.
- 4) Some indicators are not clear when assessing the level of performance, monitoring and evaluation in comparison with the level of achievement of the objectives and measures to be implemented within the framework of the SDV2030, and they are difficult to evaluate because data cannot be produced.
- 5) Members of the Government, heads of government agencies and Aimag and Capital City governors are instructed to develop and approve monitoring and evaluation methodologies based on the "General rule for monitoring and evaluating the implementation of policy documents and the activities of administrative organizations" in accordance with the specifics of their respective sectors and localities. However, the implementation of the monitoring and evaluation methodology has not been satisfactory, and the developed and approved methodologies need to be improved.

3.1.4 Monitoring and evaluation of other policies and plans

(1) Monitoring and evaluation of Action Plan 2016-2020

The "Action Plan of the Government of Mongolia for 2016-2020" was approved by the Parliament Resolution No. 45 of September 9, 2016. The Resolution has instructed the Government of Mongolia to approve the "Detailed Plan to Implement the Action Plan of the Government of Mongolia

for 2016 - 2020” and to present the implementation of the program to the Parliament within the first quarter of each year; and to implement the objectives set out in the program in the annual budget framework statement, economic and social development guidelines, and the state budget.

The “Plan to Implement the Action Plan of the Government of Mongolia for 2016 - 2020” was approved by the Government Resolution No. 121 of October 26, 2016. The Resolution instructs that “Cabinet members, Aimag and Capital City governors to submit a report respectively on the implementation of planned activities within their jurisdiction to the Cabinet Secretariat of Government by March 10 of each year” (Section 4) and “the Minister of Mongolia and the Head of the Cabinet Secretariat of Government shall monitor and evaluate the implementation of the measures included in the Plan and present information on the implementation, progress and results of the measures specified in the Plan to the Cabinet meeting by March 25 of each year” (Section 5).

Roles and responsibilities of the Monitoring, Evaluation and Internal Audit Department of the Cabinet Secretariat of Government are stipulated as follows: (<https://cabinet.gov.mn/sector/>)

- 1) Conduct monitoring and inspection on the implementation of legislation and Government resolutions, issue conclusions and recommendations, support and control the relevant articles of the legislation and Government resolutions, and report implementation;
- 2) Control the performance, conduct monitoring and evaluation, issue conclusions, and recommendations, provide professional and methodological advice and support on the implementation of Mongolia’s long-term development policy, target development plans, main directions for the five-year development of Mongolia, Government action plan, annual development plan, projects, and other activities;
- 3) Conduct monitoring and analysis on its procedure, and give evaluation;
- 4) Conduct monitoring and consolidated evaluation, and conclude the activities of the ministries, agencies, and the Governors’ offices;
- 5) Conduct financial inspection, internal audit, conclusion, recommendations, and support on the performance of state-owned enterprises under the jurisdiction of portfolio ministers; and
- 6) Manage the activities of the “Citizens and Public Relations call center-1111”, summarize and report on the implementation and results of the resolution of citizens’ petitions, complaints, grievance, suggestions, and requests according to the legislation.

The Monitoring, Evaluation and Internal Audit Department of the Cabinet Secretariat of Government with a total of 12 staff members consolidated /compiled the monitoring and evaluation report on the implementation of the “Action Plan of the Government of Mongolia for 2016-2020”, and discussed and supported it at the Cabinet meeting on March 27, 2020, and submitted to the Parliament on April 2, 2020 for discussion. A total of five policies, 387 goals and 1,287 measures were proposed by the “Action Plan of the Government of Mongolia for 2016-2020”.

(2) Assessment of Action Plan 2016-2020 monitoring and evaluation

The Government has reviewed the implementation of the Action Plan as of 2018 and gave specific tasks to intensify the lingering goals and measures at all levels. In addition, the meeting of the State Structure Standing Committee of the State Great Hural and the MP Party caucus at the State Great Hural gave tasks and instructions to the Government.

Evaluation of the “Action Plan 2016 - 2020” as of the end of 2019 in accordance with the relevant regulations reveals that the implementation of the Economic Recovery Policy, Social Policy and Governance Policy has attained more than 80%; and the implementation of Sustainable Economic Growth Policy as well as an Environmental and Green Development Policy has attained 68 ~78%. However, the implementation of some of the goals and measures in the road, construction, mining and energy sectors within the framework of sustainable economic growth and social policy has been

insufficient or has not reached the target level.

As a whole, implementation monitoring of the Action Plan has been undertaken properly in accordance with stipulations in the law for qualitative evaluation compiled by aggregating evaluation by policy component and by implementing agency. Monitoring for quantitative evaluation is confined to measurable outcomes in the road, construction, mining and energy sectors, which shows rather insufficient attainment of target levels

The main issues that need to be addressed in the future in terms of Mongolia's economic, social and government action plan are identified by the review as follows:

- 1) Reducing unemployment and poverty;
- 2) Stopping and reducing the rise in the exchange rate;
- 3) Creating savings to pay off about US\$ 2.9 billion in government bond debt over the next four years;
- 4) Fighting corruption and achieving certain results;
- 5) Getting off from the grey list*; and
- 6) Amending about 30 major laws in accordance with the amendments to the Constitution of Mongolia.

Note *: As of October 21, 2021, Mongolia is not on the grey list of Financial Action Task Force (FATF)

(3) Monitoring and evaluation by MCUD

The Monitoring, Evaluation and Internal Audit Department of MCUD has the main responsibility to conduct inspections, monitoring and audits during the implementation of laws, policies, programs, projects and decisions related to the functions of the Ministry, to evaluate the results, and to make conclusions and recommendations. Within the frame of these responsibilities, the following functions shall be performed: 1) to inspect and monitor the implementation of sectoral legislation, policies, programs, plans and projects, evaluate the results, and make conclusions and recommendations and report; 2) to control and monitor the implementation of the objectives and measures of the Ministry's works, decisions, evaluate the results, issue conclusions and recommendations, and report; and 3) to conduct internal audits, issue conclusions and recommendations in accordance with the Budget Law and implement risk prevention functions.

The main users of the Monitoring, Evaluating and Internal Audit Department are the Minister, Deputy Minister, Secretary of State, organizational units, the Cabinet Secretariat of Government, the Ministry of Finance, and other users and citizens. The main partners in providing the services are the Cabinet Secretariat of Government, the Ministry of Finance, government implementing agencies, local governments, research institutions, and citizens. (<https://mcud.gov.mn/p/178>)

The Monitoring, Evaluation and Internal Audit Department of MCUD monitored and evaluated the implementation of the objectives and action plans set forth in the “Action Plan of the Government of Mongolia for 2016-2020” on a semi- and annual-basis. This was carried out in order to provide analysis and evaluation, to develop proposals and recommendations on issues to be addressed in the future, and to provide relevant information to the Ministry's management.

During the reporting period of 2019, 150 measures were under the implementation within the framework of 59 objectives from the “Action Plan to Implement the Action Plan of the Government of Mongolia for 2016 - 2020”. Out of that, monitoring and evaluation have been performed for the implementation of 99 plans to be implemented independently by MCUD and 51 joint action plans. As of the end of 2019, the implementation of the measures included in the responsibilities of MCUD had attained 94.5%.

The M&E and Internal Audit Department of MCUD has carried out its task with a total of six people,

including the Head of the department, senior experts and experts during the year of 2016 – 2020. The department has carried out monitoring and evaluation of the reports submitted from the departments and agencies of MCUD within 7 ~ 14 days. For instance, specialists in charge of implementation of the Government Action Plan of other departments, divisions and affiliated organizations of MCUD shall consolidate the implementation of their affined units and organizations and submit them to the M&E and Internal Audit Department. The senior expert of the M&E and Internal Audit Department evaluates the implementation reports within 7 ~ 14 days in accordance with the methodology specified in the above-mentioned procedure and the evaluation is reviewed by the Head of the department.

The consolidated monitoring and evaluation report is then discussed at the Council of Ministers of MCUD, and the relevant materials are submitted to the Cabinet Secretariat twice a year based on the decisions of these meetings (semi-annually and annually by July 1st and January 10th of the following year). The Head of the M&E and Internal Audit Department oversees that the monitoring and evaluation reports are discussed at the meeting of the Council of Ministers, and monitors the relevant suggestions and recommendations are uploaded into the system of www.unelgee.gov.mn. The decision of the Council of Ministers meeting, relevant files and appendices shall be verified in detail to ensure that they are attached to the report. The Head of the department also verifies the decision of the Council of Ministers meeting, relevant files and appendices in detail to ensure that they are attached to the report.

However, in the first half of 2020 (June 26, 2020), the monitoring and evaluation of the implementation of the objectives and action plans of MCUD in the “Action Plan of the Government of Mongolia for 2016-2020” had attained 94.8%. From August 2020, the new government program or the “Action Plan of the Government of Mongolia for 2020-2024” approved by the Parliament Resolution No. 24 of August 28, 2020, started to be implemented.

(4) Overall assessment of monitoring and evaluation system in Mongolia

Based on the survey conducted during the extension period, issues involved in the monitoring and evaluation system in Mongolia are summarized as follows.

- 1) In connection with the change in the structure and organization of the Government, there are problems such as constant changes in the human resources of the Monitoring, Evaluation and Internal Audit Departments and divisions, insufficient human resource capacity, and lack of relevant training.
- 2) Some indicators are not clear when assessing the level of performance, monitoring and evaluation in comparison with the level of achievement of the objectives and measures to be implemented within the framework of the “Action Plan of the Government of Mongolia for 2016-2020”, and they are difficult to evaluate because no tangible outcomes are produced.
- 3) Members of the Government, heads of government agencies and Aimag and Capital City governors are instructed to develop and approve monitoring and evaluation methodologies based on the “General rule for monitoring and evaluating the implementation of policy documents and the activities of administrative organizations” in accordance with the specifics of their respective sectors and localities. However, the implementation of the monitoring and evaluation methodology has not been satisfactory, and the developed and approved methodologies need to be improved.
- 4) The Cabinet Secretariat of Government maintains an open electronic database of monitoring and evaluation information for the public (<http://unelgee.gov.mn/>), but the database does not have complete reports. Relevant reports are also incomplete on the ministries' websites.
- 5) Relevant officials reported the following difficulties in monitoring, evaluating, summarizing and reporting the results. These include the following.

- Execution of the report is not submitted on time.
 - The baseline is not clear, the results to be achieved, the level to be achieved and the criteria are not clearly stated.
 - Reports are too detailed, incomprehensible, inaccurate, or too voluminous.
 - Reporting time and criteria are not followed.
 - As it coincides with the reporting period, the departments should monitor and evaluate the report late, not clarified by the relevant agency or center, incompletely reported, relevant files not attached, spelled incorrectly, and in some cases written as if they have not been done yet. There are a lot of problems. Due to this, it is necessary to work overtime during the delivery period to the Cabinet Secretariat of Government.
 - The level of achievement of the same measure is sometimes difficult to assess because organizations write differently. For example, the implementation of one measure is planned differently in different stages like drafting, discussing, submitting, and approving legislation. Due to this, while the draft law was not approved, the plans of ministries, agencies and departments were fully implemented. Consequently, it is reported to the Cabinet Secretariat of Government as "not fulfilled".
- 6) The following suggestions and proposals were made by the relevant officials on further improvement of the monitoring, evaluation, consolidation and reporting process. That is, when developing a plan, it is easy to evaluate if the basic level, target level, criteria, and budget are clearly stated from the beginning, and there will be no mistakes such as miscalculation, underreporting, and overestimation or undervaluation of projects and activities.

As observed in 2), quantitative evaluation is constrained by unclear indicators and lack of tangible outcomes. While general guidelines for monitoring and evaluation are specified by the law, specific methods of monitoring and evaluation are left for heads of government agencies and governors of local administrations to determine and therefore inadequate as shown in 3). The Cabinet Secretary maintains an open electronic database of monitoring and evaluation outcomes, but information disclosure is incomplete without proper reporting as stated in 4). In some cases, the baselines and criteria for evaluation are not clear and so are the achievement levels as reported in 5). Also, some policy measures are expressed in different ways by different agencies and in different stages to make even qualitative evaluation difficult.

It is recommended that development policy plans and projects should follow a coherent planning, programming and budgeting system (PPBS) for implementation, and monitoring and evaluation should follow the same logical line. That is, baselines should be set by planning, targets set for implementation by criteria consistently with the baselines as part of programming, and monitoring and evaluation conducted by the criteria to see to what extent the targets are achieved.

3.1.5 Database for monitoring and evaluation

Effectiveness of monitoring and evaluation depends on availability of adequate data to set baselines for evaluation and assess outcomes quantitatively. Overall performance of development is compiled by the National Statistics Office (NSO) with many socio-economic and other indices. NSO compiles and makes easily available by the public the results of performance monitoring in the Mongolia Statistical Information System, which is comprehensive, detailed and up-to-date as far as macro data are concerned.

The SDGs initiative by the United Nations calls for more micro data to be collected by gender, income class, Aimag/Soum, ethnicity, social groups and other attributes. Responding to this challenge, NSO has started to collect and compile more micro data. Regular periodical surveys such as labor survey by quarter, annual household socio-economic survey and social indicator sample survey conducted

every five years have been improved by making questionnaire forms more detailed to accommodate additional indices and micro data, supported by ADB, UNDP and other donors.

In 2020, NSO set the main goal of “Developing the 4th National Medium-Term National Program for the Development of the Statistical Sector and Introducing Standards for General Statistical Activities” and set the following six goals to achieve this goal.

- 1) Introduce standards for general statistical operations and improve the processing of official statistical information;
- 2) Improve statistical indicators and methodologies in accordance with international classifications, methodologies and standards, and break down statistical information at the Bagh, Khoroo and Soum levels, and make it available to the public;
- 3) Develop the results of the 2020 Population and Housing Census and other censuses and surveys, and make them available to the public;
- 4) Improve the method and methodology for calculating the indicators to evaluate the implementation of the SDGs and improve the enrichment of the metadata system;
- 5) Expand and strengthen bilateral and multilateral cooperation, strengthen the human resource capacity of the statistical sector, and learn from international statistical reforms and best practices; and
- 6) Monitor performance to improve the quality of official and administrative statistical information and increase the efficiency of statistical activities.

Efforts have been made to develop various micro data necessary for SDGs performance evaluation by utilizing methodologies developed and surveys conducted by UN organizations. For instance, of 244 indicators to assess the implementation of the SDGs, Mongolia estimates 132 indicators, of which 88 indicators are calculated by NSO and 19 indicators related to green development are collected and summarized as of 2019, and enriched with a dashboard to monitor the implementation of the SDGs.

Mongolia with NSO was selected as one of the seven project implementing countries for the UN Women's Organization and organized a training on “Generation and Use of Gender Statistics in Mongolia's SDGs”. The UN Food and Agriculture Organization's Master Plan for Agricultural Statistics was translated to prepare a manual on agricultural sector methodology and statistics as part of the work to optimize the design of the sample survey, provide a scientific basis, and systematically introduce it in stages. The Organization for Economic Cooperation and Development (OECD) has developed a new handbook based on the “Measuring Assets” handbook, which is used to compile statistics on assets and capital services.

3.2 Case on National Comprehensive Plans in Japan

(1) Five national comprehensive development plans

In Japan, policy evaluation was institutionalized by the Law on Policy Evaluation enacted in 2001 and enforced in 2002. Before it, evaluation of national policies was not undertaken in a systematic way for public announcement. Therefore, monitoring of the national comprehensive development plans was not conducted for the first four plans covering 1962 through 1997. For the second national comprehensive development plan (1969-77), however, a comprehensive review was undertaken focusing mainly on eight policies including coordination with economic development plan, protection of natural environment, and mega cities problems and alleviation measures. As a results, large scale industrial zones planned by the second plan were re-examined and partly suspended for implementation in view of the petroleum crisis and pollution problems at that time.

For the third national comprehensive development plan (1977-87), five technical committees were established for socio-economic framework, industries, living environment and other themes. They

followed up the review of the second plan in preparing the third plan.

The fifth national comprehensive development plan (1998-2008), called “The Grand Design of the National Land in the 21st Century”, was prepared after the enforcement of the Law on Policy Evaluation, and a website was opened for monitoring of the plan and sharing of monitored results. Monitoring was done for the four strategies established by the fifth plan with five viewpoints emphasize by the National Land Council. Under 14 monitoring areas, 166 evaluation indices were established. The database available at the website contains mostly data during the planning stage of the fifth plan. Only limited indices have been updated since then and the latest data available are for 2006.

(2) Two national land structure plans

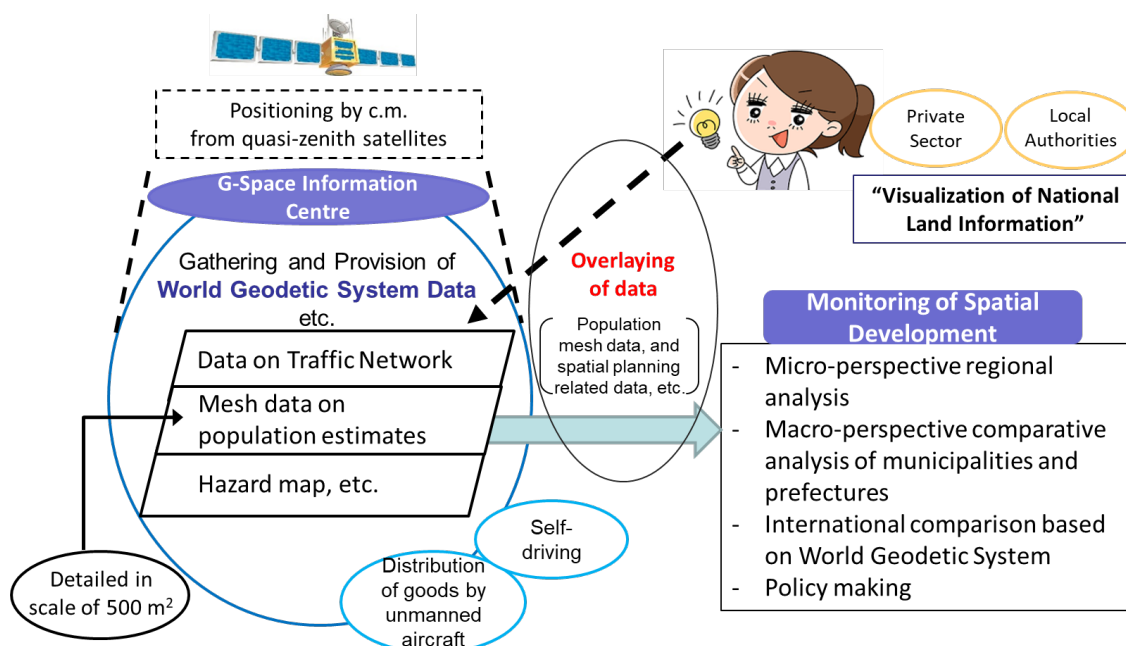
For the first national land structure plan, approved by the Cabinet in 2008 following the fifth national comprehensive development plan, annual monitoring and evaluation were undertaken by the **then** Ministry of National Land and Transport, Directorate of National Land Policy in 2009 through 2014. Under five strategic goals, 15 representative indices were established, monitoring was conducted on outcomes of the plan since 2008. Existing statistics and perception surveys on people, local administrations, firms and others were used as basic data for the representative indices. Attainment levels of the five strategic goals are monitored in qualitative ways. A perception survey in 2014 was conducted on web covering 11,000 citizens, 800 local administrations, 363 NPOs, 94 experts and 256 private firms.

For the second national land structure plan, approved by the Cabinet in 2015, the Planning and Monitoring Committee was established under the National Land Council, Plan Promotion Working Group to discuss on the progress of “Circulation promotion type national land” as the basic concept of national land development. ([ps://www.mlit.go.jp/policy/shingikai/s104_monitoring01_past.html](https://www.mlit.go.jp/policy/shingikai/s104_monitoring01_past.html)) The Ministry of Land, infrastructure, Transport and Tourism (MLIT), Directorate of National Land Policy, Comprehensive Planning Department serves as its secretariat. The Planning and Monitoring Committee consists as members of qualified persons of universities, public organizations and financial institutes. The Committee met five times during 2018-19. No formal monitoring indices were defined, but much issues were discussed on population and its distribution in line with the basic concept of “Circulation promotion type national land”.

In general, monitoring of policy plans consists of monitoring on socio-economic indices such as regional population, regional economy, land use etc. and monitoring on specific policies and projects. Follow up activities of the national comprehensive development plans and monitoring of the national structure plans focus mainly on the former. For the latter, reporting on progress of individual projects is usually undertaken and no systematic policy evaluation is undertaken in Japan. This may reflect roles expected for plans and authority of department in charge of planning.

(3) Proposed revision of monitoring system for national land planning in Japan with indices

Revision of monitoring system and indices to be used for monitoring and evaluation of policy of the current national land structure plan based on the concept of “Circulation promotion type national land”, have been proposed by the National Spatial Planning and Regional Policy Bureau of the Ministry of Land, Infrastructure, Transport and Tourism (MLIT). The image of the revision is illustrated in Figure 3.2.1. Examples of possible indices applicable to national land planning in Japan are provided in Table 3.2.1.



Source: Adopted from M. Kimura, Director, General Affairs Division, National Spatial Planning and Regional Policy Bureau, MLITT, “The National Spatial Strategy”, August 2018.

Figure 3.2.1 Image of Revision of Monitoring System for Regional Development by National Development Plan

Table 3.2.1 Examples of Monitoring and Evaluation Indices for National Development Plan in Japan Based on the Concept of “Circulation Promotion Type National Land”

Concept/viewpoint	Monitoring index	Data source	Current value
Establishing small stations with consolidated functions	No. of small stations established	Cabinet office	1,260 (Oct. 2016)
Realizing compact cities through planning	No. of municipalities that have prepared optimal land use plans	MLIT	124 (May 2017)
Developing a vibrant economy and living environment as a regional hub	No. of regional hubs established	MIC	23 (March 2017)
Strengthening competitive transport-export industry	Export of agricultural, marine and food products	MOF	JPY745.1 billion (2015)
Promoting regional-oriented innovation with growing entrepreneurs	No. of certified projects utilizing local resources	SME	1,677 (Dec. 2016)
Promoting two residence lifestyle and living-working separation lifestyle	Proportion of the youth among users of U-turn migration support center	U-turn Migration Support Center	45.9% (2016)
Developing Tokyo metropolitan area as a model global city	Global power city index	Mori Memorial Foundation	3 rd (2016)
Establishing smart wellness housing and cities	No. of UR estates establishing regional welfare centers	Urban Renaissance Agency (UR)	47 (Jan. 2016)

Source: Adopted with modification from M. Kimura, Director, General Affairs Division, National Spatial Planning and Regional Policy Bureau, MLITT, “The National Spatial Strategy”, August 2018.

3.3 Recommendations

(1) Monitoring and evaluation system

The monitoring and evaluation system of development in Mongolia are well established legally, stipulated by the Law on Development Policy Planning and Management, 26th November 2015, amended on 20th May 2020. Procedure and methods of monitoring and evaluation for development are stipulated by resolutions adopting specific policy documents and associated rules and guidelines as seen above for the SDV2030 and the Government Action Plan 2016 – 2020.

Through the survey during the extension period, the following problems have been identified for the existing monitoring and evaluation system and practices:

- 1) Procedure and methodologies may be further improved;
- 2) Human resources for monitoring and evaluation need to be improved through adequate training;
- 3) High staff turn-over rates of sections in charge of monitoring and evaluation hinder proper activities;
- 4) Evaluation of development policy is often difficult as no tangible outcomes are produced;
- 5) Monitoring and evaluation information is made open to the public on electronic databases but complete reports are not made available;
- 6) Baselines, achievement levels and evaluation criteria are not always clear for proper evaluation, and achievements are measured in different ways by different organizations; and
- 7) Implementation timing is not aligned for different levels of developing measures from drafting, discussion, submission for approval and enactment resulting sometimes in awkward situations where a plan is implemented while a law enabling the plan has not been enacted.

As stipulated in the law, procedure, responsible organizations and scope of monitoring and evaluation are strictly followed by related agencies to prepare reports at different levels and integrate them in steps. This often results eventually in very voluminous reports to be submitted to the Cabinet Secretary and the Parliament. The procedure may be too scrupulous and monitoring and evaluation reports may be too meticulous. It may be streamlined to produce more compact reports to be made open to the public.

The monitoring and evaluation system of development in substance comprises the following:

- (a) Defining criteria for monitoring and evaluation,
- (b) Establishing baselines by criterion,
- (c) Establishing and updating databases for performance evaluation, and
- (d) Measuring effects by criterion using the databases.

The baselines are developed, updated and maintained by NSO in cooperation with various organizations collecting related data. As additional criteria are introduced as necessary, data collection efforts are expanded by NSO as in the case of micro criteria and data necessary for SDGs performance evaluation described below. These are mostly technical aspects of monitoring and evaluation undertaken properly by NSO. Defining criteria properly for any development policy, plan, program and project involves judgements, which needs to be improved so that efforts and administrative costs of monitoring and evaluation would not be excessively large and final reports would not be too voluminous.

(2) Database development for monitoring and evaluation

Data needs for implementation and performance monitoring

Monitoring of development policies, plans, programs and projects consist of implementation monitoring and performance monitoring. The existing monitoring and evaluation system in Mongolia is mainly for implementation monitoring. Implementation monitoring is mostly qualitative in the sense that it monitors just whether or not specific measures under any policy or plan is implemented without evaluating effects of the implementation. For instance, the Government Action Plan 2016-2020 contains under five policies 387 goals and 1,287 measures. It is possible to evaluate if any measures have been implemented or not, but degrees of implementation may not be reflected in evaluation nor their effects.

Performance evaluation needs to be strengthened to monitor and evaluate effects of any policy, plan, program or project. As a prerequisite, evaluation criteria should be established and baselines should be clearly set by criterion. The monitoring and evaluation criteria include macro criteria to be used for development policies and plans and micro criteria for development programs and projects. In particular, micro criteria should be defined in detail to meet the need to evaluate the performance of SDGs, which call for evaluation by gender, income class, Aimag/Soum, ethnicity, social groups and other attributes. Ongoing efforts by NSO to expand the database for micro data need to be supported as well as new initiatives to collect more detailed and specific data by utilizing non-conventional sources of data such as Big Data, Google-driven data, Facebook and others.

Needs and methods of micro data collection

For comprehensive and inclusive data collection for SDGs, active involvement of people, private firms and local administrations is indispensable. Otherwise, administrative costs to collect and compile micro data necessary for SDGs monitoring and evaluation would become prohibitively large. A web-based and mobile monitoring and evaluation system should be established by using ICT with smartphones and the cloud system to establish a local information platform (LIP). This system should be supported by voluntary data input by people and private firms and data processing by local administrations supported by the Central Government.

For instance, real time acquisition of data on nomadic people and their activities such as grouping, livestock population and composition, and other attributes of nomad groups, their movements and location, availability of water and feed, and other issues facing them would be useful for local administrations to take support measures in timely manner. Conversely, nomadic people would benefit from timely provision of information by local administrations on local climate, demand and price information for livestock products, measures against livestock diseases, and supply of feed. In both ways, livelihood of nomadic people would be improved to contribute to attainment of SDGs.

For such a two-way communications system to work properly, both people and firms on one hand and administrations on the other should have incentives for voluntary participation. People including nomads can emit information on their needs and local resources available for new socio-economic activities including tourism, and firms may find investment opportunities to utilize local resources and administrative supports. Local administrations can collect micro socio-economic data at the lowest administrative costs.

This system is fundamentally different from conventional data collection by surveyors from outside as it is supported by data generation from within local communities. It will facilitate capacity development on the side of people and communities. At the same time, local administrations will enhance their capacity with more relevant and comprehensive data and ICT tools to communicate with local people and communities. In both ways, more appropriate projects and institutional measures would be formulated and implemented by the local administrations and people working together.

Conditions for participatory micro data collection

Technical conditions to establish the system suggested above to collect and compile micro data by participation of local people and private firms closely linked to local administration are well satisfied in Mongolia as follows:

- 1) Basic ICT infrastructure is well established in Mongolia including high-speed optical cable network installed covering 21 Aimag capitals and most of Soums;
- 2) All the Aimags and Soums are connected to Internet, except very remote rural areas, with 4G communication system; and
- 3) The number of Internet subscribers reached almost 4 million by 2018 with about 5 million mobile phones.

More important in establishing the system, however, are conditions related to administrative institutions and capacity. Specifically, the administrative capacity of local administrations should be strengthened supported by the Central Government as part of overall localization of development administration. Coordination between the Central Government and local administrations would be most important to realize the participatory micro data collection effectively.

(3) Monitoring and evaluation of the Vision2050 with the HSP and the RDP and the NCDP

It is expected that the HSP and the RDP, to be prepared reflecting the NCDP, will be monitored and evaluated in accordance with the Law on Development Policy Planning and Management, 26th November 2015, amended on 20th May 2020 as they are formal planning documents with legal bases. The method and indices of monitoring and evaluation should be consistent for the Vision2050, the HSP and the RDP as the latter constitute substantive contents of the Vision2050.

The Vision2050 defines many indices for monitoring and evaluation covering national value and characteristics, human and social development, quality of life, economy, governance, green development, peace and security, regional development and Ulaanbaatar and its satellite cities. A total of 50 objectives are defined, and for many indices targets are set for 2030, 2040 and 2050. For each index, data source, method and frequency of data collection and evaluation, and organizations in charge are specified. Most indices represent macro criteria, but data should be collected by gender and by Aimag for most indices. All the Vision2050 indices are not necessarily applicable to monitoring and evaluation of the HSP and the RDP.

For some indices, the analysis on existing conditions analyzed and contained in the NCDP would provide the baselines for evaluation. For the GDP, per capita GDP and the ratio of mining sector in the GDP, the Vision2050 targets diverge from the targets specified by the NCDP. Therefore, monitoring should focus on these indices among others. The average GDP growth rate specified by the Vision2050 is higher during the period up to 2030 but lower for 2030-40 than specified by the NCDP. The per capita GDP targets of the Vision2050 are significantly higher than specified by the NCDP for 2030 and 2040.

Population projections are largely consistent between the Vision2050 and the NCDP for 2030 and 2040, only slightly lower for the Vision2050. The ratio of local population in the national population is projected by the Vision2050 to be 50% even in 2050. Since the NCDP aims at vitalizing local socio-economy by regional development, the ratio of local population is a good index to measure the effects of regional development.

The Vision2050 specifies as indices related to regional development 1) the number of food processing and other light industries newly established, 2) the number of agro-related and industrial technology parks newly constructed, and 3) the number of international airports. These indices are not

considered appropriate in evaluating regional development effects. Better indices are the total investment amount by newly established light industries, and employment opportunities generated by them, and the number of firms established at agro-related and industrial technology parks. The NCDP proposes to internationalize the existing airports in the east at Choibalsan and in the west at Khovd as priorities. The number of regular flights serving these airports and the number of passengers represent appropriate indices to evaluate regional development effects.

Other social indices are also important for monitoring and evaluation including not only poverty rate and unemployment rate included in the Vision2050 but also access to water supply, sewage treatment and solid waste management in rural areas. For these and other social indices, micro data by gender, income class and other social attributes of residents should be collected and compiled in steps by the new method with the LIP proposed by the NCDP to contribute also to the SDGs performance evaluation.

The HSP plans for regional division, administrative re-division, population projections with distribution by administration/area, urban hierarchy, transport network and other macro aspects, and for sector development including mining development with water resources and transport infrastructure, and tourism clusters development. The plan and proposals for macro aspects such as administrative re-division and revised designation of urban centers according to the urban hierarchy, an inter-agency council may be established by the order of the Cabinet Secretary to discuss alternative proposals and resolve the issues. The recommendation based on the resolution will be submitted to the Parliament for approval.

The projects and programs constituting the RDP and RDPprogram are subject to monitoring and evaluation. Implementation monitoring should be carried out in accordance with the procedure stipulated by the Law on Development Policy Planning and Management. Performance monitoring should also be conducted to see the effects of proposed projects and programs individually at least for anchor projects proposed by the NCDP and the overall effects as compared to the socio-economic framework specified by the NCDP. The Ministry of Economic Development to be established in 2022 is expected to be in charge of monitoring and evaluation consistently for the RDP/RDPprogram, the HSP and the Vision2050.

Chapter 4 Reflection of NCDP Proposals in Development Policy Documents of Mongolian Government

4.1 Vision2050 with the HSP and the RDP

(1) NCDP supporting the Vision2050

As clearly described in the R/D for the NCDP Project agreed between the Mongolian Government and JICA, the NCDP is expected to be used in preparation of the HSP by MCUD/CDC and the RDP by NDA. For this purpose, the NCDP has been prepared through collaborative efforts between the JPT and its counterpart team of MCUD/CDC and NDA. Although the preparation of the HSP and the RDP has been delayed, the JPT had a series of coordination meetings with MCUD/CDC and NDA to reflect the NCDP proposals in the HSP and the RDP in preparation during February through May and also the extension period between July and December.

The HSP and the RDP once completed will become substantive contents of the Vision2050 adapted by the Mongolian Government at the Parliament in May 2020. The JPT examined how the NCDP proposals would support the Vision2050 in many aspects. Comparison between the Vision2050 and the NCDP with respect to development visions, development alternatives, socio-economic projections, macro development objectives, basic strategy and development phasing is summarized in Tables 4.1 through 4.6.

Development visions established by the Vision2050 and the NCDP are compared in Table 4.1.1, where the NCDP vision is abbreviated from its original contained in the NCDP while the Vision2050 is in its complete form. As seen from Table 4.1.1, the development vision proposed by NCDP substantiates the Vision2050, both aiming at advanced and diversified economy based on indigenous resources unique to Mongolia.

Table 4.1.1 Comparison between the Vision2050 and the Development Vision Proposed by the NCDP

NCDP	Vision2050
Realization of robust and resilient socio-economy through diversifying economy and export by sensible management and use of natural and cultural resources supported by advanced technology and human resources pursuing new value and knowledge	Realization of socio-economically advanced country by 2050 through protecting nature, language, land and culture in sustainable way

Both the Vision2050 and the NCDP examined development alternatives and recommended the best alternative respectively as summarized in Table 4.1.2. The Vision2050 examined rather narrow range of alternatives, while the NCDP has examined a wider range of alternatives to ensure the selection of the best alternative.

Table 4.1.2 Comparison of Development Alternatives and Selection of Best Alternative by the Vision2050 and the NCDP

	Alternative	Explanation	Best alternative
Vision2050	Trend development	Continuation of economic development following recent trend	Mega project driven development

	Green economy	Control of livestock population within carrying capacity of pasture	incorporating green economy
	Mega project driven development	High economic growth driven by several mega projects for energy, mining and transport development	
NCDP	Mining-led development	Continued reliance on mining for economic and export growth with minimal processing of mining products and agro-products	Modified high growth hybrid development
	High manufacturing development	Processing industries of mining and agricultural products as driving force for development	
	Transit trade-oriented development	Transit trade across Mongolia as another driving force for development with highest growth of services sector	
	High growth hybrid development	Processing industries of mining and agricultural products and transit trade to attain highest economic growth	

Projections of population and GDP by the Vision2050 and the NCDP are compared in Table 4.1.3. As seen, population projections by the Vision2050 and the NCDP are practically the same up to 2040. Economic projection by Vision2050 up to 2030 may be too ambitious; continued reliance on mega projects for high economic growth will make Mongolia vulnerable to external effects.

Table 4.1.3 Comparison of Population and GDP Projections by the Vision2050 and the NCDP

	NCDP	Vision2050
Population 2030	3,968,000	3,868,000
Population 2040	4,638,000	4,500,000
Population 2050	Not specified	5,400,000
GDP 2030	MNT70,249 million (US\$25.1billion)	US\$32.1 billion
Per capita GDP 2030	MNT17,704 (US\$6,323)	US\$8,299
GDP 2040	MNT134,364,000 (US\$48.0 billion)	US\$54.0 billion
Per capita GDP 2040	MNT28,970 (US\$10,346 million)	US\$12,000
GDP 2050	Not specified	US\$78.0 billion
Per capita GDP 2050	Not specified	US\$15,000

The NCDP has defined macro development objectives consisting of economic, social and environmental objectives. The Vision2050 does not define macro development objectives explicitly, but various values supporting the Vision2050 correspond to macro development objectives. They are compared in Table 4.1.4. As seen, the macro development objectives by the Vision2050 appear broader and more conceptual but largely consistent with the NCDP objectives.

Table 4.1.4 Comparison of Macro Development Objectives Defined by the Vision2050 and the NCDP

NCDP	Vision2050
1) To diversify economic structure and export as a prerequisite to increasing capital accumulation (economic objective); 2) To generate lucrative and stable employment opportunities in rural areas and local towns to reduce poverty and urban-rural disparities (social objective); 3) To resolve urban environmental problems by alleviating adverse effects of over-concentration of population and economic activities in Ulaanbaatar (environmental objective).	Macro objectives are not specified but value to support the Vision corresponds to macro objectives <u>Objectives related to “Spirit”</u> 1) Democratic and human-centered development under rule of law 2) Environment-friendly way of life 3) Highly educated and healthy middle-income people <u>Objectives related to “Efficiency”</u> 1) Diversified and advanced economy 2) Development based on ICT <u>Objectives related to “Inherency”</u> 1) Rich middle class with confidence in future 2) Consciousness of national identity 3) Competitive nation

The NCDP has established basic strategy for regional development with four components: economic, spatial, institutional and industrial cluster development strategy. The Vision2050 does not present basic strategy explicitly but “nine objectives” appear to represent strategic directions to pursue. They are compared in Table 4.1.5.

Table 4.1.5 Comparison of Basic Strategy Presented by the Vision2050 and the NCDP

NCDP	Vision2050
Economic strategy 1) Effective utilization of rich natural resources for efficient primary production, and 2) Processing of primary products to increase value-added for export markets. <u>Spatial strategy</u> 1) Utilization of locational conditions neighboring on Russia and China to establish links with global markets, and 2) Water resources development and management as instrument of green development. <u>Institutional strategy</u> 1) Strengthening local administrations by steady decentralization of development administration system. <u>Industrial cluster development strategy</u> 1) Promotion of vertical industrial clusters based on primary products to integrate value-added production and effective infrastructure development.	No explicit strategy is presented but “objectives” appear to represent strategic directions. 1) Pursuing the Country supported by deep sense and immunity for national value 2) Realizing HDI at 0.9 among top 10 countries 3) Attaining middle class constituting 80% of population in satisfactory living conditions 4) Reaching advanced countries in per capita GDP 5) Realizing stable governance protecting human rights, establishing judicial system and free from corruption 6) Ensuring environmental sustainability through green development 7) Establishing internal and external environment for protecting basic interests of the Nation 8) Pursuing competitive and integrated regional development as the base for sustainable livelihood 9) Pursuing pleasant, environment friendly and human centered urban development

Development scenarios for phased development are compared in Table 4.1.6 between the Vision2050 and the NCDP in economic, social and environmental aspects. In economic aspects, the Vision2050

is oriented more to macroeconomic performance, while the NCDP is more sector specific; by combining both, more comprehensive development scenario is realized. Also, for social aspects, more comprehensive development scenario is realized by combining both the Vision2050 and the NCDP. In environmental aspects, the Vision2050 is more policy-oriented, while the NCDP presents more realistic and specific possibilities for Phase 1 and Phase 2; for Phase 3, the Vision2050 represents desirable conditions to be realized at policy level of the Central Government, while the NCDP is oriented to local administration and location specific.

Table 4.1.6 Comparison of Development Scenarios by the Vision2050 and the NCDP

(1) Economic aspects

	NCDP	Vision2050
Phase 1 ~2025	<ul style="list-style-type: none"> - Mining continues as driving force - Capital accumulation and active investment in new economic activities - Processing of primary products of crop and livestock (initial industrial clusters development) - Accelerated digital transformation in all the sectors 	<ul style="list-style-type: none"> - Establishment of macro-economic stability and debt management to enhance risk management and efficiency - Economic structural reform for import substitution and export processing - Flexible and digitized financial system - International economic corridor development and free trade agreements with Russia and China - SMEs development for high productivity by innovation - National fund for investment in viable projects
Phase 2 2025~30	<ul style="list-style-type: none"> - Wide practice of responsible mining - Increasing processing of mineral products for export - Accelerating development of FTZs/SEZs - Further industrial cluster development - Tourism development with diverse attractions 	
Phase 3 2030~40	<ul style="list-style-type: none"> - Some export products to establish fame for quality in global market - Increasing production of iron and copper based final products - Diversified export products by industrial clusters - Full development of FTZs/SEZs along borders with Russia and China with increasingly more service-oriented industries to become effectively free cities - Tourism and wellness industry complex by utilizing characteristic local resources - Active interactions with Russia, China and other countries 	<ul style="list-style-type: none"> - Sound macro economy with savings by citizens - Self-satisfaction in major industries, energy and construction materials and export-oriented manufacturing - Major supplier of organic food and energy in northeastern Asia - Free and internationally competitive financial market - Balanced international relationships - Integration into international value chain with standards for quality control and e-transactions - Investments into mega projects and foreign financial products
2040~50	Not specified	<ul style="list-style-type: none"> - Balanced macro economy with low inflation supported by majority middle class - Diversified and sustainable economy of globally competitive sectors - Advanced financial services supported by AI and other technologies

		<ul style="list-style-type: none"> - Active integration with Asia-Pacific economy and trade - Creation of internationally competitive brands by advanced technology and capable human resources - Internationally accredited national fund for diversification, innovation and green development
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(2) Social aspects

	NCDP	Vision2050
Phase 1 ~2025	<ul style="list-style-type: none"> - Value and environmental education to start from pre-school and primary education - Comprehensive education sector reform to improve higher and technical education - Health care services to shift emphasis on primary and preventive health - Social welfare services shifting from broad coverage to more targeted coverage 	<ul style="list-style-type: none"> - Accessible and inclusive education - Accessible and high quality health care - Reform of social protection system - Accessible social insurance
Phase 2 2025~30	<ul style="list-style-type: none"> - Pre-school and primary education further strengthened for value development - Realization of healthy labor force supported by primary and preventive health care - Continued improvement of social welfare services 	
Phase 3 2030~40	<ul style="list-style-type: none"> - Family ties and community cohesion ensuring employment in rural areas - Comprehensive coverage by high quality social services for all - Complete eradication of poverty 	<ul style="list-style-type: none"> - Expansion of high quality and lifelong education strengthening - Cultivation of healthy lifestyle - Risk preventive social protection
2040~50	<ul style="list-style-type: none"> - Not specified 	<ul style="list-style-type: none"> - Open education for all - World top class health and medical care - Comprehensive life support and social protection

(3) Environmental aspects

	NCDP	Vision2050
Phase 1 ~2025	<ul style="list-style-type: none"> - Adverse environmental problems associated with mining to continue but awareness for responsible mining to be raised steadily - Satellite cities development in UB suburbs to start taking effects to alleviate adverse effects of over-concentration 	<ul style="list-style-type: none"> - Evaluation of economic value of nature and ecological services and environmental capacity - Policy implementation base on scientific evidences for protection and use of natural environment - Restoration of degraded land and prevention of resources depletion

	<ul style="list-style-type: none"> - Steady enhancement of administrative capacity of local governments for environmental monitoring by participation of local people 	<ul style="list-style-type: none"> - Stage-wise introduction of water tariff system to enhance value of water and protect/reserve water - Establishment of national green finance system to promote environment-friendly and effective green technology and resource saving
Phase 2 2025~30	<ul style="list-style-type: none"> - Responsible mining practiced increasingly widely to reduce adverse effects on environment - Development of UB satellite cities to further reduce urban environmental problems - Generation of new urban environmental problems in local towns - Environmental monitoring by local administrations to be strengthened by involvement of local people with enhanced awareness 	
Phase 3 2030~40	<ul style="list-style-type: none"> - Higher administrative and financial capacity of local governments due to regional economic development and devolution - Local alliance to alleviate new environmental problems at local towns - Further development of UB satellite cities to allow capital city to devote its resources to realizing high quality living environment with plenty of amenity and greenery. 	<ul style="list-style-type: none"> - Maintenance and improvement of ecological services to realize revenues - Utilization of advanced technology and innovation to protect environment and prevent resource decrease and environmental degradation - Comprehensive water resources management strengthening, increasing water storage and expanding water supply capacity - Increasing funding for green development to cope with climate change by establishing smart consumption and high productivity industries
2030~40	<ul style="list-style-type: none"> - Not specified 	<ul style="list-style-type: none"> - Maintenance of ecological balance by natural resources use and protection policy based on assessment of bio-capacity, restoration and carrying capacity - Restoration and adequate and limited use of natural resources necessary for national development - Practice of adequate use of water resources with storage under management - Establishment of sustainable production and consumption by continually strengthening adaptation capacity to climate change

(2) NCDP Reflected in the HSP and the RDP

The NCDP proposes urban hierarchy with four tiers plus inter-Soum centers. Classification of urban centers by the NCDP urban hierarchy is almost consistent with the HSP in preparation reflecting the

legal designation (Table 4.1.7). Under Ulaanbaatar as the national capital, seven urban centers designated as state level cities are either regional core cities or local growth cities at the upper tiers of the hierarchy. Of 10 state level cities legally designated, only Kharkhorin, Arverkheer and Uliastai are designated as local service cities at the lower tier. Of 19 local level cities legally designated, only Sainshand and Bayankhongor are classified as regional core cities, and the remaining 17 local level cities are designated as local growth cities or local service cities at lower tiers of the hierarchy.

Table 4.1.7 Correspondence between the Urban Hierarchy Proposed by the NCDP and Designation by the HSP

Urban hierarchy by NCDP	City	HSP designation	
National capital	Ulaanbaatar	National capital; state level city	
Regional core city	Erdenet	State level city	
	Bulgan	Local level city; treated with Erdenet by NCDP	
	Darkhan	State level city	
	Choibalsan	State level city	
	Sainshand	Local level city	
	Khovd	State level city	
	Bayankhongol	Local level city	
	Local growth city	Baganuur	Local level city
		Choir	State level city
Zamyn-Uud		State level city	
Murun		Local level city	
Dalanzadgad		State level city	
Sukhbaatar		Local level city	
Undurkhan		Local level city	
Mandalgovi		Local level city	
Local service city		Arverkheer	State level city
	Uliastai	State level city	
	Altai	Local level city	
	Tsetserleg	Local level city	
	Baruun-Urt	Local level city	
	Kharkhorin	State level city	
	Ulaangom	Local level city	
	Ulgii	Local level city	
	Zuunkhara	Local level city	
	Bor-Ondor	Included in national capital by NCDP	
	Zuunmud	Included in national capital by NCDP	
	Khanbogt	Local level city	
	Tsogttsetsi	Local level city	

The NCDP proposes a new ring artery to strengthen national spatial structure, linking cities at higher tiers of the proposed urban hierarchy in Altai, Khangai, Southern, Central and Eastern Regions effectively. This is expected to be fully reflected in the artery network system of the HSP.

The NCDP proposes a new regional division for more effective regional development based on detailed analysis on characteristics of 21 Aimags. This regional division is identical with the regional division proposed by NDA for the RDP. The NCDP proposes integrated regional development programs by region according to the newly proposed regional division. These programs are expected to be reflected in the RDP.

4.2 Correspondence with Government Action Plan

Some projects proposed by the NCDP have been taken from existing development policy planning documents of the Mongolian Government such as free zones development, comprehensive education sector reform program, Orkhon River water diversion to Govi, and Tuul water complex. Other projects and programs have been newly proposed by the NCDP, which are expected to be reflected in formal development policy planning documents of the Mongolian Government. It is rather difficult, however, to see which newly proposed projects/programs have been reflected in these documents as most proposed projects/programs are still at conceptual level of formulation and implementing agencies of the Government may take some components of any proposed projects/programs and combine them with other components to define their projects/programs.

To see correspondence between the NCDP projects and the projects incorporated in formal development policy planning documents, road projects are taken as they are defined clearly by road alignments respectively. Road projects proposed by the NCDP and the corresponding projects in the Government Action Plan 2020-24 are compared in Table 4.2.1.

Table 4.2.1 Correspondence between Road Projects Proposed by the NCDP and Contained in the Government Action Plan 2020-24

NCDP		Government Action Plan 2020-24			
Project	Phasing	Project	Length (km)	Implementation	Cost (MNT million)
Western Region					
Ulgii ~ Tashanta	Phase 1	Tsagaannuur ~ Ulaanbaishint	25.8	2021-22	34,600
		Road and bridge in Ulgii city	18.8		
Dayannuur~Ulgii	Phase 3	Ulgii ~ Ulaankhus ~ Altai Tavan Bogd	118	2023-24	22,951
Khovd ~ Ulaangom	Phase 1	Khovd ~ Ulaangom	163	2022-24	155,135
Khangai Region					
Bulgan ~ Khisig-Ondor ~ Gurvanbulag	Phase 2	Bulgan ~ Khishig Ondor ~ Gurvanbulag	99.7	2020-24	88,000
Nomlog ~ Tes ~ Artssuuri	Phase 3	Tsetsetleg Soum/Ovoot mine ~ Artssuuri		2022	1,295 (FS)
UB ~ Darkhan ~ Erdenet upgrading	Phase 1	UB ~ Darkhan renovation	204.2	2020-24	339,030
Altai Region					
Altai ~ Bayankhongor ~ Arvaikheer	Phase 3 (Upgrading)	Bayankhongor ~ Altai improvement	126.7	2020-22	92% done
Arveikher ~ Khujirt	Phase 1	Arveikher ~ Khujirt	56	2022-23	53,200
Shargaljuut ~ Bayankhongor	Phase 3	Bayankhongor ~ Shargaljuut	54.2	2023-24	30,900
Khujirt ~ Ulaantsutagan	Phase 3	Khujirt ~ Ulaantsutagan	90.1	2022-24	94,000
Southern Region					
Mandalgovi ~ Erdenedalai ~ Arveikher	Phase 3	Arvaikheer ~ Mandalgovi ~ Choir	474.2	2022-24	1,600 (FS)

Mandalgovi ~ Govi-Ugtaal ~ Choir	Phase 2				
Tavantolgoi ~ Gashuun Sukhait	Phase 1~2	Tavantolgoi ~ Gashuun Sukhait	250	2020-24	Concession
Eastern Region					
Choibalsan ~ Khavirga	Phase 2	Choibalsan ~ Khavirga	124.5	2022-24	123,000
Jargaltkhaan ~ Umnudelgel	Phase 2	Jargaltkhaan ~ Umnudelger ~ Rashaan khad ~ Binder ~ Dadal	290	2022-24	200,000
Norovrin ~ Dadal	Phase 3	Undurkhan ~ Norovlin ~ Dadal	255	2020-24	196,880
Govi-sumber ~ Darkhan Soum	Phase 2	Govi-sumber ~ Bor-Ondor	50	2020-22	29,800
Capital Region					
Improvement according to revised urban master plan	Phase 1~3	Continual improvement		2022-25	323,376

The Government Action Plan (GAP) 2020-24 corresponds to Phase 1 of the NCDP. All the road projects proposed by the NCDP for Phase 1 are included in the GAP. In addition, 12 projects planned by the NCDP for Phase 2 are also included in the GAP, of which five projects are designated by the NCDP for implementation in Phase 3. Of these roads planned by the NCDP for Phase 3, the section of Dayannuur~Ulgii road serving tourism access may be implemented earlier, and the Shargaljuut ~ Bayankhongor road may be implemented earlier separated by the Khujirt ~ Ulaantsutagalan road. The Altai ~ Bayankhongor ~ Arvaikheer road and the Mandalgovi ~ Erdenedalai ~ Arveikher road are existing and will be upgraded in steps, and some sections may be implemented earlier.

Of over 30 road projects proposed by the NCDP, 17 projects are included in the GAP 2020-24. For most of them, implementation phasing seems reasonable considering phased implementation by section and delayed implementation of some projects in the GAP2020-24.

4.3 Correspondence between NCDP Anchor Projects and Development Policy Plans of Mongolian Government

It is rather difficult to see correspondence between the NCDP anchor projects and development policy plans of the Mongolian Government for the reasons explained above. Existing situations related to the anchor projects in reference to the existing development policy plans are examined as summarized in Table 4.3.1. In the table, each anchor project/program is classified into: 1) fully reflected, 2) partly reflected or included in existing program of the Government, and 3) conceptually reflected. As seen from the table, out of 29 anchor projects, 25 projects are reflected in development policy plans or some follow up actions have been taken by the Mongolian Government.

Table 4.3.1 Correspondence between the NCDP Anchor Projects and Development Policy Plans of Mongolian Government

No.	Project/program	Reflection*	Note
II.1	Border areas Free Trade Zones (FTZs) and Special Economic Zones (SEZs) promotion project	○	SEZ development at Zamyn-Uud, NUBIA, Altanbulag and Tsagaannuur included in Vision2050; also included in the PPP list
I2.1	Sea buckthorn industrial cluster development	△	Included in Program “Industrialization 21 : 100” (2018-

*The Project for Formulation of National Comprehensive Development Plan
Final Report: Supplemental Report*

			2021)
I2.2	Livestock industrial cluster development	△	Livestock processing complex with technological innovation included in PIP 2021-25 of MOFALI
I3.2	Greenhouse agriculture promotion	△	Included in PIP 2021-25 of MOFALI
I3.3	Agro IT parks development	○	Three Agro-IT parks at Bulgan, Khuvsgul and Kharkhorin selected by NDA
I4.2	ICT monitoring and support system for livestock	△	Expected to be implemented as part of Project No. I2.2 and Project No. III.1
I5.3	Sea buckthorn development	△	Included in national program on fruit trees and berries (2018-2022)
I7.2	Food traceability platform	△	Included in the e-agriculture program by MOFALI and CITA supported by FAO
I9.1	Coal transport and export promotion	△	Tavantolgoi ~ Gashuun Sukhait road included in Government Action Plan 2020-24
II0.2	“Urtuu” service stop areas	◎	Included in PIP 2021-25 and medium-term development plan by MET
III.1.1	Herder communities support facilities	△	Similar component included in agriculture and rural development program of MOFALI listed in PIP 2021-25
II2.1	Local administrations-nomads communication strengthening	○	Followed up by NDA; expected to be implemented by the Ministry of Digital Development and Communications to be established
II3	Skills training and jobs creation for youth and adults	○	“Preparing youth for work” approve in March 2020 for implementation by MLSP during 2021-24
II4	Young women’s career development and support program network		Policy environment on gender equality evolving only slowly
II6	Comprehensive education sector reform program	○	On-going program of MECSS in PIP 2021-25 with extension
II7.1	Primary health care strengthening	○	On-going program of MOH with extension
II9.1	Center of group dynamics		No progress observed
III1	Ring artery establishment	○	Bayankhongor ~ Altai improvement and Arvaikheer ~ Mandalgovi ~ Choir in GAP 2020-24
III2	Inter-Aimag roads construction and upgrading	○	Khovd ~ Ulaangom road in GAP 2020-24; Murun ~ Uliastai and Uliastai ~ Altai road sections under construction by MRTD
III4	Ulaanbaatar bypass rail link (Bogd Khan link)		New alignment considered and reviewed by newly engaged ADB consulting team
III5	North-south corridor rail capacity development		Included in the State Policy on Railway Transportation.
III9	Ulaanbaatar airport satellite city development	◎	Promoted by the private sector supported by MCUD; listed in PIP 2021-25 for fund sourcing

IV2.2	Automobile recycling park	◎	Included in medium-term development plan by MRTD
IV2.4	Eco-park establishment		Promoted by the private sector supported by MRTD; listed in PIP 2021-25 for fund sourcing
IV3.1	Ger district development guidelines	◎	Elaborated in “The Urban Redevelopment Law, 2015”; implementation of the guideline needed
IV3.2	Ger district sanitation improvement	○	Included in GAP 2020-2024 and “Vision 2050; listed in PIP
IV6	Tuul water complex project	△	Included in the list of mega projects to be implemented in the UB City's Basic Development Policy; suspended due to current groundwater development to expand water supply for Ulaanbaatar
IV7.1	Urban centers water supply improvement	○	Included in medium-term development plan by MCUD
IV8.4	Small wastewater treatment plants in Soum centers	○	Soum development for engineering infrastructure approved by the Cabinet in June 2021
IV9	Selenge River hydropower dam development	○	Egiin gol hydropower plant included in the Development Policy Plan
Note: ◎ Fully reflected, ○ Partly reflected or included in existing program, △ Concept reflected			

4.4 Mongolia’s Medium-term Development Target Programs

Article 9.3.2 of the Law on Development Policy Planning and Management, the Mongolian Government shall prepare medium-term development target programs under the Mongolia’s long-term development policy. In line with this, Order No.50 of July 24, 2021 was issued by the Chairman of the Cabinet Secretariat of Government of Mongolia to approve the establishment of the Working Group responsible for developing the drafts of the Mid-Term Development Target Programs with guidelines for the Working Group and formation of Sub-working Groups with their guidelines responsible for technical and professional support for the Working Group.

Under the Working Group chaired by the First Chief Cabinet Secretary, seven Sub-working Groups have been established: Human Development Target Program (chaired by MES), Social Development Target Program (MLSW), Economic and Infrastructure Target Program (MF), Governance Target Program (Academy of Management), Environmental Target Program (MET), Regional Development Target Program (Cabinet Secretary), and Target Program to Increase National Competitiveness (NDA). In addition, the establishment of a working group to ensure consistency of long-term development policy with the HSP, the RDP and the Ulaanbaatar Master Plan 2040 was directed by Joint Order No. 171/A-65/A-625 on August 10, 2021.

The Working Group for the Regional Development Target Program is chaired by the Head of Policy and Planning Department of the Cabinet Secretariat with MCUD and NDA as secretaries, and consist of 25 members representing related government ministries and organizations, academia, the Mongolian National Chamber of Commerce and Industry and private firms, and individual experts. The JPT explained to the working group the integrated regional development programs proposed by the NCDP for the six regions newly defined. The NCDP may also help to ensure consistency between related development target programs by serving as a common reference.

Chapter 5 Coordination with ADB HSDP Project

5.1 Overall Coordination Activities

(1) Background

Japan International Cooperation Agency (JICA) and Asian Development Bank (ADB) have long-term partnership with the Government of Mongolia to support urban planning and urban development in Mongolia. JICA and ADB have been implementing effectively a joint program to support the Ministry of Construction and Urban Development (MCUD) to prepare a comprehensive spatial development plan encompassing the macro (national), meso (regional/sub-regional) and local (Aimag/Soum) levels. The program combines ADB and JICA technical cooperation facilities respectively, building on recent studies such as the National Urban Assessment (NUA) of Mongolia, 2015–16 by ADB, the Data Collection Survey on Regional Comprehensive Development in Mongolia, 2015–16 by JICA, and other related studies.

Specifically, cooperative arrangements between ADB and JICA as agreed between the two agencies are as follows:

- 1) ADB will take the lead on Aimag (provincial) and sub-regional development plans;
- 2) JICA will focus on national and regional plans (socio-economic development plans and spatial plans);
- 3) ADB and JICA will work together with MCUD to combine the regional and sectoral plans in view of a national strategy for urban and economic development to form the Human Settlement Plan (HSP) as prescribed by law;
- 4) ADB will take the lead on the web-based mapping platform, e-atlases, and urban legal and regulatory development;
- 5) JICA will focus on the development of the geographic information system (GIS); and
- 6) Capacity and institutional strengthening will be embedded in the respective ADB and JICA activities.

Several months after the NCDP Project started, ADB initiated a new TA project titled the Human Settlement Development Program (HSDP) to assist the Government of Mongolia to define strategic directions for inclusive, green, competitive, and sustainable urban development through the formulation of provincial socioeconomic and spatial development plans, and with prioritized legislative, technological, and institutional strengthening support. The NCDP Project supported by JICA technical cooperation and the HSDP project supported by ADB TA were expected to coordinate one another so that outcomes of the two projects would be consistent.

(2) Initial communications

When the staff of JICA Headquarters in charge of the NCDP Project visited Mongolia in June 2019, a national member of the ADB consultant team for the HSDP project requested him to contact the NCDP team. JICA advised the leader of the HSDP team to get in touch with the NCDP team leader on July 12, and the HSDP team leader contacted the NCDP team leader on July 13, who responded immediately. They had a Skype meeting subsequently. The two teams communicated on data sharing in various fields in the following few weeks. The NCDP team provide the Progress Report and various data collected so far.

The team leaders of both projects met in Ulaanbaatar for the first time on August 21. The first

coordination meeting was held on August 22 between the JPT and the HSDP team to exchange views on development planning at different levels and possible coordination between the two projects and further data sharing and data collection as well as schedule of the two teams. The second coordination meeting was convened on August 22, which was organized as a tri-partite meeting with MCUD, JICA and ADB. At the meeting, the HSDP team presented the methodology and initial ideas for the project and planning framework for coordination, and the JPT explained the progress of the NCDP Project. Participants agreed to prepare a coordination protocol for the two projects.

Working level discussions took place between experts of the two teams by mail focusing on data availability and sharing particularly on meteorological and hydrological data. A meeting was held between the two teams on August 28 to resolve related issues. Information on members of JCC for the NCDP Project was also shared with the HSDP team. Another tripartite meeting with MCUD, JICA and ADB was convened on August 30 to discuss on the protocol of cooperation between the two projects and possible integration of outcomes.

(3) Coordination protocol

A draft cooperation protocol was prepared by the HSDP team leader and share with MCUD, JICA and ADB as well as the JPT. The JPT team leader responded immediately to clarify important points to be incorporated in the protocol by presenting “Note on the Protocol for Cooperative Undertaking of the ADB Project and the JICA Project for Preparation of the Human Settlement Plan for Mongolia”. The JPT team leader prepared a revised protocol through communications with the HSDP team leader by mail. It was shared by mail on September 20 with the HSDP team leader, who accepted it on September 23 and shared it with JICA and ADB on September 24.

The coordination protocol was finalized after reviews by JICA and ADB as shown in Attachment A. It was formally shared and confirmed by the two teams as well as JICA and ADB at the coordination meeting on November 25. The minutes of meeting are shown in Attachment B.

(4) Cooperation during COVID-19

During the coordination meeting on November 25, the JPT team leader shared his field work schedule with the HSDP team and expected the next coordination meeting to take place during his stay in Mongolia in late January or March. No meeting took place and field works by foreign experts of the two teams were suspended in early March due to COVID-19.

Prior to this, the HSDP team conducted field visits to Bulgan, Darkhan-Uul, Selenge and Orkhon Aimags during December 2019, and the JPT shared with the HSDP team materials related to these and other Aimags including preliminary development diagnosis conducted by the JPT, list of questions asked by the JPT, answers by participants, and attendance list for Aimag consultations at these Aimags. The Interim Report of the NCDP Project submitted in December was also shared. A Skype meeting was requested by the HSP team on December 5, but it was not realized as the JPT was involved in the training tour for Mongolian counterpart experts.

A multi-stakeholders (MSH) meeting was organized by the JPT on January 22, 2020 to present the draft NCDP contained in the Interim Report and discuss on its proposals. Over 150 participants gathered at the meeting including researchers, Aimag governors, ministries and agencies, Ulaanbaatar capital city, representatives of private firms, media and others. Unfortunately, the ADB HSDP team did not participate as MCUD preferred not to involve any donors at this time.

All the foreign members of the JPT left Mongolia by March 5, when the expert in charge of water resources arrived in Japan. The JPT continued to work not only for further elaboration of the NCDP together with improvement of project profiles but also for formulation pilot projects as additional works. Communications between the JPT and the HSDP team ceased for some time.

The HSDP team leader sent the first Interim Report of the project on May 30, 2020 consisting of the draft Development Oriented Aimag Plan (DOAP) for Selenge and Darkhan-Uul, the DOAP for

Bulgan and Orkhon, the report on methodology used for territorial diagnosis in DOAPs, the progress report on the web-based mapping platform, and the progress report on the capacity building program. The JPT compiled the Draft Final Report 1 (DF/R1) containing revised NCDP, first in a draft form and after incorporating comments by the Mongolian side, the final version on June 30. The DF/R1 was later shared with the HSDP team. Thereafter, communications between the two teams ceased again completely.

After the general election of Mongolia in June 2020, the NCDP was further elaborated and selected pilot projects were implemented. Communications with the Mongolian experts and others continued, and in particular, a MSH meeting with Mongolian youth group was organized on August 17 followed by group discussions on September 7. Unfortunately, no deliberate efforts were made to get the HSDP team involved in these events. The Draft Final Report 2 (DF/R2) was submitted on December 15 first in a draft form, and the final version was submitted on February 28, 2021 after incorporating comments by the Mongolian side.

The NCDP was elaborated reflecting comments on the DF/R2 by the Mongolian side, and the Draft Final Report 3 was compiled containing the final NCDP and submitted on June 29, 2021. The Project was extended from July through December 2021 to support the Mongolian side to prepare the HSP and the RDP by reflecting the NCDP. During the pre-JCC meeting with MCUD, CDC and NDA on August 27, the JPT learned that a workshop would be organized in mid-September with the HSDP team and requested the latest report by the HSDP for a review so that the JPT could also participate in the workshop.

5.2 Review of DOAPs

The JPT team leader received a mail from the HSDP team leader with latest reports by the HSDP shared. The JPT reviewed all the reports shared by the HSDP project and prepared “Review on ADB HSDP Project” and submitted it to MCUD and NDA as reported in Chapter 2. The review paper is presented in Attachment D in Chapter 2.

The JPT team leader shared the paper with the HSDP team leader on September 30. It was noted that the draft DOAPs were well prepared, and the development directions suggested by them for nine Aimags were largely consistent with the NCDP proposals. The JPT team leader proposed that discussion on the DOAPs might be undertaken based on the paper to examine specifics further so that the DOAPs would be prepared in line with the NCDP.

5.3 Resolution of Specific Issues

The team leaders of the two projects communicated by mail to adjust their field works and agreed to have a coordination meeting during their stays in Ulaanbaatar. The field work by the JPT took place during October 10 through 29, and the coordination meeting was undertaken on October 25 as reported in Chapter 2.

During the field works in October, the team leaders of the two projects communicated first by mail. The HSDP team leader shared on October 16 the presentation materials on “urban hierarchy” and “national and regional issues”, and the JPT team leader responded with “Comments on national level approach by ADB HSDP team”, as shown in Attachment C. The HSDP team leader sent additional comments on October 18, and the JPT team leader responded with “Response to ADB HSDP team’s propositions related to national and regional issues” as shown in Attachment D.

The HSDP team leader sent on October 25 a note on detailed comments on the final NCDP for discussions at the coordination meeting as shown in Attachment E. The JPT team leader studied the note in preparation for the meeting.

The coordination meeting between the two teams took place on October 26 at the project office of the

HSDP team. Discussion was undertaken following the detailed comments prepared by the HSDP team. Discussion points raised by the HSDP team and responses by the JPT are summarized in Table 5.3.1.

Table 5.3.1 Discussion Points Stated in the HSDP Team’s Comments and Responses by the JPT

ADB HSDP statements	JPT clarifications
Chapter 2 SDV2030 Performance in Macro Socioeconomy and Environment	
p.2 HSDP is fully in line with proposed analysis and challenges identified in economic development (2.3.13), social development (2.3.14) and environmental management (2.3.15).	No discussions necessary. NCDP does not cover solid waste management in detail.
Chapter 3 Development Paradigm, Vision, Objectives and Strategy	
p.3 use of advanced technologies (especially advanced-machinery) in the arable farming sector might not be compatible with the low capacities of the farmers, both in terms of knowledge and financial capacities.	NCDP deals with long-term development; farmers can be trained for advanced technology and their financial capacity developed.
p.3 winter greenhouse can only be profitable for high-added value fruits and vegetables (such as strawberries)	NCDP proposes wider use of greenhouse agriculture, not constrained by existing "common sense"
p.3 some ICT application could be useful in particular in the livestock sector, for instance to disseminate information among herders in case of spread of animal diseases, to develop traceability systems and certification systems.	ICT application is useful for marketing of livestock products as well; herders can market their products world wide without waiting for Chinese buyers to come over crossing the borders.
p.4 greenhouses are tools that, properly managed, are offering capacities for (i) extension of cultivation season; (ii) increasing open-field yield if used as seedling nursery; (iii) diversifying production by cultivating vegetables not adapted to Mongolian climate conditions; (iv) producing off-season fresh vegetables	This is a valid statement on utilities of greenhouses at present or in the near future, and particularly use of greenhouses for seedling nursery is worth pursuing. Wider use of greenhouses should be pursued.
p.6 Depending on location and installed heating systems the energy used for heating could be geothermic, diesel, or coal.	NCDP recommends use of geothermal for greenhouses and even local electricity generation especially in Govi-Altai.
p.8 Rangeland use management and control of livestock numbers are absolute priorities for livestock farming at the national level.	Agree; how to do is the question. NCDP recommends designation of part of pasture land for controlled grazing
p.8 developing intensive farming meets a strong resistance from the herders and generally the population, that considers it is against Mongolian culture and tradition	NCDP recommends only semi-intensive livestock farming in selected locations.
p.9 Manufacturing strategy: Regeneration of brownfields (former industrial parks during the Socialist period) in several big cities, in Erdenet and Darkhan Uul.	NCDP does not deal with this issue in depth. HSDP recommends the "Project Development Fund" approach, but it is not clear.

p.9 Tourism strategy: Develop inclusive tourism with local communities as service providers and marketize local products for tourists.	NCDP calls it community-based tourism.
p.10 Water resources development and management strategy: Water transfer infrastructures	NCDP endorses only the Orkhon River ~ Govi transfer.
Chapter 5 Spatial Structure for the NCDP	
p.12 It is recommended to consider Nalayh and Zunmod as satellite cities of UB, and not as part of the national capital city.	NCDP defines Capital Region and capital region governance covers satellite cities; it does not mean the capital city is expanded to include these cities.
p.12 It is recommended to select Murun as a regional core city.	Murun has a strong growth function with tourism; other functions related to livestock and its processing are not unique; thus NCDP designate it as a local growth city.
p.12 Sukhbaatar is proposed as a regional core city. The rationale for this choice is not clear.	NCDP designate Sukhbartar as a local growth city, not a regional core city.
p.12 Bayan-Ulgii: the Aimag center is rank 3rd by its population size (not taking into account Erdenet and Darkhan Uul) and has significant economic activities, especially in the livestock sector (with several meat factories for instance). It has a higher population and a higher population growth rate between 2010 and 2018 than Khovd for example (and many others), which is identified as a local growth city.	NCDP designate Khovd as a regional core city due to its central location in Western Region and thus regional functions such as higher education and research and tourism gateway can be strengthened. Ulgii has a disadvantage due to its rather peripheral location, and NCDP recommends its development together with Tsagaannuur FZ for agro-related industries and services
p.12 Ulaangom is ranked 4th by its population among the Aimag centers, and has several significant economic activities in the livestock and arable farming sectors. It shows better indicators than several Aimag centers that are classified as local growth city or even regional core city.	NCDP designates Ulaangom as a center for trade with Russia, and distribution center for construction materials and commodities; these functions are rather secondary, while Ulaangom is strong in livestock and crop farming.
p.13 connection between Murun and Uliastai is under construction. The connection between Uliastai and Altai is also under construction	These ongoing road improvements are in line with the ring artery.
p.13 The link between Uvurkhangai, Umnugovi and Govisumber is questionable, since all the exchanges of the Aimag are with the capital city, and not between them.	This statement describes existing conditions rather than future development; the NCDP logistic corridor focuses on flow of livestock products and commodities, while HSDP focuses on mining products
p.13 the link between Darkhan and Undurkhan, it is questionable (and in addition it would pass by a national protected area).	NCDP shows this section by a dotted line: theoretical link not possible due to the protection area.
p.13 It is recommended to develop high-grade infrastructures in some significant urban nodes that would play the role of rebalancing the territorial development (see archipelagos model of development)	Explanation by the HSDP team on "archipelagos model of development" was not clear

<p>p.14 The future of Mongolia largely depends on the future of these three Aimags (Selenge, Bulgan, Tuv), where arable farming and the livestock sector should be developed, both in a sustainable and green way.</p>	<p>NCDP pursues more balanced development of national territory through regional development.</p>
<p>Chapter 7 Development Diagnosis by Aimag</p>	
<p>p.16 Provided below are tables for the DOAPs that have been drafted by region which summarize the main Aimag development requirements of the DOAPs (right column) as well as NCDP plan elements for the same Aimags (left column). The tables also list the regional development concepts of the NCDP which can be compared to the axes for development of the DOAP.</p>	<p>Extensive and careful analysis presented by HSDP are highly appreciated; we agree the development directions indicated by DOAPs so far prepared are largely in line with NCDP proposals; DOAPs provide additional details identified at micro level and Soum level analyses represent the strength of DOAPs.</p>
<p>p.21 The development axes of the draft DOAPs summarized in above tables are very similar to the diagnosed Aimag development priorities identified by the NCDP.</p>	<p>Agree.</p>
<p>p.21 Sukhbaatar: Similar Aimag development requirements are identified with additional detail provided by DOAPs. Expectedly regional development of NCDP overlaps DOAPs but is broader.</p>	<p>Agree.</p>
<p>p.21 Govi-Altai: The DOAP shares the development objectives for intensive livestock production and tourism with the NCDP. Absent in the DOAP is renewal energy which is emphasized by the NCDP.</p>	<p>Renewable energy should be emphasized even more than NCDP recommends.</p>
<p>p.21 Selenge and Darkhan-Uul: The dual Aimag DOAP is similar to the collective NCDP concept plan for the two Aimags. The DOAP differs from identifying wood processing and urban infrastructure.</p>	<p>Wood processing could be an important industry in limited areas, but should not be emphasized at macro or meso level.</p>
<p>p.22 Bulgan and Orkhon: The dual Aimag DOAP is similar to the NCDP concept plans for Bulgan and Orkhon. The DOAP differs by identifying SME support and wood processing</p>	<p>NCDP proposes support measures for SMEs</p>
<p>Chapter 8 Phased Development Plan with Anchor Projects</p>	
<p>p.23 The new railway from Tavan Tolgoi to Zunbayaan will be the new logistic corridor for the transport of coal and other mining products from the Gobi desert to China and UB. Already some new roads are under construction in South Gobi, from Tavan Tolgoi to Khatanbulag. The current role of Choir as a logistic center for mining products coming from Gobi desert will be reduced. It will be key to plan the respective roles of on the one side Choir and on the other side Sainshand/Zuunbayan as a key node for logistics</p>	<p>HSDP looks at logistics for mining products, while NCDP looks also at logistics for livestock products and commodities.</p>

<p>p.23 Qualifying this region (Murun ~ Darkhan) as a trade and tourism corridor seems reductive when looking at the current productive function of this territory,</p>	<p>NCDP proposes part of this area as a trade and tourism corridor linked to Russia; productivity for crop production and livestock in this area should be much increased by application of ICT and other advanced technologies: this potential will also be supported by links with Russia for marketing of products and technological exchanges; this area should not stay just as sustainable crop farming and livestock area.</p>
<p>Chapter 9 Project Profiles by Development Initiative</p>	
<p>p.24 in Zamyn-Uud 900ha are planned to be developed, infrastructures for 300ha are already developed and there is no industry in the zone. In Altanbulag and Tsagaannuur, the zone exists and has been fenced for long time, but basic infrastructures are not there yet, and there is no industry neither. It is recommended to adopt a phased, more modest and flexible approach</p>	<p>We agree on phased development of FZs: Zamyn-Uud-->Altanbulag-->Tsagaannuur from national viewpoint; for regional development, these FZs are important respectively.</p>
<p>p.24 it is recommended that development of industry, logistics, ICT and service industries is concentrated in Sukhbaatar and not in Altanbulag.</p>	<p>We consider this proposition still disputable.</p>
<p>p.24 The development of Tsagaannuur FTZ seems unrealistic. In this region, industrial development concerns only agro-processing industries.</p>	<p>NCDP proposes Tsagaannuur FZ for agro-related industries and services</p>
<p>p.24 it is recommended to consider some preprocessing industries in the Gobi Aimags</p>	<p>Establishment of cashmere value chain is part of livestock industrial cluster development proposed by NCDP; NCDP recommends to establish the entire value chain within the Mongolian territory and produce export commodities.</p>
<p>p.25 location of these agro-park to support industrial cluster must be carefully selected</p>	<p>We expect this to be done by HSDP through detailed analysis at Aimag/Soum levels.</p>
<p>p.25 No project for industrial reconversion of Erdenet after mining resources will be exhausted.</p>	<p>This is a subject not covered by NCDP.</p>
<p>Sector Report on Crop Farming, Livestock Farming, Mining, Manufacturing and Tourism</p>	
<p>p.26 for vegetable production, it is recommended to focus on local small-scale and community production</p>	<p>Agree.</p>
<p>p.27 It is recommended to support local production of priority inputs for production, in particular seeds and compost.</p>	<p>Agree.</p>
<p>p.28 Economic and environmental interest of seabuckthorn (nutrition + cosmetic) is not enough reflected in National policies and strategies.</p>	<p>We expect HSDP would pursue this for selected Aimags.</p>

p.28 The proposed comprehensive model developed by the HSDP team is summarized in the PowerPoint “Livestock-based territorial development model”.	We expect this model to be elaborated with clear exposition.
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The HSDP team leader clarified there are still six Aimags to be covered to prepare draft DOAPs by the end of the year. Revised DOAPs for all the Aimags will be completed by March 2022.

Attachment A: Coordination Protocol for Cooperative Undertaking of the ADB Project and the JICA Project for Preparation of the Human Settlement Plan for Mongolia

Coordination Protocol for Cooperative Undertaking of the ADB Project and the JICA Project for Preparation of the Human Settlement Plan for Mongolia

1. INTRODUCTION

1.1 Background

Asian Development Bank (ADB) and Japan International Cooperation Agency (JICA) have long-term partnership with the Government of Mongolia to support urban planning and urban development in Mongolia. ADB and JICA have been implementing effectively a joint program to support the Ministry of Construction and Urban Development (MCUD) to prepare a comprehensive spatial development plan encompassing the macro (national), meso (regional/sub-regional) and local (Aimag/Soum) levels. The program combines ADB and JICA technical cooperation facilities respectively, building on recent studies such as the National Urban Assessment (NUA) of Mongolia, 2015–16 by ADB, the Data Collection Survey on Regional Comprehensive Development in Mongolia, 2015–16 by JICA, and other related studies.

Specifically, cooperative arrangements between ADB and JICA as agreed between the two agencies are as follows:

- 1) ADB will take the lead on Aimag (provincial) and sub-regional development plans;
- 2) JICA will focus on national and regional plans (socio-economic development plans and spatial plans);
- 3) ADB and JICA will work together with MCUD to combine the regional and sectoral plans in view of a national strategy for urban and economic development to form the Human Settlement Plan (HSP) as prescribed by law;
- 4) ADB will take the lead on the web-based mapping platform, e-atlases, and urban legal and regulatory development;
- 5) JICA will focus on the development of the geographic information system (GIS); and
- 6) Capacity and institutional strengthening will be embedded in the respective ADB and JICA activities.

1.2 Objectives of the Protocol

ADB has initiated a new TA project titled the Human Settlement Development Program (KSTA MON 51106) to assist the Government of Mongolia to define strategic directions for inclusive, green, competitive, and sustainable urban development through the formulation of provincial socioeconomic and spatial development plans, and with prioritized legislative, technological, and institutional strengthening support. JICA has been implementing the Project for Formulation of National Comprehensive Development Plan (NCDP) to support MCUD to prepare the HSP and the National Development Agency (NDA) to prepare the Regional Development Policy (RDP) as prescribed respectively by law. The present Protocol is to guide the two consultant teams undertaking the ADB TA and the JICA TA projects respectively for effective cooperation to prepare consistent and coherent outcomes of the two TA projects at the macro, meso and micro levels.

The Protocol spells out basic conditions and work division for cooperation between the two consultant teams rather than specific outcomes of the two projects, establishing:

- 1) Common objectives of the two TA projects,
- 2) Consistent approach and methodology,

- 3) Complementing outcomes for coherent contents of the HSP, and
- 4) Mechanism and procedure to realize all these.

1.3 Definitions

To avoid confusion in the work division and outcomes of the two TA projects, the following terms are defined.

- HSP: Human Settlement Plan mandated by law for MCUD to prepare
- RDP: Regional Development Policy mandated by law for NDA to prepare
- HSDP: Human Settlement Development Program to be undertaken by ADB for Aimag (provincial) and sub-regional levels
- DOAP: Development Oriented Aimag Plan to be undertaken by ADB TA, including development vision, strategic objectives and directions for each of the 21 Aimags
- Macro level: national level
- Meso level: regional* and sub-regional* level
- *Regional: division based on existing regional division (Western, Khangai, Central, Eastern, Ulaanbaatar)
- **sub-regional: division identified based on territorial analysis conducted by the ADB TA
- Micro level: provincial (Aimag) and local (Soum) level
- R/D: records of discussions used by JICA for terms of reference agreed with the recipient government

2. OBJECTIVES, APPROACH AND METHODOLOGY

2.1 Objectives

The common objectives of the two TA projects are:

- 1) To contribute to the preparation of the HSP which will be used as a policy tool to realize sustainable, green, responsible and inclusive development; and
- 2) To effect capacity development of the Mongolian experts for preparation and revision of the HSP.

2.2 Approach and Methodology

Both of the TA projects adopt consistent approach and methodology to meet the requirements of the HSP and to facilitate its understanding and implementation by the Mongolian Government and other stakeholders. They may be collectively called a two-prong approach consisting of:

- 1) Scientific analyses based on the best available data, and
- 2) Participatory approach involving a widest range of stakeholders

Specific methods and methodology for analyses and planning to be used will be determined by each of the two TA consultants as considered necessary and relevant to attain the objectives.

3. WORK DIVISION

3.1 Principles

The two TA projects should produce mutually complementing outcomes, which combined will contribute to the formulation of the HSP with sufficient and coherent contents. For this purpose, the two TA consultants should share data and information as much as relevant and avoid duplicated efforts for any tasks and output.

Specifically, the following principles should apply to coordinated execution of the two TA projects.

- 1) Members of the two TA teams should communicate each other on a continual basis to exchange ideas, discuss on key planning issues and facilitate sharing of data and information;
- 2) The two TA teams should avoid duplicated works for collection of data and information, communications with stakeholders, analytical and planning tasks, and cooperative works with the Mongolian experts;
- 3) The two TA team should share information and data on the conditions that use of information and data obtained by either team for a specific purpose by another team for another purpose will require prior approval of the organization that provided the information and data;
- 4) The two TA team should work in accordance with the TOR given respectively to the teams, and outcomes of the two projects will be utilized by MCUD to prepare the HSP for approval by the Mongolian Parliament; and
- 5) Any interim outcomes of either project will be shared by the other project as a matter of principle including seminars and other key meetings, presentation materials and draft reports.

3.2 Work Division

Contents of spatial development plans at the macro, meso and micro levels in Mongolia are as shown in the Attachment. The JICA TA project covers the HSP and the RDP at the national and regional levels in the form of National Comprehensive Development Plan (NCDP). The ADB TA project covers the HSP spatial structure at the Aimag (provincial) level to prepare the Development Oriented Aimag Plan (DOAP) for each of the 21 Aimags.

The NCDP encompasses the spatial structure and land use plan as specified in the Attachment, regional development vision, socio-economic plan and sector strategy, and anchor projects. The NCDP will be utilized by MCUD to prepare the HSP and NDA to prepare the RDP. The JICA consultant will assist MCUD to prepare the HSP based on the outcome of the NCDP.

Each DOAP aims to identify desirable development, socioeconomic and environmental objectives, and pragmatic solutions to achieve them. Each DOAP will help MCUD and local governments in decision making to drive the socio-economic and environmentally sustainable development of each Aimag. DOAPs finally identify an investment action plan necessary to reach the urban and territorial development objectives, together with policy, incentives, and institutional reforms.

Development objectives and strategy at the national and regional levels will be clarified by the NCDP for reflection in the DOAP preparation. Spatial structure and socio-economic framework and plan to be prepared by the JICA TA project will provide the basis for development planning at the Aimag level by the ADB TA project. Aimag level information and proposals will be shared and adjusted by the two projects as necessary for consistent outcomes.

The work division and the scope of work for each TA project may be adjusted by mutual agreement of the ADB and the JICA consultants to allow flexible and cost-effective execution of some tasks involved in the respective TA projects. If such adjustments result in any deviation from the original TOR of the two TA projects, it should be resolved in consultation with ADB and JICA respectively.

4. COORDINATION MECHANISM

4.1 Implementing Arrangements

The JICA TA project has established its implementing arrangements with the Joint Coordination Committee (JCC), and the Project Working Group (PWG) with five sub-working groups (SWGs). JCC supervises the project execution, chaired by the Cabinet Secretary with co-deputy chairpersons of the MCUD Secretary, the NDA Chairman and the Chief Representative of the JICA Mongolia office. JCC members are as specified in the R/D for the JICA TA project. PWG consists of MCUD and NDA as the main counterpart agencies and other related ministries and organizations spelled out

in the R/D.

For close collaboration and cooperation on a daily base, the PWG is operated as subgroups: 1) agriculture and livestock, 2) industrial development, 3) environment and tourism, 4) social development, and 5) urban and transport infrastructure. These are informal groups to encourage free and open discussions in smaller number of participants, respectively.

The same implementing arrangements will be applied to the ADB TA project as well. Membership and sub-chairmanship of JCC and PWG may be amended as necessary based on proposals by the ADB consultant and agreement of the counterpart organizations.

4.2 Coordination Meetings

As venues to raise, discuss and resolve key issues involved in the two TA projects, coordination meetings should be convened occasionally. At each coordination meeting, progress of the two TA projects should be confirmed, pending issues identified and resolved, and plans for activities in the forthcoming period shared. The Mongolian side should participate in any meeting, and ADB and JICA should be invited as well.

Schedule of coordination meetings is tentatively shown below. Additional meetings will be convened as necessary between these key meetings.

No.	Approximate timing	Main subjects
1	August 2019 (done)	Scope of works, work division, coordination protocol
2	November 2019	Development direction, alternatives, objective and strategy etc. based on NCDP first draft
3	January 2020	Anchor projects
4	April 2020	Development frameworks, scenario and priority projects by Aimag
5	September 2020	Revised NCDP, revised anchor projects, draft DOAPs
6	April 2021	Institutional measures and implementing arrangements

The initiative to propose any coordination meeting may be taken by either the team leader or the deputy team leader of either consultant team, and the meeting will be convened as either the team leader or the deputy team leader of the other team accepts the proposal. Logistics for any meeting should be arranged by the team which propose the meeting. Also, any coordination meeting may be convened as requested by the Mongolian side as well as ADB or JICA.

4.3 Aimag Consultation

The JICA team has completed the first round of Aimag consultation for all the 21 Aimags to examine existing conditions, identify constraints to development and indicate promising development prospects by Aimag. The Aimag consultation should be continued for the benefits of the two TA projects in accordance with the following.

- 1) Aimag consultation should be planned and implemented jointly by the two teams as a matter of principle.
- 2) Schedule of Aimag consultation should be determined by mutual agreement of the two TA teams in consideration of progress of the ADB and the JICA projects.
- 3) Aimag consultation may be undertaken when anchor projects proposed by the two projects are evaluated and when their effects in a broad geographic context are evaluated as part of the strategic environmental assessment (SEA).
- 4) Costs involved in all the Aimag consultations should be shared equally by the two teams.

Attachment:

	Spatial structure	Land use plan
National and regional levels		
Human settlement plan (HSP)	Urban hierarchy: <ul style="list-style-type: none"> • National capital • Regional core cities • Local growth cities • Local service towns • Rural service centers Transport network showing airports, highways, trunk roads, railways Major industrial and public facilities Development direction of each Region	Objective: To indicate networks of important natural elements Land use categories: <ul style="list-style-type: none"> -Forest areas -Agricultural areas (Agriculture promotion area etc.) -Grassland (Pasture promotion area etc.) - Protected areas (Strictly protected areas, National parks, Nature reserves, Monuments, Water resource area) - Urban areas including industrial areas Level of specification: Indicative Thematic maps: <ul style="list-style-type: none"> - Environmental sensitive areas, - Forest areas, - Agriculture promotion areas - Grassland including areas of influence by climate change, - Watershed areas and ground water aquifer areas, - Mineral resource area Tourism resource area
Regional development policy (RDP)	Characteristics of each Aimag in line with development direction of each Region Urban hierarchy: Same as HSP plus Aimag center Guidelines indicating public services of Aimag center, Aimag sub-center and Soum centers Transport network Tourism network	Same as above

Aimag (provincial) and subregional levels								
HSP	<p>Urban hierarchy:</p> <ul style="list-style-type: none"> - Aimag center, - Aimag sub-center (core Soum) - Soum centers <p>Transport network Public service network including education and health facilities</p>	<p>Land use category:</p> <ul style="list-style-type: none"> - Urban areas - Forest areas - Agricultural areas (Agriculture promotion areas etc.) - Grassland (Pasture promotion areas etc.) - Protected areas (Strictly protected areas, National parks, Nature reserves, Monuments, Water resource area) <p>Level of specification: Definitive upon consent with Aimag and Soums</p>						
Local level								
City and village master plan								
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%; padding: 2px;">Detailed master plan</td> <td style="padding: 2px;">As specified in regulation</td> <td style="padding: 2px;">Land use plan within urban areas as specified in regulation</td> </tr> <tr> <td style="padding: 2px;">Action plan</td> <td style="padding: 2px;">As specified in regulation</td> <td style="padding: 2px;">Land use plan within urban areas as specified in regulation</td> </tr> </table>	Detailed master plan	As specified in regulation	Land use plan within urban areas as specified in regulation	Action plan	As specified in regulation	Land use plan within urban areas as specified in regulation		
Detailed master plan	As specified in regulation	Land use plan within urban areas as specified in regulation						
Action plan	As specified in regulation	Land use plan within urban areas as specified in regulation						
Plan for Soum center	No spatial structure to be shown	<p>No land use plan, but a location map showing:</p> <ul style="list-style-type: none"> - Soum center - Housing - Schools - Health clinics <p>Water supply for residential and livestock uses Power supply system Pasture areas for settled and unsettled grazing</p>						

Attachment B: Minutes of Meeting of Second Coordination Meeting (prepared by the HSDP team)

Minutes of Meeting of Second Coordination Meeting (prepared by the HSDP team)

As agreed between by Ms. Enkhtsetseg Shagdarsuren (Enkhee), ADB Project Deputy Team Leader, and Dr. Hashimoto, JICA Project Team Leader, the second coordination meeting was held on 25 Nov 2019 from 10.45 am to 12.00pm in the office of Mr. Gunbold Baatar, Director of Urban Development Policy Coordination and Implementation Department of MCUD.

Dr. Hashimoto and Mr. Tokura from JICA Project Team and Ms. Enkhtsetseg Shagdarsuren and Ms. Mungunchimeg Perenlei from ADB Project Team attended the meeting. Mr. Gunbold Baatar was present in the meeting as an observer.

Each team had a list of items to exchange views which were prepared beforehand. The meeting was started by Dr. Hashimoto and he exchanged his views on three main items including the coordination protocol between the two teams, ADB Project Inception Report and planning of next coordination meeting.

1. Comments on ADB Project Inception Report:

Dr. Hashimoto shared his views on the outline and content of the report which include the TORs of the experts and explanation of the components. He provided comments on sub-region definition and concept, Aimag typology, climate change consideration and others. He requests ADB Project Team to provide comments to the JICA Interim Report 1 if any.

2. Coordination Protocol:

Dr. Hashimoto is fine with the current version of the Coordination Protocol and ready to finalize it as it is now if it has been reviewed and agreed with ADB. There is no need of any signature by JICA side if ADB side does not need one.

3. Next Coordination Meeting:

He wants to set a preliminary date for the next coordination meeting between the two teams. He is planning his next mission from 12 to 22 January 2020, and he expects the next coordination meeting to be organized during this mission. The subsequent mission will be in March. A Skype call with Dr. Hashimoto is anytime possible.

After this, Ms. Enkhee shared her view on the tasks of the two teams. There is the TOR for the development of Human Settlements Development Programme (HSDP) to be undertaken by the ADB Team. According to the TOR, CDC under the MCUD has the main role to play for the HSDP development and its approval through GOM for its' implementation. The JICA Team has been working under the Record of Discussions (R/D) agreed between JICA and the Mongolian Government to formulate a National Comprehensive Development Plan, which will be utilized by MCUD to prepare the Human Settlement Plan (HSP) for approval by the Government. Both JICA and ADB Project Teams have support roles to advise and facilitate the CDC for its development of the HSP. Therefore, three teams: the two project teams and CDC have to work together closely without much duplication by utilizing available resources including data, staff/experts and established communication ways to achieve the common goal within the limitation of the project duration. These were stressed by her and JICA team leader expressed his consent. She further suggested more practical and flexible ways of cooperation to implement the communication protocol between the two teams as following:

1. National experts are the advantages of the ADB Project Team as stated by Dr. Hashimoto. Although we are separate project teams, we are open and welcome for close cooperation with JICA Project Team. If JICA Project Team needs support from ADB Project National Experts, we will be happy to facilitate the team. We are open to share our data and reports with the

JICA Project Team. We would greatly appreciate it if JICA Project Team can do the same to share data and reports with us.

2. Review of and inputs to the periodical reports by each team respectively would be much appreciated.
3. We appreciate JICA Project Team's understanding and consent on the validation and utilization of the coordination protocol without any bureaucratic signing steps.
4. It would be appreciated if JICA Project Team can nominate a focal person for coordination with our team.
5. In case of any statements and facts taken from any reports prepared by JICA Project Team in our reports we will make sure to put relevant references. It would be appreciated if JICA Project Team do the same.
6. Data and information confidentiality issues have to be considered and dealt carefully as much earlier as possible for our teams since we will face these issues anyway.

Conclusion and summary of the two parties' agreement:

1. JICA Project Team will share its available data and reports with the ADB Project Team without a formal request process through MCUD. However, there are data collected for specific purpose which cannot be shared with the ADB Project Team without proper arrangements with source organizations.
2. The ADB Project Team is planning a field trip in December to Bulgan (Bulgan province), Erdenet (Orkhon Uul), Darkhan (Darkhan Uul) and Sukhbaatar (Selenge province) cities. The JICA Project Team cannot join the trip but will inform if they need specific data from these cities and ADB Project Team will collect the data.
3. Dr. Hashimoto will send his comments and views on ADB Project Inception report through an email.
4. The coordination protocol as of today is in effect from now on and shall be used for two teams' cooperation.
5. Ms. Tungalag Tsedendamba, the National Team Leader of JICA Project Team would be the focal person to coordinate with the JICA Project Team for data and information exchange. However, for the JICA experts who work in the field of Mongolia on intermittent basis, Dr. Hashimoto will facilitate in communicating with ADB Project Team experts.
6. In case of any statements, facts and analysis used from reports each party will make sure to put relevant references.
7. Data and information confidentiality issues will be further discussed with and coordinated by MCUD.

Attachment C: Comments on national level approach by ADB HSDP team (October 16, 2021; T. Hashimoto, JPT)

Comments on national level approach by ADB HSDP team

(October 16, 2021; T. Hashimoto, JPT)

1. Urban hierarchy

- 1) This is more like urban taxonomy rather than urban hierarchy for two reasons. First, criteria for classification of cities are not clear except population size and a few obvious criteria such as proximity to UB and existing economic status. Second, there are too many classes for meaningful urban hierarchy.

- 2) The NCDP proposes urban hierarchy with four tiers plus inter-Soum centers. Mr. Davaanyam once commented on the NCDP urban hierarchy that the number of tiers is too many. In fact, legal designation of urban centers has only two tiers: state level cities and local level cities.
- 3) Classification of urban centers by the NCDP urban hierarchy is almost consistent with the legal designation. Under UB as the national capital, seven urban centers are designated as either regional core cities or local growth cities. Only Arverkheer and Uliastai are designated as local service cities. Only Sainshand and Bayankhongor are classified as regional core cities, and the remaining 17 local level cities are designated as local service cities.

2. Regional model

- 1) The NCDP proposes livestock industrial cluster development as one of key strategy, and this could include goat and cashmere industrial cluster and yak products based industrial cluster as well as cattle and sheep based industrial clusters. It would be useful if any of these clusters are further elaborated as illustrated by the livestock territorial development model proposed by the ADB HSDP project.
- 2) It should be further highlighted that fodder production holds a key for further livestock development. The NCDP proposes fodder production expansion in combination with semi-intensive livestock farming as integrated farming.
- 3) The “Project Development Fund” approach proposed by the ADB HSDP project may be useful, and implementing arrangements by public-private partnership should be elaborated.
- 4) Tourism is important for development of practically all the Aimags. The NCDP proposes improvement of tourism access for most regions, and highlights two tourism development areas of national significance as tourism triangles. Designation of tourism hotspots by the ADB HSDP project may be disputable.
- 5) The NCDP proposes various measures to promote SMEs and the proposition that incubators in Aimag centers represent a good practice may deserve further investigation and pilot implementation.
- 6) Flow reduction of the Taats and the Ongi Rivers due to lack of forest and water management in the upstream of the respective rivers is an important issue that the NCDP has failed to highlight explicitly, although we conducted detailed water balance analyses.

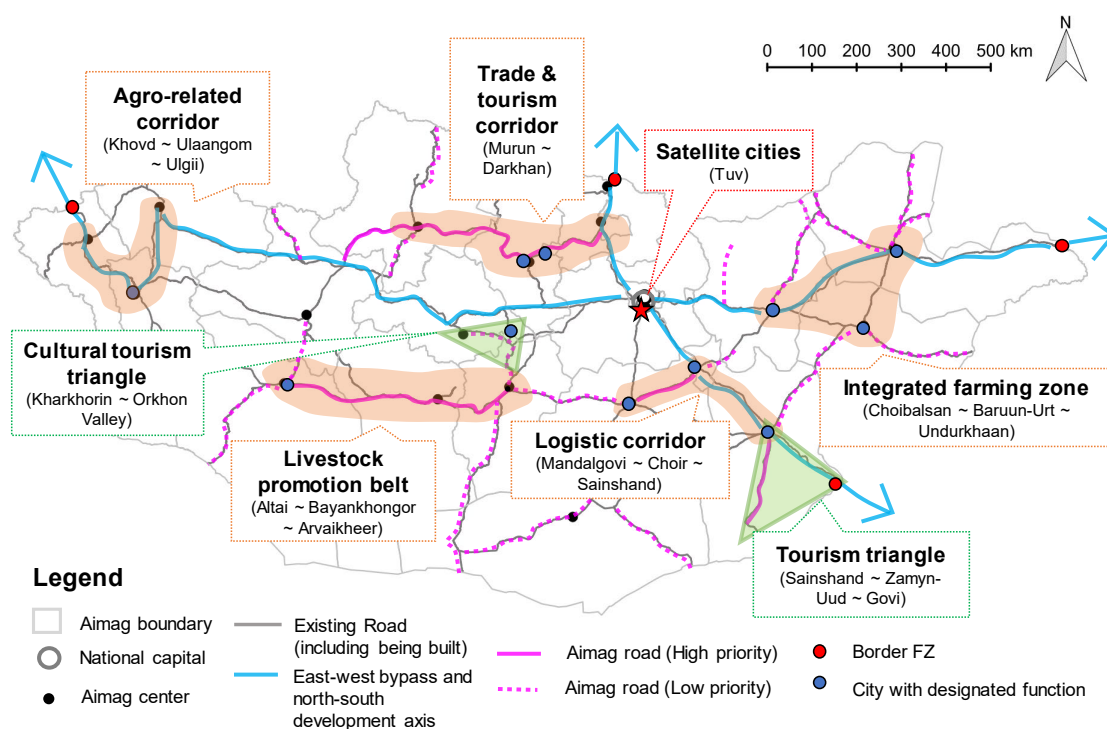
Attachment D: Additional Comments by the HSDP Team

1. Additional Comments by the HSDP Team

- Karakhorin (8,000 inh.) as a regional level pillar, same level as Darkhan (90,000 inh.) or Erdenet (100,000inh.) without any strong justification (investment project secured or other)
- The northern green belt focusing on tourism, in a region which should be the productive region for Mongolia (focusing on sustainable arable farming and livestock)
- Tourism development in all the country (of course all local aimag plans have tourism development as a pillar, however few have a real potential to develop tourism, and from the ground work it is not relevant plan to develop tourism in all aimags)
- Advanced technology and use of 5G in agriculture (arable farming): not relevant with the capacities and level of development of the farmers
- The concept of development corridors and of intensifying investment and densifying within the ring artery: this area is more or less the size of France, the population density is far too low to support the concept of regional development as it can be done in countries like Japan, PRC, the blue banana in Europe or others. The only region where we see this possible according to our ground work is much smaller, defined by the triangle UB-Erdenet-Darkhan.

2. Response to ADB HSDP team's propositions related to national and regional issues

- 1) Kharkhorin is NOT a regional pillar city according to the urban hierarchy proposed by the NCDP. It is one of local service cities. The existing legal designation classifies Kharkhorin as a state level city together with UB and nine other cities. As you know, there exist strong arguments to relocate the national capital to Kharkhorin (and linking UB and Kharkhorin by rapid train!). As part of compromise solutions, the NCDP designates Kharkhorin as the cultural and tourism capital of Mongolia. We maintain Kharkhorin as a local service city at the 4th tier of the urban hierarchy.
- 2) The area along the northern section of the ring artery proposed by the NCDP is most productive area in Mongolia with relatively advanced practices of crop farming and livestock. The NCDP proposes the part of this area as a trade and tourism corridor linked to Russia, "embraced in large forest areas, productive pastureland and rich natural and cultural resources" as the vision proposed by the NCDP expresses. This proposal represents a long-term vision. Productivity for crop production and livestock in this area should be much increased by application of ICT and other advanced technologies. This potential will also be supported by links with Russia for marketing of products and technological exchanges. This area should NOT stay just as sustainable crop farming and livestock area. The northern section of the ring artery may be called a trade and tourism corridor in productive greenery, if you like.
- 3) We believe some kind of tourism will be important for practically all the Aimags. In most Aimags, it may take a form of community-based tourism mainly for domestic visitors. In the NCDP, selected tourism areas of national significance are highlighted. Even for such major tourism areas, elements of community-based tourism will add diversity and attractiveness for international tourists. The NCDP highlights two tourism areas of national significance, for which integrated development of infrastructure, tourism attractions and urban development is proposed by the Government initiative. As you know the NCDP represents public sector planning. For other potential tourism areas, improvement of tourism access is prioritized to induce private sector development.
- 4) The NCDP proposes a wide application of ICT and other advanced technologies in all the sectors as a matter of course. This is necessary to support various socio-economic activities undertaken by small population distributed in the huge national territory. This is possible as Mongolia has a large corps of human resources trained in ICT and advanced technologies and basic infrastructure for ICT is in place. Just examples...A factory-type crop farming may be introduced for greenhouse agriculture, and automated control of crop production conditions is already a state-of art. These practices are in line with the idea of alternative socio-economy paradigm advocated by the NCDP, which uses limited resources as capital.
- 5) Extremely low population density is most important condition to consider in planning for spatial/regional development of Mongolia. Development efforts should be concentrated in selected areas of higher potential on the one hand, and development should be extended to less fortunate areas by road network for inclusiveness on the other. Corridor development is the mean to satisfy both of these conditions. As you can see (figure below), limited areas of high potentials are designated for corridor development, and all the corridors are effectively served by the artery road network. In particular, four corridors out of five corridors in five regions except the Capital region are integrated by the ring artery. We are NOT proposing "intensifying investment" and "densifying population" in the core area within the ring artery at all. We are focusing on the selected areas of corridors and tourism triangles for public sector investment. Roads and telecommunications infrastructure will be improved along the corridor, which will benefit naturally other less fortunate areas along the ring artery. We agree on the development potentials of the UB-Erdenet-Darkhan triangle. This is obvious. Development of this triangle, however, will not help for balanced development of Mongolia as a whole.



Attachment E: Alignment between HSDP and NCDP (prepared by the HSDP team)

Alignment between HSDP and NCDP (prepared by the HSDP team)

This review is made by HSDP ADB TA based on the Final Report entitled “The Project for Formulation of National Comprehensive Development Plan” (NCDP) composed of 10 Chapters and 3 sector reports and prepared by JICA TA Team.

It reviews the main orientations proposed by the NCDP and compared it to the analysis and orientations proposed by the Human Settlement Development Program (HSDP) prepared by the ADB TA.

Chapter 2: SDV 2030 Performance in Macro Socio-economy and Environment

HSDP is fully in line with proposed analysis and challenges identified in economic development (2.3.13), social development (2.3.14) and environmental management (2.3.15).

On economic development, HSDP would add two key challenges:

- (1) Organizational structuration and integration of livestock value-chains, and development of export-oriented processing industries in the livestock sector. Indeed in terms of employment, outside of UB, the livestock sector remains the largest employer in the country, and this sector is in a deep crisis.
- (2) Support and structure arable farming to ensure food security, increase production of crop products and reduce dependence of the country of imports and the deficit of the trade balance.

On environmental management, HSDP would add three key challenges:

- (1) Reduce alarming land degradation due to the animal husbandry sector (in particular due to lack of rangeland use management, fodder production, and uncontrolled increase of the number of livestock) leading to a significant decrease of carbon sequestration and intensifying impacts of

severe natural hazards which are becoming more frequent as a result of climate change (such as Dzuds).

- (2) Improve water management by (i) regulating water use; (ii) develop water saving schemes (reservoirs, efficiency systems) and improve water use (in particular for irrigation); ensure sufficient and safe water supply for human settlements (uneven water resources in Mongolia requires water transfer infrastructures), (iv) improve wastewater treatment in particular for cities and industries and reduce groundwater pollution. Water scarcity is already a key challenge for Ulaanbaatar and for several southern aimags, therefore for more than 2/3 of the population of the country.
- (3) Improve solid waste management with proper collection and disposal. Reduce, reuse and recycle (3Rs) should guide the public policies in the sector. Solid waste is poorly managed in all the country and is a major threat to the environment with impacts on population health. It is an issue both in main cities and in soum centers; and is also an issue around touristic sites including near water sources (lakes, rivers) leading to site degradation and water contamination.
- (4) Improve forest management as forests play key environment roles: in the North, forest areas are key for water conservation, and in the south, saxaul trees prevent from desertification.

Chapter 3: Development Paradigms, Vision, Objective and Strategy

HSDP is mainly in line with the analysis provided by NCDP. Following comments are made:

Development Models and Vision

Use of ICT application and advanced technology to agriculture or livestock

One must be cautious that the local context allows it, and it is probably not the case for everything in agriculture. In general, local skills and knowledge to properly use advanced technologies in rural areas are limited. Basic systems and machinery are today not well operated and maintained, and most of the infrastructures in the agriculture sector built during the Socialist period are abandoned. For instance, use of advanced technologies (especially advanced-machinery) in the arable farming sector might not be compatible with the low capacities of the farmers, both in terms of knowledge and financial capacities. Our analysis shows for example that open-field production should be the first priority for vegetable sector development (see extract of Appendix on Vegetable sector development in grey below) and winter greenhouse can only be profitable for high-added value fruits and vegetables (such as strawberries). The high availability of animal manures in Mongolian countryside, concentrated in herders' pen and easily collectable, combined to adapted composting technologies (incl. usage of specific yeast and earthworms), make possible the production of animal compost at local level, without requiring the use of high technology (see extract below). Center-pivot irrigation can be highly effective on large land fields, but are only affordable to large-size farming companies (see extract below).

However, some ICT application could be useful in particular in the livestock sector, for instance to disseminate information among herders in case of spread of animal diseases, to develop traceability systems and certification systems.

Use of advanced technology in agriculture and livestock is not seen by HSDP TA as key development paradigm for these sectors, and is recommended to be considered carefully.

Extracts from the Appendix on Vegetable sector development (HSDP)

1 Extract on greenhouse

Open-field or greenhouses?

It is often believed that technologies are able to address all kind of vegetable production challenges. Among those technologies, aimag and soum development plans almost always refer to greenhouses as tools capable of reducing climate risks, increasing production and wealth creation, and ultimately

meet market needs and expectations. However, when looking closely to greenhouses potential and limits, it appears quickly that greenhouses' park might not be the most relevant solutions to provide consumers with fresh and healthy vegetables, and neither to support economic development and diversification.

Initial investments and operation costs for greenhouse are expensive, optimizing production in it requires sound technical expertise, and above all their cultivation area is highly limited, hence their production capacities are also highly limited.

Comparison between investments, operation costs, and production capacities of both greenhouses and open-field production highlight the fact that only open-field production is able to (i) initiate the development of a profitable vegetable sector and; (ii) meet both the nutritional needs of local population and volumes of market demand.

However, greenhouses are tools that, properly managed, are offering capacities for (i) extension of cultivation season; (ii) increasing open-field yield if used as seedling nursery; (iii) diversifying production by cultivating vegetables not adapted to Mongolian climate conditions; (iv) producing off-season fresh vegetables, even if in limited amounts.

Open-field production should thus be the first priority for local vegetable sector development, which could be reinforced with appropriate and well sized tools, such as precise irrigation system, low tillage mechanized equipment, greenhouse, etc.



Photos: (1) Open field production in Kherlen soum, Khentii aimag and; (2) Tunnel greenhouse production of green onions in Erdenebulgan soum, Arkhangai aimag

Greenhouses: tools for climate fluctuations mitigation and cultivation season extension

Several types of greenhouses are available in Mongolia, with different specificities that fit to different purposes and objectives:

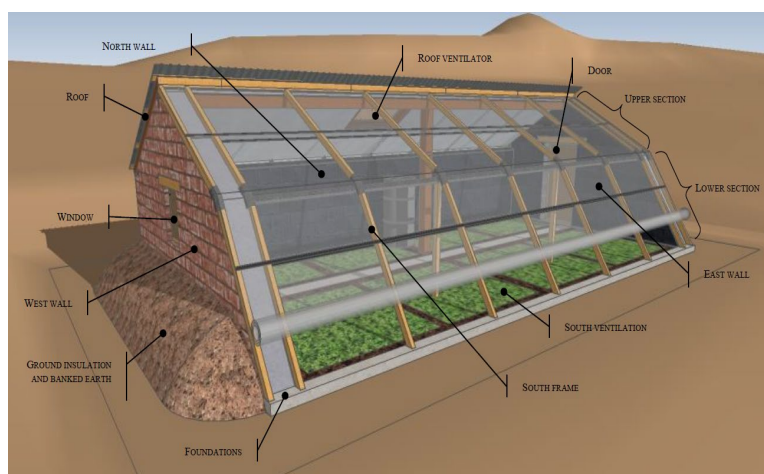
Tunnel greenhouses (or summer greenhouses) are made of metal structure covered with plastic sheets. Most common models are 60 and 120 m², which respectively cost about 2 and 4 million MNT. Tunnel greenhouses help to mitigate climate fluctuations in warm season and enable cultivation of 'summer vegetables' sensitive to cold (such as tomatoes, cucumbers, peppers and eggplants) and to anticipate

cultivation of leafy vegetables by about 2 weeks to 1 month (green onions, spinach). However, such greenhouses cannot protect the crops from night cold in spring and autumn. Those greenhouses are mostly adapted to (i) vegetable gardeners cultivating their yards; (ii) small-scale vegetable farmers looking for short extension of cultivation season; (iii) medium-scale farmers looking for diversification of production and; (iv) tree nursery producers.



Photos: (1) tunnel greenhouses with shadow net protecting from summer sun's heat and ; (ii) seabuckthorn tree nursery in Darkhan-Uul aimag

Passive solar greenhouses (PSGH) are energy-efficient and context-adapted tools, designed for Mongolian climate and broadly disseminated in Central Asia, Russia, and Inner Mongolia. PSGH enables extension of the growing season from 4 months up to 9 to 12 months depending and local climate specificities. PSGH relies on a south-facing structure covered with double UV-stabilized polythene or Plexiglas, and 3 walls built with locally sourced materials and insulated for greater efficiency. PSGH absorbs solar energy during the day and releases the absorbed heat during the night. Farmers using this tool are able to (i) produce seedlings in early spring, to be transplanted in open-field, offering both early-production and increased yields; (ii) produce leafy and roots vegetables from March; (iii) produce fruit and roots vegetable in summer time; (iv) produce leafy and roots vegetables in autumn; (v) producing tree seedlings all year round, including species that are not cold-resistant the first years of growth (apple and plum trees, etc.). 2 major models of PSGH are available and disseminated in Mongolia: one promoted by international organizations (Geres, ADRA) and one sold by Chinese companies. Chinese model is the most adapted to horticulture production but is more expansive and more adapted to companies with high investment capacities (150k MNT/m²). The design promoted by NGOs is more easily replicable (70k MNT/m²) without access to heavy construction machinery, and adjustable to local climate and farmers' needs.



Photos: 3D modelling of PSGH promoted by Geres INGO



Photos: (1) External and (2) internal views of Geres promoted PSGH in Arkhangai and Khentii aimags

Winter greenhouses are usually built on PSGH models, on which heating systems are added. Depending on location and installed heating systems the energy used for heating could be geothermic, diesel, or coal. These greenhouses enable all year long cultivation of any kind of vegetables if lighting systems are added. However, initial investment and operation costs are extremely high and are only profitable for high-added value fruits and vegetables (such as strawberries). Some highly modern Dutch and American multi-hood glass greenhouses have been built around UB, with cultivation in hydroponic system. However, with unaffordable prices (1 million USD/ha) and in-country unavailable technical expertise to run them properly, they cannot be considered as a relevant stake for overall vegetable sector development in Mongolia.

2 Extract on organic fertilizers

- The study “Comparison of the effect of organic and chemical fertilizer on crop yield in Mongolian agriculture” (Javkhlantuya A. & al., 2019) brought to light the fact that only compost application increases crop yield under intensive land management. The high availability of animal manures in Mongolian countryside, concentrated in herders’ pen and easily collectable, combined to adapted composting technologies (incl. usage of specific yeast and earthworms), make possible the production of animal compost at local level. Composting can be conducted at farm-level for self-sufficiency but also at multi-farm level by using small or medium-size composting platforms. Compost produced by those platforms could be sold to other farmers and agricultural companies, and related operations will request job-creation locally. Such platforms are also able to value organic wastes from urban areas, if properly sorted and collected.



Photos: Small and medium-size indoor composting platform in Selenge and Khentii aimags



Photo: Locally produced worm compost sold by a network of farmers' cooperatives to urban gardeners, Kherlen soum Khentii aimag

- In any case, fertilization inputs, application and management shall strictly comply with (i) the International Organization for Standardization set of criteria for fertilizers, soil conditioners and beneficial substances¹; (ii) the International Code of Conduct for the Sustainable Use and Management of Fertilizers (FAO, 2019); (iii) the Mongolian agri-inputs' market regulation procedures and related Laws on Standardization and Accreditation (2003); on Food (2013), on Food Safety (2013), and on Organic Food (2016).

3 Extract on irrigation techniques:

Drip irrigation is a type of micro-irrigation system that has the potential to save water and nutrients by allowing water to drip slowly to the roots of plants, either from above the soil surface or buried below the surface. The goal is to place water directly into the root zone and minimize evaporation. Drip irrigation systems distribute water through a network of valves, pipes, tubing, and emitters. Depending on how well designed, installed, maintained, and operated it is, a drip irrigation system can be more efficient than other types of irrigation systems, such as surface irrigation or sprinkler irrigation. Chinese, Korean, and Israeli drip irrigation systems are currently available in Mongolia. Initial investments and operation costs are however not affordable to all farmers and shall be made accessible to them by subsidies provision or concessional loans.

Center-pivot irrigation is a method of crop irrigation in which equipment rotates around a pivot and crops are watered with sprinklers. A circular area centered on the pivot is irrigated, creating a circular pattern in crops. Most center pivots were initially water-powered, however today most are propelled by electric motors. Center-pivot irrigation systems are beneficial due to their ability to efficiently use water and optimize a farm's yield. The systems are highly effective on large land fields, but are only affordable to large-size farming companies.



¹ <https://www.iso.org/committee/52376/x/catalogue/p/1/u/0/w/0/d/0>



Photos: (1) drip irrigation system in tunnel greenhouse, Tariat soum, Arkhangai aimag; (2) drip irrigation in open field, Bornuur soum, Tuv aimag and; (3) pivot irrigation in open-field, Tsagaannuur soum, Selenge aimag

Development Objectives and Strategy for Economic Sector

Crop farming

As discussed above, use of ICT technologies is considered not adapted for the capacities of Mongolian farmers. It can be used for large farms and large investments.

Livestock farming

Development Strategy

On pasture. A key component is lacking: overgrazing due to livestock boom over the past two decades, leading to land degradation, and in the end vulnerability of herders and of the nomadic model. Rangeland use management and control of livestock numbers are absolute priorities for livestock farming at the national level.

On intensive and semi-intensive farming. Promotion of intensive farming and re-vitalization of herders' communities based on nomadic livestock farming and culture seem to be contradictory. HSDP TA has discussed with a large panel of stakeholders the opportunity of developing intensive and semi-intensive farming, for instance meeting and visiting Gatsuurt company in Selenge aimag and Xanadu Razorback in Bulgan aimag (supplying quality beef meat to high-end restaurants in Ulaanbaatar), which are examples of two different approaches on how to deal with nomadic pastoralism and two different scales: an intensive approach (Gatsuurt) and semi-intensive approach (Xanadu) in the country; the first one hires herders while the second one get supplied from independent herders and is thus based on traditional extensive livestock herding. The result is that developing intensive farming meets a strong resistance from the herders and generally the population, that considers it is against Mongolian culture and tradition, and that nobody in Mongolia has the knowledge and the will to develop such farms. HSDP recommends to support semi-intensive farming (as fattening and finishing farms) in a way that it integrates and recognizes the traditional work of the herders.

Mining

“Maintaining the mining sector as the driving force for Mongolia’s continuous economic growth” is considered controversial, and could be moderated in light of the high volatility of the mining sector and the small economic impacts in terms of employment and lack of social and public infrastructures built by mining companies.

Water availability should be mentioned as a key challenge for the development strategy of the mining sector. Already some conflicts arise between mine and herders in particular on the use of water in southern aimags where water is lacking. Water use by mining companies must be better controlled

and regulated. Other environmental impacts include water pollution, impacts on fauna and flora (including with some mining activities in protected areas' zones or buffer zones), rangeland degradation due to increased vehicular flows on earth roads.

Reconversion strategies with economic diversification must be put in place in mining cities with the support of the mining company, to prepare the future closing of the mine. There are several examples of cities that, after the closing of the mine following the end of the mining resources, are rapidly collapsing, such as Berkh village in Khentii aimag. On another scale, this will be the case in about 30 years for Erdenet, which is the second city of the country. The future of Erdenet when the mine will be close is a national matter for Mongolia, and must be dealt with in advance, to avoid a social catastrophe and a sudden large migration to UB.

Manufacturing industry

Development strategy

It is proposed to add as key components:

- Support for integrated value chains in the livestock and arable farming sectors. See in particular HSDP model for livestock.
- Development of infrastructures for agro-industrial parks in aimag centers and setting up of financing scheme to support the private sector.
- Regeneration of brownfields (former industrial parks during the Socialist period) in several big cities, in Erdenet and Darkhan Uul.

Tourism

Development strategy

It is proposed to add as key component:

- Develop inclusive tourism with local communities as service providers and marketize local products for tourists.

Transport and logistic infrastructures

Development strategy

It is proposed to add as key component:

- Upgrading of transport and logistic infrastructures of selected soum centers, called intersoum centers to facilitate social service delivery and primary processing in particular in the livestock sector².

Urban development

Development strategy

It is proposed to add as key component:

- Comprehensive development of selected soum centers to become intermediary nodes for delivery of social services and support of local economic development.

Environmental management

Note: this section identifies different issues than the one identified in Chapter 2 for environmental management.

Development objectives

² It can be noted logistic infrastructures needed at inter-soum level are very basic (warehouses with parking infrastructure for agri-processing activities mainly). Only a few settlements along key transport & trade corridors need more advanced logistic infrastructures.

It is proposed to add as key problems:

- Water management (see above comments on Chapter 2)
- Solid waste management (see above comments on Chapter 2)
- Forest degradation: forest are key for water and vegetation retention and have been seriously degraded by livestock grazing, illegal mining and human activities. In the North forests play a key role for water & permafrost conservation, while in the south they play a key role against desertification.

Development strategy

It is proposed to add as key component:

- Water conservancy and water use management (regulatory framework and water transfer infrastructures)

Water resources development and management

Development objectives

- Uneven distribution of water resources in the country: water scarcity especially in the southern aimags of Mongolia

Development strategy

- Water transfer infrastructures projects

Chapter 4: Spatial Structure for the National Comprehensive Development Plan (NCDP)

Urban hierarchy and land suitability for urban development

Urban hierarchy

Existing condition

JICA TA proposes the following urban hierarchy for Mongolia.

Evaluation criteria for the urban hierarchy:

- Population size,
- Administrative status: National capital, Aimag center, other,
- Access to Ulaanbaatar,
- Gross regional domestic products (GRDP),
- Access to international trading port, and
- Infrastructure (artery road, airport, railway).

Proposed urban hierarchy in 4 levels:

- National capital city: a global city
- A regional core city is a multi-function city providing economic and social service activities for a broad area such as a group of Aimags.
- A local growth city is a city having specialized growth function to drive the local economy.
- A local service center focuses on social services function. Under those cities and centers, the Soum centers undertake a role of rural service function.

Existing condition (without policy intervention):

City	Population in 2018	Status in urban hierarchy
Ulaanbaatar+Nalaikh+Zuunmod	1,428,037	National capital city
Erdenet+Bulgan	111,251	Regional core city
Dar khan	86,749	Regional core city
Choibalsan	46,710	Regional core city
Moron	40,510	Local growth city
Ulgii	36,024	Local service city
Arvaikheer	31,917	Local service city
Bayankhongor	31,308	Local growth city
Ulaangom	31,279	Local service city
Khovd	30,068	Local growth city
Baganuur	29,512	Local growth city
Dalanzadgad	25,998	Local growth city
Sainshand	25,023	Regional core city
Sukhbaatar	23,151	Regional core city
Tsetserleg	22,138	Local service city
Undurkhaan	21,857	Local service city
Zuunkharaa	20,191	Local service city
Altai	18,931	Local service city
Zamiin-Uud	18,930	Local growth city
Baruun-Urt	18,252	Local service city
Uliastai	16,696	Local service city
Choir	12,773	Local growth city
Mandalgovi	12,443	Local growth city
Bor-Ondor	8,981	Local service city
Kharkhorin	8,958	Local service city
Khanbogd	7,200	Local service city
Tsogttsetsi	6,800	Local service city

Comments from HSDP TA on this proposed urban hierarchy in existing conditions:

Although criteria used for the urban hierarchy are known, the explanation on how the urban hierarchy is conceived based on these criteria is lacking, which makes it difficult to comment or agree with the proposed urban hierarchy. Criteria are also questionable. (1a) three criteria are redundant (Access to Ulaanbaatar, Access to international trading port, and Infrastructure (artery road, airport, railway)); (1b) in the case of Mongolia, where the function of the cities is to provide services to their hinterland, and not to export (except UB and Zamyin-Uud), this is not seen as a key criteria; (2) the hinterland (economic production and at the scale of the aimag) is biased by taking into account the GRDP and not looking at its distribution by sector (impact of mining for instance); (3) the ‘urbanity’ of the center is not taken into account (development of housing, access to basic infrastructures and services).

Nalayh and Zunmod are satellite cities of UB. There are 42km between UB and Zunmod, and 39km between Nalayh and UB. There is no urban or built continuity between these centers, no unique administrative unit that cover these centers, and no common planning today. It is recommended to consider Nalayh and Zunmod as satellite cities of UB, and not as part of the national capital city.

Same comment is for Erdenet and Bulgan. These centers are about 60km far from each other, with no urban or built continuity, no common administrative unit, and very different population sizes (100k people against 10k people). It is recommended to consider Bulgan separately in the urban hierarchy.

Murun is the second largest aimag center of the country after Choibalsan (we do not take into account Erdenet and Darkhan Uul that have City status), and one of the most dynamic aimag centers in the country, in an aimag with good economic trends, and development potential in the livestock and tourism sectors. It also has regional type amenities, such as a university and processing industries. Its geographic position makes it a strategic node between Central Mongolia and Western Mongolia. It is recommended to select Murun as a regional core city.

Sukhbaatar is proposed as a regional core city. The rationale for this choice is not clear. There are already two other regional core cities nearby, Darkhan Uul and Erdenet. A main rationale for the choice of a regional core city should be that it serves a whole region (“A regional core city is a multi-function city providing economic and social service activities for a broad area such as a group of Aimags”), therefore having two regional core cities for the same region is questionable. For Darkhan Uul and Erdenet, there is no question given the size of their population and the infrastructures and services they provide. Sukhbaatar is a relatively small aimag center, ranking 13th among aimag centers by its size.

Several aimag centers are identified as local service cities, meaning that they focus on social services functions. This is questionable for the following aimags:

- Bayan-Ulgii: the aimag center is rank 3th by its population size (not taking into account Erdenet and Darkhan Uul) and has significant economic activities, especially in the livestock sector (with several meat factories for instance). It has a higher population and a higher population growth rate between 2010 and 2018 than Khovd for example (and many others), which is identified as a local growth city.
- Uvs: similarly Ulaangom is ranked 4th by its population among the aimag centers, and has several significant economic activities in the livestock and arable farming sectors. It shows better indicators than several aimag centers that are classified as local growth city or even regional core city.

The proposed urban hierarchy by JICA team for the existing condition is questionable on many aspects, and that would good to have the details of the assessment leading to this urban hierarchy.

Forecasted urban hierarchy with policy intervention (in particular ring artery)

- Khovd and Bayankhongor become regional core cities.
- Ulgii, Ulaangom, Uliastai become local growth cities.

To clarify map 4.3.7 and 4.3.8 regarding the urban hierarchy (legend is not clear and proposed classification of cities seems not to match).

Land suitability for urban settlement

It is not identified if this represents an issue for the development of some urban settlements.

National Spatial Planning

The Ring Artery

The rationale and benefits of the ring artery is not clear. Some links of the ring artery are important and already exist, especially in the North between Sukhbaatar, Darkhan Uul, Erdenet, Murun, and the connection between Murun and Uliastai is under construction. The connection between Uliastai and Altai is also under construction linking with the southern east-west transportation corridor that is not represented on the map page 4-11. The link between Uvurkhangai, Umnugovi and Govisumber is questionable, since all the exchanges of the aimags are with the capital city, and not between them. The main exchanges in this region are related to mining activities in Umnugovi and Choir, but this will change in the future with the new railway from Tavan Tolgoi to Zunbayaan. Same for the link between Darkhan and Undurkhan, it is questionable (and in addition it would pass by a national protected area).

This concept, as presented on the map page 4-11, does not build on the existing paved network, that should be the basis for planning, given the distances and the costs induced by road development. In particular in the western part (see the two existing east-west transport axes) and south-east part of the ring road.

Given the population density in Mongolia and the distances involved, establishing a ring artery of this size with the objective to develop high grade infrastructure within such a large territory is largely

questionable. It is recommended to develop high-grade infrastructures in some significant urban nodes that would play the role of rebalancing the territorial development (see archipelagos model of development).

It is possible to consider a core productive region composed by the aimags of Tuv, Selenge, Darkhan Uul, Orkhon and Bulgan. These aimags represent a region that in terms of size is compatible with the development of high-grade infrastructures, and with a population density and an economic activities density that can justify it. It is in particular the food basket of Mongolia, concentrating the three big cities of Mongolia (UB, Darkhan-Uul and Erdenet) with associated infrastructures, services, and processing industries. It is also the region with the best natural resources (in particular water and rangeland).

Northern green corridor

The layout of the northern green corridor is not clearly indicated. It must be noted that Selenge, Bulgan, Tuv, and to some extent Khentii, Zavkhan aimags are the aimags with the best potential for development of the agriculture sector (water availability and rangeland). The future of Mongolia largely depends on the future of these three aimags, where arable farming and the livestock sector should be developed, both in a sustainable and green way. Large parts of these aimags are already protected, which is very good both for tourism and nature conservation. Economic activities in the agriculture sector must be developed in the other parts of this aimag, in a way that regenerates and reuse the natural resources.

Pasture degradation

The available databases on pasture degradation have several limits, that have been identified by HSDP TA. Therefore, the results given by ALAMGaC and other national agencies on this matter must be considered carefully.

From the field visits made by HSDP TA, the results shown in the Figure 4.4.16 do not match with the ground reality, in particular in Dornod, Sukhbaatar, Khuvsgul, Selenge, and Bulgan aimags.

For instance, it can be noticed that control grazing areas are not proposed in the areas where rangeland carrying capacity is exceeded.

Chapter 6: Regional Development Vision and Strategy

The rationale for dividing the country in regions is not clear. First of all, it is not for an administrative purpose, proposed regions will not be administrative units. It is therefore considered solely from an economic and geographic point of view, looking at functional territories to support local and national development.

Very low population densities and very long distances are big constraints for a regional development model. Some local clusters can be identified, but common development objectives for large regions is questionable in Mongolia, because Aimags (i) have widely varying natural, economic, socio-cultural and other characteristics (ii) are already large territories and historic administrative divisions with very low population density and long distances make impossible economic corridor development.

The analysis of NCDP shows that it is very difficult to identify regions with common characteristics. Indeed, almost all regions identified have some exceptions (see Table 6.2.1 Main Characteristics of Six Regions Defined by Proposed Regional Division).

HSDP proposes an ‘archipelagos’ development model (see HSDP report).

Chapter 7: Development Diagnosis by Aimag

Provided below are tables for the DOAPs that have been drafted by region which summarize the main aimag development requirements of the DOAPs (right column) as well as NCDP plan elements for the same aimags (left column). The tables also list the regional development concepts of the NCDP which can be compared to the axes for development of the DOAP.

Aimag orientations

Sukhbaatar aimag

NCDP Diagnosed Aimag Development Prospects	DOAP Axes for Aimag Development
<ul style="list-style-type: none"> • Environment friendly mining 	<ul style="list-style-type: none"> • Mining
<ul style="list-style-type: none"> • Intensive livestock production 	<ul style="list-style-type: none"> • Livestock production and product processing
<ul style="list-style-type: none"> • Tourism with improved roads 	<ul style="list-style-type: none"> • International and national tourism
<ul style="list-style-type: none"> • Diversified manufacturing, e.g., livestock products, consumer goods, & construction materials 	<ul style="list-style-type: none"> • Public and commercial urban services and infrastructure
<ul style="list-style-type: none"> • Bichigt border facilities upgrading 	<ul style="list-style-type: none"> • Bichigt international border improvements
	<ul style="list-style-type: none"> • Secondary cities infrastructure development
	<ul style="list-style-type: none"> • Access roads and connectivity
	<ul style="list-style-type: none"> • Sustainable agriculture and fodder production
NCDP <u>Eastern Region</u> Development: <i>Integrated agro-trade-tourism concepts</i>	
<ul style="list-style-type: none"> • Intensive livestock farming for meat and milk 	
<ul style="list-style-type: none"> • Cross border trade 	
<ul style="list-style-type: none"> • Cross border tourism with China and Russia 	
Environment and Natural Resources	
<i>Constraints:</i>	<i>Constraints:</i>
<ul style="list-style-type: none"> • Low surface and groundwater 	<ul style="list-style-type: none"> • Sparse surface and groundwater
<ul style="list-style-type: none"> • Small forest area 	<ul style="list-style-type: none"> • Minimal forest resource • Regional land degradation
<i>Opportunities</i>	<i>Opportunities</i>
<ul style="list-style-type: none"> • Numerous ecological protected areas 	<ul style="list-style-type: none"> • Numerous ecological protected areas

Khentii aimag

NCDP Diagnosed Aimag Development Prospects	DOAP Axes for Aimag Development
<ul style="list-style-type: none"> • Environment friendly mining 	<ul style="list-style-type: none"> • Livestock and food industry with processing
<ul style="list-style-type: none"> • Integrated livestock and fodder production 	<ul style="list-style-type: none"> • Arable farming and processing
<ul style="list-style-type: none"> • Crop production and meat products for local markets 	<ul style="list-style-type: none"> • Inter-soum road network
<ul style="list-style-type: none"> • Tourism linked to wellness industry 	<ul style="list-style-type: none"> • Community-based (eco) tourism
<ul style="list-style-type: none"> • Aimag centre urban development 	Aimag centre urban development
NCDP <u>Eastern Region</u> Development <i>Integrated agro-trade-tourism program concepts</i>	

<ul style="list-style-type: none"> Intensive livestock farming for meat and milk 	
<ul style="list-style-type: none"> Cross border trade 	
<ul style="list-style-type: none"> Cross border tourism with China and Russia 	
Environment and Natural Resources	
<i>Constraints:</i>	<i>Constraints:</i>
n/a	<ul style="list-style-type: none"> Extensive permafrost
	<ul style="list-style-type: none"> Land degradation
<i>Opportunities</i>	<i>Opportunities</i>
<ul style="list-style-type: none"> Abundant water resources 	<ul style="list-style-type: none"> Highly abundant water resources
<ul style="list-style-type: none"> Numerous ecological protected areas 	<ul style="list-style-type: none"> Numerous ecological protected areas

Bayankhongor aimag

NCDP Diagnosed Aimag Development Prospects	DOAP Axes for Aimag Development
<ul style="list-style-type: none"> Urban development in centre 	<ul style="list-style-type: none"> Industrial and urban development in centre and selected soums
<ul style="list-style-type: none"> Intensive livestock production near centre 	<ul style="list-style-type: none"> Livestock and cashmere value chain development
<ul style="list-style-type: none"> Health tourism of hot springs and medicinal herbs 	<ul style="list-style-type: none"> Fodder production
<ul style="list-style-type: none"> Manufacturing of livestock, fruits, and herb products 	<ul style="list-style-type: none"> Sustainable tourism
<ul style="list-style-type: none"> Renewal energy production 	<ul style="list-style-type: none"> Inter-soum road connectivity
	<ul style="list-style-type: none"> Environment friendly mining
NCDP <i>Altai Region</i> Development: Diversified agriculture and energy reserve program concepts	
<ul style="list-style-type: none"> Livestock farming and processing 	
<ul style="list-style-type: none"> Diversified crop production 	
<ul style="list-style-type: none"> Renewable energy production 	
Environment and Natural Resources	
<i>Constraints:</i>	<i>Constraints:</i>
<ul style="list-style-type: none"> Surface and groundwater resources 	<ul style="list-style-type: none"> Surface and groundwater resources
<i>Opportunities:</i>	<ul style="list-style-type: none"> Permafrost in northern soums
<ul style="list-style-type: none"> Numerous ecological protected areas 	<ul style="list-style-type: none"> Land degradation and desertification
	<i>Opportunities</i>
	<ul style="list-style-type: none"> Numerous ecological protected areas
	<ul style="list-style-type: none"> Hot springs

Govi-Altai aimag

NCDP Diagnosed Aimag Development Prospects	DOAP Axes for Aimag Development
<ul style="list-style-type: none"> • Renewal energy focusing on geothermal and solar power 	<ul style="list-style-type: none"> • Road connectivity
<ul style="list-style-type: none"> • Semi-intensive livestock farming 	<ul style="list-style-type: none"> • Livestock value chain development - sustainable
<ul style="list-style-type: none"> • Long-stay hermitage tourism with Altai city as tourism base. 	<ul style="list-style-type: none"> • Fodder production
<ul style="list-style-type: none"> • Greenhouse agriculture for urban markets 	<ul style="list-style-type: none"> • Tourism following road connectivity and infrastructure
NCDP <i>Altai Region</i> Development: <i>Diversified agriculture and energy reserve program concepts</i>	
<ul style="list-style-type: none"> • Livestock farming and processing 	
<ul style="list-style-type: none"> • Diversified crop production 	
<ul style="list-style-type: none"> • Renewable energy production 	
Environment and Natural Resources	
<i>Constraints:</i>	<i>Constraints:</i>
<ul style="list-style-type: none"> • Surface and groundwater resources 	<ul style="list-style-type: none"> • Surface and groundwater resources
Opportunities	<ul style="list-style-type: none"> • Land degradation and desertification
<ul style="list-style-type: none"> • Numerous ecological protected areas 	<i>Opportunities</i>
	<ul style="list-style-type: none"> • Major ecological protected areas including Great Gobi SPA

Arkhangai aimag

NCDP Diagnosed Aimag Development Prospects	DOAP Axes for Aimag Development
<ul style="list-style-type: none"> • Industrial livestock production and processing 	<ul style="list-style-type: none"> • Arable farming
<ul style="list-style-type: none"> • Urban infrastructure for processing 	<ul style="list-style-type: none"> • Livestock sector and food industry
<ul style="list-style-type: none"> • Fodder production and integrated farming 	<ul style="list-style-type: none"> • Inclusive tourism
<ul style="list-style-type: none"> • Nature tourism including winter resorts 	<ul style="list-style-type: none"> • Road system connectivity
<ul style="list-style-type: none"> • Information, Communication Technology (ICT) 	
NCDP <i>Northwest Region</i> Development: <i>Advanced socio-economic complex program concepts</i>	
<ul style="list-style-type: none"> • Crop production, livestock farming, and processing technologies 	
<ul style="list-style-type: none"> • Tourism linked with Russia 	
<ul style="list-style-type: none"> • ICT 	

Environment and Natural Resources	
<i>Constraints:</i>	<i>Constraints:</i>
n/a	<ul style="list-style-type: none"> • Permafrost in western region
<i>Opportunities:</i>	<ul style="list-style-type: none"> • Moderate land degradation
<ul style="list-style-type: none"> • Ecological protected areas 	<i>Opportunities:</i>
<ul style="list-style-type: none"> • Abundant surface and groundwater resources 	<ul style="list-style-type: none"> • Ecological protected areas
	<ul style="list-style-type: none"> • Abundant surface and groundwater resources
	<ul style="list-style-type: none"> • Abundant forests

Khuvsgul aimag

NCDP Diagnosed Aimag Development Prospects	DOAP Axes for Aimag Development
<ul style="list-style-type: none"> • Agriculture and livestock production of fruit, vegetables, dairy, and meat 	<ul style="list-style-type: none"> • Arable farming
<ul style="list-style-type: none"> • Infrastructure and forest development 	<ul style="list-style-type: none"> • Livestock sector and food industry
<ul style="list-style-type: none"> • Nature, wellness, and cultural tourism 	<ul style="list-style-type: none"> • Inclusive (eco) tourism
NCDP <u>Northwest Region</u> Development: Advanced socio-economic complex program concepts	
<ul style="list-style-type: none"> • Crop production, livestock farming, and processing technologies 	
<ul style="list-style-type: none"> • Tourism linked with Russia 	
<ul style="list-style-type: none"> • ICT 	

Environment and Natural Resources	
<i>Constraints:</i>	<i>Constraints:</i>
n/a	<ul style="list-style-type: none"> • Extensive permafrost • Weak urban systems
<i>Opportunities:</i>	<i>Opportunities:</i>
<ul style="list-style-type: none"> • Abundant surface and groundwater resources 	<ul style="list-style-type: none"> • Diverse topography (high mountain – lowland grassland)
<ul style="list-style-type: none"> • Ecological protected areas 	<ul style="list-style-type: none"> • Highly abundant surface and groundwater resources
	<ul style="list-style-type: none"> • Abundant forest in northern areas
	<ul style="list-style-type: none"> • Large ecological protected areas

Selenge and Darkhan-Uul aimags

NCDP Diagnosed Development Prospects for both Aimags	DOAP Axes for Dual Aimag Development
<ul style="list-style-type: none"> • Crop production with new technologies 	<ul style="list-style-type: none"> • Crop farming and livestock production
<ul style="list-style-type: none"> • Livestock farming 	<ul style="list-style-type: none"> • Agribusiness
<ul style="list-style-type: none"> • SME promotion 	<ul style="list-style-type: none"> • Wood processing

• Community-based tourism (Selenge)		• Industrial and SME support
• Small hydro power		• Urban infrastructure and services (Darkhan-Uul)
• ICT		
NCDP <u>Northwest Region</u> Development: Advanced socio-economic complex program concepts		
• Crop production, livestock farming, and processing technologies		
• Tourism linked with Russia		
• ICT		
Environment and Resources		
<i>Constraints:</i>		<i>Constraints:</i>
Water resources (Darkhan-Uul)		• Land degradation
<i>Opportunities:</i>		<i>Opportunities:</i>
• Surface and groundwater resources (Selenge)		• Abundant surface and groundwater resources (Selenge)
		• Abundant northern forests

Bulgan and Orkhon aimags

NCDP Diagnosed Development Prospects for both Aimags		DOAP Axes for Dual Aimag Development
• Integrated farming and industrial production		• Agribusiness
• Agricultural production		• Arable farming and livestock production
• Diversification of manufacturing		• Wood processing
• Responsible mining		• Industrial and SME support
• Urbanization		
• Cultural and medicinal tourism		
NCDP <u>Northwest Region</u> Development: Advanced socio-economic complex program concepts		
• Crop production, livestock farming, and processing technologies		
• Tourism linked with Russia		
• ICT		
Environment and Natural Resources		
<i>Constraints:</i>		<i>Constraints:</i>
Water resources (Orkhon)		• Water resources (Orkhon)
		• Land degradation (Bulgan)

<i>Opportunities:</i>	<i>Opportunities:</i>
<ul style="list-style-type: none"> • Surface and groundwater resources (Bulgan) 	<ul style="list-style-type: none"> • Abundant surface and groundwater resources (Bulgan)
	<ul style="list-style-type: none"> • Ecological protected areas
	<ul style="list-style-type: none"> • Abundant forests

Zavkhan aimag

NCDP Diagnosed Aimag Development Prospects	DOAP Axes for Aimag Development
<ul style="list-style-type: none"> • Agriculture products processing for export market 	<ul style="list-style-type: none"> • Regional connectivity including roads
<ul style="list-style-type: none"> • Domestic tourism in conjunction with Khangai subregion tourism cluster 	<ul style="list-style-type: none"> • Livestock sector and economic base
<ul style="list-style-type: none"> • Construction materials industry 	<ul style="list-style-type: none"> • Urbanization of Iliastai and Tosontsengel soum centre
<ul style="list-style-type: none"> • ICT for livestock industry 	
<ul style="list-style-type: none"> • Infrastructure and administrative links between Ulaanbaatar and Aimag centre 	
<p style="text-align: center;">NCDP <u>Northwest Region</u> Development: Advanced socio-economic complex program concepts</p>	
<ul style="list-style-type: none"> • Crop production, livestock farming, and processing technologies 	
<ul style="list-style-type: none"> • Tourism linked with Russia 	
<ul style="list-style-type: none"> • ICT 	
Environment and Natural Resources	
<i>Constraints:</i>	<i>Constraints:</i>
n/a	<ul style="list-style-type: none"> • Extensive permafrost
	<ul style="list-style-type: none"> • Regional land degradation
	<ul style="list-style-type: none"> • Weak urban system of Iliastai – aimag centre
<i>Opportunities:</i>	<i>Opportunities:</i>
<ul style="list-style-type: none"> • Ecological protected area 	<ul style="list-style-type: none"> • Abundant forested areas
	<ul style="list-style-type: none"> • Abundant surface and groundwater resources
	<ul style="list-style-type: none"> • Numerous ecological protected areas

Discussion

The development axes of the draft DOAPs summarized in above tables are very similar to the diagnosed aimag development priorities identified by the NCDP. Further, the development concepts at the regional level identified by NCDP address all of the development axes identified in table for the DOAPs. A comparative summary of the differences and similarities of planning elements between the DOAPs and NCDP from the above tables is provided below.

Sukhbaatar: Similar aimag development requirements are identified with additional detail provided

by DOAPs. Expectedly regional development of NCDP overlaps DOAPs but is broader.

Khentii: Aimag development requirements of NCDP and the DOAPs focus on same sectors with differences being mining identified by NCDP which road development identified by the DOAP. And regional development identified by NCDP is inclusive of the DOAP but broader.

Bayankhongor: The Aimag plans aligned with NCDP identifying renewal energy, while the DOAP identifies road development and environmental friendly mining. The DOAP is included in NCDP regional plan concept.

Govi-Altai: The DOAP shares the development objectives for intensive livestock production and tourism with the NCDP. Absent in the DOAP is renewal energy which is emphasized by the NCDP. Agriculture including greenhouse production is identified by the NCDP, whereas road connectivity is highlighted by the DOAP.

Arkhangai: The DOAP and NCDP aimag plans show similar and different elements. Both identify tourism, livestock and farming while NCDP identifies ICT and urban infrastructure while DOAP identifies road connectivity. The NCDP regional plan encompasses the DOAP development elements.

Selenge and Darkhan-Uul: The dual aimag DOAP is similar to the collective NCDP concept plan for the two aimags. The DOAP differs from identifying wood processing and urban infrastructure. The NCDP concept plans identify tourism, ICT, and small hydropower. Expectedly, the regional NCDP concept includes all development elements of the DOAP.

Bulgan and Orkhon: The dual aimag DOAP is similar to the NCDP concept plans for Bulgan and Orkhon. The DOAP differs by identifying SME support and wood processing, whereas the NCDP concept plans identify tourism, responsible mining, and urban growth. And again, the regional NCDP concept includes all development elements of the DOAP.

Zavkhan: The important development imperative shared by the DOAP and the NCDP is urban development (Iliastai and Tosontsengel soum centre, and connectivity (roads and infrastructure) between Ulaanbaatar and Iliastai. Development areas of NCDP not emphasized by the DOAP are crop production, ICT and domestic tourism, whereas, the DOAP emphasizes livestock development including the underlying supporting economic base.

The NCDP does not highlight important environmental or natural resource constraints or opportunities for development in the same level detail as the DOAPs. Water is the common natural resource along with brief mention by the NCDP of ecological protected areas.

The strength of the DOAPs compared to the NCDP is the Soum-level analysis and articulation of the Soum typologies which detail the range of key development elements at the smaller scale and critical Soum administrative unit. The development plan for an Aimag can be rationalized more accurately and relevantly at specific Soums while not needed at others.

Chapter 8: Phased Development Plan with Anchor Projects

Anchor projects

Tourism triangle Sainshand, Zamyn-Uud, Gobi

Tourism is today not developed at all in this area, and the potential to develop tourism in this area is considered very limited, there is no attractive touristic sites. Tourism planning should be based on an analysis on tourism assets attractiveness.

This anchor project is not coherent with the tourism analysis made by the JICA team in the report “Sector Report on Crop Farming, Livestock Farming, Mining, Manufacturing and Tourism” (see 5.1.4 – characteristics of Mongolia’s tourism sector; and 5.2 prospects of tourism development in Mongolia), although HSDP team’s analysis also differs from the situation analysis developed in this report (see below comments on this report).

Logistic corridor Mandalgovi – Choir – Sainshand

The new railway from Tavan Tolgoi to Zunbayaan will be the new logistic corridor for the transport of coal and other mining products from the Gobi desert to China and UB. Already some new roads are under construction in South Gobi, from Tavan Tolgoi to Khatanbulag. The current role of Choir as a logistic center for mining products coming from Gobi desert will be reduced. It will be key to plan the respective roles of on the one side Choir and on the other side Sainshand/Zuunbayan as a key node for logistics (both for railway and road transportation).

Trade and tourism corridor Murun – Darkhan

This region has the best potential in Mongolia to develop crop farming, and in particular fodder production. It is also the region with a high number of livestock, and a high carrying capacity. The is the region with the highest resources of water, and the highest development of urban infrastructures, with the biggest cities (Darkhan, Erdenet, Murun) and transportation infrastructures, with paved road and railway to UB. This is also the only region where large industries are developed (in Darkhan in particular).

Qualifying this region as a trade and tourism corridor seems reductive when looking at the current productive function of this territory, and the potential it has, which is unique in Mongolia.

Chapter 9: Project Profiles by Development Initiative

Border Free Trade Zones and Special Economic Zones Promotion

Location: Altanbulag FTZ (Selenge Aimag), Zamiin-Uud (Dornogobi aimag), and Tsagaannuur (Bayan-Ulgii aimag).

Comment: large investments have already been made in these three FTZ without any result. First of all, these zones are considered disproportionate considered to the development potential. For instance, in Zamyn-Uud 900ha are planned to be developed, infrastructures for 300ha are already developed and there is no industry in the zone. In Altanbulag and Tsagaannuur, the zone exists and has been fenced for long time, but basic infrastructures are not there yet, and there is no industry neither.

It is recommended to adopt a phased, more modest and flexible approach, that is pragmatic and responds to private sector needs. Basically, it is not because the FTZ Master Plan states that industry will develop in these areas that it will happen. Also, it is recommended to rationalize these developments with other nearby similar planned zone. In particular, following comments can be made:

In Altanbulag and Sukhbaatar: there is an industrial and logistic zone in Sukhbaatar. The two centers are only 25km far. Sukhbaatar already has all basic infrastructures (water & power supply, dry port, etc.), it is a city of significant size (23k inh. in 2018) where there can be the necessary workforce and human resources, and which is connected to the railway, which does not go through Altanbulag. Therefore, it is recommended that development of industry, logistics, ICT and service industries is concentrated in Sukhbaatar and not in Altanbulag.

In Zamyn-Uud, the size of the FTZ seems disproportionate at this stage, infrastructure development must be phased, and priority is on setting the right institutional and regulatory framework for private sector investment, as 300ha of land are already connected to infrastructure. A more strategic planning approach should be developed, based on the development of mechanisms and incentives for private sector investment. This border gate is today the most important one in Mongolia in terms of volume of trade and passengers, and has a high potential to develop in particular logistics.

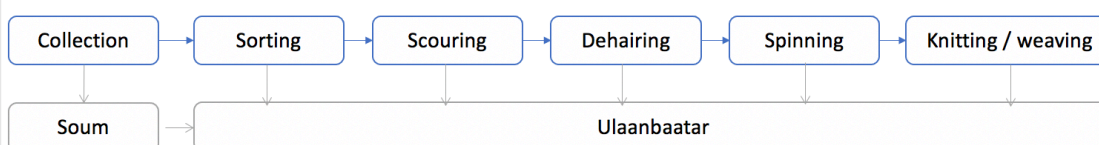
The development of Tsagaannuur FTZ seems unrealistic. In this region, industrial development concerns only agri-processing industries. These industries require a complete set of services and infrastructures (veterinary, labs, disease free establishments, agro-park, fodder farms, etc.) and a workforce that exist only in the aimag center, and is not rational to / cannot develop again in Tsagaannuur (65km far from Ulgii). In addition, all basic utilities are inexistent in Tsagaannuur, and the current volume of trade and passenger through this border gate is small. There is today not the

demand nor the basic conditions so that such a development can happen in Tsagaannuur. It is recommended to prioritize Zamyn-Uud and eventually Altanbulag over Tsaggaannuur.

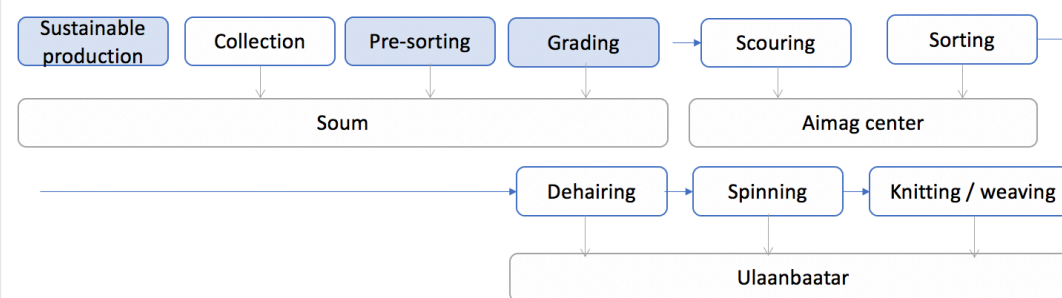
Industrial Cluster Development

Location for wool and cashmere products: it is recommended to consider some preprocessing industries in the Gobi aimags (see sketch below), where most of the goat for cashmere are, and in other aimags (such as the western aimags) where production of wool is also significant. These preprocessing industries have several benefits to be close to the production areas, in particular the reduction of transportation costs, and supporting local economic development and a more balanced territorial development.

Example: the Cashmere value chain, today:



Tomorrow, more activities could be conducted in the aimags with proper infrastructure development:



Agro information technology parks development

It is recommended to combine this project with the industrial cluster development. Both projects are about developing processing for agriculture products.

Once combined, location of these agro-park to support industrial cluster must be carefully selected. The rationale for the locations of the agro-parks is not clear, and does not meet with the territorial analysis of HSDP. It is proposed to prioritize the development of these agro-park in urban pole of rank 1 as defined by HSDP.

Fodder and irrigation

No link is made between the two projects. Fodder farm development requires irrigation systems.

Missing projects

No project for water transfer from North to South (see Blue Horse Program by MET).

No project for industrial reconversion of Erdenet after mining resources will be exhausted.

Sector Report on Crop Farming, Livestock Farming, Mining, Manufacturing and tourism

Crop Farming Sector

SDV 2030

Comment of Objective 3: Increase the soil fertility, reduce land deterioration, adopt economical and efficient advanced agro-technical and irrigation technology to amend soil, and develop intensified farming in order to meet the domestic demand for grains, potatoes, and vegetables

The objective seems to be difficult to reach. Advanced agro-technical and irrigation technology must be adapted depending on the crop. Today through Mongolia, very few irrigation systems are operational, mainly because of difficulties related to O&M (lack of capacities and of O&M budget), despite the current irrigation systems are very simple (open water canals with water gates, some drip irrigation systems). It is considered feasible for fodder and grain production (relatively large-scale farming), however for vegetable production, it is recommended to focus on local small-scale and community production, where advanced agro-technical and irrigation technology will be difficult to implement.

For example, automatic irrigation control might be possible for large vegetable production companies (i.e. Gatsuurt), not for small scale farmers: investment and maintenance seem unaffordable financially and technically.

Sate Policies and Programs related to crop farming sector

“This will contribute to the rectification of disparities between rural and urban areas through the optimum use of local resources including raw agricultural materials.”

To achieve this, it is important to support and promote local and community-based arable farming, which is considered relevant for vegetables, potatoes, carrots, hay in particular. It must be taken into account that today most of largest investments made in rural areas (example of Gatsuurt company) are made by companies localized in UB or large urban centers and have little impact on local economic development.

Other information related to crop farming sector

Land degradation

“Business entities tend to face the situation more severely than crop farming households due to higher usage of chemical fertilizer.”

Tillage, bare soil, lack of wind-breaks are more significant reasons.

“Zero-tillage cultivation”

Although we agree this technique can generally be suitable in Mongolian conditions, it should also be clearly stated and emphasized that it is associated with large consumption of glyphosate, whose impacts are discussed in the scientific community. What will be the impact on rivers downstream and underground water? It is recommended to carry out impact assessment studies that would also depend on the site before usage of glyphosate.

Cooperatives

“Procurement of better inputs for production”

It is recommended to support local production of priority inputs for production, in particular seeds and compost.

Greenhouse production

“Production per unit area of greenhouses is higher in winter season than in summer season”

Types of productions are different in winter and summer. Production per unit area is the highest during spring, when GH are used for seedlings production > increasing open field yield.

“Greenhouse cultivation should place more emphasis on winter”

Winter vegetables have very poor nutritional values.

Development directions, objectives and targets

“Water forming from air using biomass gasifier generator”

Seems unrealistic to disseminate and scale-up this technology when coal energy production is much

cheaper.

“Compost making using food residues in UB”

For farms around UB. For other ones, cooperating with farmers and producing manure-based compost is recommended > close from production area.

Producing compost does not require high-technology facility. It could be managed by every farmer (even home-gardener) and increase local added-value. There are successful field examples visited by HSDP team. It is better to disseminate knowledge on soil fertility management and compost production.

“Small-scale nitrogen manufacturing plant”

Makes little sense given the amount of manure available in Mongolia. Nitrogen is available at every herders' camps.

“Sowing machine for zero tillage”

As stated above, it should be emphasized that it comes with very large amount of glyphosate. Why not, but how to ensure the lowest soil & water contamination as possible?

“Ice shelter using natural ice”

Distribution systems under Mongolian winter require warm chain. Japanese technology that might be very useful, however would deserve a comparative analysis with classic underground cellar.

“Use of ICT application and traceable cultivation” and “Smart agriculture”

Prerequisite: (1) knowing the name and composition of the inputs (i.e. many farmers are using Chinese pesticides but actually do not know what is the molecule inside); (2) setting-up an efficient control framework.

The use of drones for example is costly and totally non adapted for regular farmers. Unmanned machineries: how do agriculture workers will be trained to perform maintenance tasks (mechanist and electronics specialists are not available outside of UB and large centers).

In agriculture smart often means simple and low-tech, and this is particularly true in Mongolia.

“Fruits”

Economic and environmental interest of seabuckthorn (nutrition + cosmetic) is not enough reflected in National policies and strategies.

“Cold chain development: the basic cold storage is electrical operational one”

No, basic cold storage is underground cellar, which is very well known as it was introduced by Russians. No electricity needed except for lighting.

Livestock sector

Intensive farming

Feasibility of intensive farming is questionable in Mongolia, it is not in line with the Mongolian nomadic pastoralism, and it would not integrate the herders. It is recommended to consider semi-intensive farming that would integrate the traditional herders, such as the model developed by Jeremy Thiessen, a Canadian based in Bulgan aimag, who founded Xanadu Razorback providing quality beef to high-end restaurants in UB.

The proposed comprehensive model developed by the HSDP team is summarized in the PowerPoint “Livestock-based territorial development model”.

Tourism sector

We fully agree with the lack of effective and reliable data collection on tourism numbers by aimags.

National and aimag-level planning documents also fail to accurately identify sites of interest for tourists, and in particular for international tourists. When looking carefully at the maps developed by ALAMGAC, these maps mix sites of minor or no interest to tourists and major and highly frequented tourism sites, and fail to identify some key destinations (in particular nature-based). These maps also only look at each site independently and fail to take into account the importance of developing tourism circuits (i.e., if two sites have similar levels of interest, but one is on a common tourism circuit leading to a major destination, or is served by a paved road, this one has more potential to develop than a more isolated tourism site).

The analysis based on tourism site density (page 5-22) does not seem adequate as it puts at the same level main tourism assets and sites of very minor interest, in particular to international tourists.

Our approach has thus been the following:

- For the current situation analysis, use both available statistical data and qualitative data based on key informant interviews, in particular with tourism agencies who are the best placed to rank tourism destinations at the national level.
- Elaborate an identification of tourism sites of interest that better reflects the interest of tourists, based on a demand analysis.
- Identify tourism circuits and opportunities of development of tourism sites based on a circuit approach.
- Develop a model for sustainable tourism development fostering local economic development.

Chapter 6 Promotion Activities

6.1 Promotion Seminars

(1) NCDP promotion seminar

During the last fieldwork period by the JPT, a seminar was organized to promote the NCDP to a wide range of stakeholders. The objectives of the seminar are defined as follows as shown in the seminar plan in Attachment A.

- 1) To disseminate the NCDP proposals widely to facilitate early approval of the HSP and the RDP in preparation by reflecting the NCDP;
- 2) To rouse discussions on the NCDP proposals for promotion of the development paradigm, vision and strategy; and
- 3) To promote early implementation of projects proposed by the NCDP through cultivating understanding and support.

The seminar was conducted in a hybrid form by combining a face-to-face session in a conference room at the Novotel participated by 50 attendants and a link by Zoom participated by close to 100 participants. Participants included representatives of research institutes in Mongolia and Japan, media and government organizations, individual consultants and ADB consultants as well as staff and the advisory team of JICA headquarters. Aimag representatives attended online from Bulgan, Khovsgul, Dornogovi, Selenge, Uvs, Govisumber, Khentii and Dundgovi. All the participants are listed in Attachment B.

The seminar was opened by the representative of JICA headquarters. After three presentations by MCUD/CDC, NDA and the JPT, the JICA Advisory Team made comments online. Prof. Ohnishi emphasized importance of strengthening administrative capacity at regional and local levels, and use of ICT to support economic sector to enhance competitiveness. Prof. Kubota expressed expectation that the NCDP would guide long-term development of Mongolia. Prof. Seta said the participatory approach involving many stakeholders in preparing the NCDP would provide driving force for its implementation. After a break, a panel discussion was arranged with MCUD, NDA, CDC and the JPT, and a questions and answers session was organized, moderated by MCUD. The seminar was closed by the resident representative of JICA Mongolia office.

A method to collect comments by participants with a QR code was explained by a facilitator before the presentations. Comments were compiled after the session as shown in Table 6.1.1. The seminar was evaluated generally favorably. Out of 21 respondents, three evaluated it as excellent, 10 good, seven fair and only one poor. Relevance of the NCDP to support the Vision2050 seemed to be understood by participants. Several participants pointed out the need to coordinate between development policy plans including the HSP, the RDV and the NCDP. Many emphasized the need for participatory approach and further publicity activities as well as further discussions. Importance of implementation phasing based on the plans was also pointed out.

Table 6.1.1 Comments by Participants at NCDP Promotion Seminar

1. Gender	2. Affiliation	3. Please evaluate today's seminar	4. Please evaluate the organization of the seminar	5. What points have you understood from the first presentation on NCDP (by Ts. Hashimoto)?	6. What points have you understood from the second presentation on HSP (by S. Davaanyam)?	7. What points have you understood from the third presentation on RDTP (by D. Erdenebayar)?	8. How are the three policy documents of NCDP, HSP and RDV interlinked?	9. There have been many development policies and programs formulated, however we are still faced with many issues. What do you think are the reasons?	10. Through the implementation of the above policy documents, what are your expectations for the next 10, 20 years?	11. What kind of events / seminars / discussions / collaborations should we organize in the future?	12. Please share your comments / feedback regarding the seminar
Male	Scholars	Poor	Fair	I understood that suggesting a plan. However, it means that everything depends on Mongolians.	The condition of urban hierarchy study	It was a understandable presentation. It was good using a clear theory to define the center of development.	The interlinkage is not clear	A policy is a targeted activity. Time must constantly improve, but this feedback does not work. A government sets a goal and leaves it. Thus because of no development, everything stays raw on paper. You don't have to have a plan in the beginning, you just need to provide guidance. Therefore, it is important to	It is good that the national development policy documents are being consolidated. But implementation needs to be more effectively considered.	Information about this planning needs to be well publicized in the media. This will ensure real multi-stakeholder participation.	It is good to have a seminar. The word "advanced technology" is mentioned in many key areas in the plan. However, it is not clear what advanced technology is, the supply of domestic human resources required for it, and the structure of its system.

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Final Report: Supplemental Report*

								have a mechanism for continuous improvement in any plan.			
Male	Scholars	Good	Good	How is the methodology and rationale for the city's hierarchy, status, and new economic regional zoning different from other studies	Need more explanation for the HSP formulating methodology	What is the rationale for the use of new and old buildings and facilities in the health, education and culture sectors in the definition of multi-cities center?	It is understood that the in terms of economic regional zoning of between NCDP and RDV, and city hierarchy and status between NCDP and HSP, are similarly effective	The reason is that it does not adequately reflect the source of funds required for implementation.	It is hoped that the level of development will improve if it is implemented, as it is more comprehensive than previous policies and has improved coordination.	Current research needs to be done by a scientific organization.	Each participant's feedback on the meeting was collected using a QR code, which is an innovative way for everyone to participate.
Male	MCUD	Excellent	Excellent	A project of critical importance for future development of Mongolia	Mongolia needs to develop and approve this policy document.	Should incorporate with HSP	Should integrate well as a final policy document	No consistency	Mongolia will develop rapidly and become a leading country in the region.	To clarify the action plan and cooperation.	Time is too short
Female	Other official	Good	Excellent	Overview about the DFR of the NCDP	The process of HSP formulation	Development policy	Consistent at the research processing level	Poor interlinkage. Government policy is unstable.	N/A	Prepare and present a public program.	Very effective meeting
Male	MCUD	Good	Good	yes	yes	yes	Management level is essential	Systems	A sustainable political solution is critical	Need a plan for the next stage	Introduce to the public and make decision-makers understand

*The Project for Formulation of National Comprehensive Development Plan
Final Report: Supplemental Report*

Female	NDA	Good	Good	Between Vision 2050 and NCDP relevance and supporting policy document for Vision 2050	Study progress and 89 development centers have been identified	Introduction of the regional center, identification methodology and RDV	Need to interlink, 60-70 percent are consistent	Insufficient implementation and no monitoring.	I don't know	Implementation-oriented, sustainable development	Obtained necessary information
Male	Scholars	Excellent	Excellent	Understood that NCDP will be the supporting document for Vision 2050's real implementation	I understand that the project is at the research level	It is understood as a national research and development policy document	Regional division and core cities were not coordinated. There are 6 regions in NCDP and RDV, and 8 regions in HSP. There are 83 group settlements in the RDV and 89 in the HSP. While core city is 7 in NCDP, HSP talked more about Zamyn-Uud and Kharkhorin.	Policy documents are inconsistent. There are many studies with duplicate content. Projects and programs are highly politically dependent on local governments.	If the activities of the Regional Development Council and local financial independence remain low, it will depend heavily on the MCUD's HSP and the State Land Management Master Plan. The duplication, role, and direction of the NDA and the Ministry may need to be clarified.	Discussions involving citizens, local councils, and Aimag governors may be needed.	It would be more effective to distribute all presentation documents in advance and extend the discussion.
Male	Other officials	Good	Good	Understood that NCDP is the base research for HSP and RDV policy framework	The final version is a plan that has not been fully researched and developed	It is necessary to implement the model closely related to HSP and increase the number of jobs in the regional and local	Even if they say worked together, they still need to be compared and identified the interlinkage more deeply	It is believed to be related to political issues and economic capacity.	Living environment improvement is expected to reduce urban-rural disparities and increase economic	Organize regular training to improve the knowledge and skills of civil officers.	The conference information provided enough insight.

*The Project for Formulation of National Comprehensive Development Plan
Final Report: Supplemental Report*

						development economies.			capacity.		
Male	Other official	Good / Fair	Good								
Female	other	Good	Good								
Male	Scholars	Fair	Good / Fair								
Male	MCU D	Good	Good								
Male	Scholars	Fair	Fair					1. Development programs and policies are not developed in accordance with the Constitution 2. There is missing methodology and guidance how to coordinate many programs, policies and laws. 3. Optimal metrics are not developed and used.	There are no models or measures to assess how the results of development policy will affect people's lives.		It is best to do this several times and listen to as many people as possible.
Male	other	Good	Fair	Good, but too many words in one slide, no time to read it properly	Good	Good	yes, interlinked	Political reason. unstable political state	It will get better, but it will cost a lot of money		Life based on new ideas and technologies

*The Project for Formulation of National Comprehensive Development Plan
Final Report: Supplemental Report*

Female	Scholars	Fair	Good								
Male	other	Good	Excellent					The development of policy documents is relatively good. But it is very bad in terms of implementation.	The country's development, environmental, and social indicators are expected to improve.		In the future, in order to implement the policy document, it is necessary to develop a plan of cooperation with each organization, as well as long-term planning of capital and financial issues such as the Ministry of Finance and NDA.
Male	Other official	Fair	Fair								
Male	Scholars	Excellent	Good					There was no comprehensive plan, and the policy was named but did not correspond to reality	Imagine the highest version. I imagine Mongolians living in well-paid, relatively healthy environments, living better in their communities, increasing their income opportunities,		

*The Project for Formulation of National Comprehensive Development Plan
Final Report: Supplemental Report*

									and Mongolians living abroad returning to their homeland.		
Male	Other official	Good	Fair								
Male	Scholars	Fair	Fair	The NDCP is well researched, and in order to implement the plan in the future, the regional division of the area should be calculated in detail in connection with the construction of the gas pipeline.			Not interlinked	Many ministries have made it a policy to separate one issue from another.	Regional economic development will lead to reforms in many areas in the future. Especially in education.		This discussion was timely. I think it will be reflected in the policy at the decision-making level.
Female	Other official	Fair	Fair	NCDP will be the supporting policy document for the implementation of Vision 2050	Local development policy and future planning	Make it clear how to work together and who exactly to do what and what results to achieve	Among the many development issues, the most important is to make people aware of the importance of civic participation	Programs need to be interlinked and coordinated	The ability to work in an online environment is more advanced, and technology is used to solve problems	to receive suggestions for improvement every year for the sustainable future	Make it clear that the participation of every citizen is important in a comprehensive national development plan

(2) ICT incubation seminar

In view of the importance of the ICT sector for long term development of Mongolia and the emphasis placed by the NCDP on the ICT sector in all the sectors, an ICT incubation seminar was organized online on November 25, 2021. It consisted of two parts: one addressed to Mongolian leading companies, SMEs, start-ups etc. related to ICT, and the other for Japanese leading companies, SMEs, start-ups, etc., which are considering entering the Mongolian ICT business market. The plan for the ICT seminar is shown in Attachment C. It was organized as a full day event with the morning session devoted to the first part and the afternoon session for the second part. The first part was participated by about 70 attendants and the second part by about 60 attendants.

At the seminar for Mongolian firms and organizations, the following were discussed:

- There exists a need to develop a good image of Mongolia for intellectual industry with ICT application;
- COVID-19 expanded opportunities for ICT application in many sectors;
- A key issue is how to link up Mongolian and Japanese firms, which often takes time; JICA explained support for start-ups is part of ongoing cooperation for the ICT sector in Mongolia;
- Joint undertaking of a “Proof of concept” study is effective in linking up Mongolian and Japanese firms at small costs;
- ICT application is more developed in some sectors in Mongolia such as banking and insurance than generally believed;
- ICT application at different government organizations should be levelled out for effective overall development by ICT application;
- Coordination between the government and private firms is essential for effective ICT development; for instance, data collection by small start-ups should be encouraged by simplifying and making transparent the procurement process; and
- Educating general public is important for developing markets for ICT services.

At the seminar for Japanese firms, the following were discussed mainly on ICT business environment in Mongolia:

- High potentials of Mongolian for ICT business have been proved by high performance at international competitions for mathematics and computer science;
- Mongolia may be more advanced than Japan in realizing e-government;
- It is difficult to finance start-up business in Mongolia due to limited availability of venture capital facilities;
- The 4G communication system has been introduced not only in Ulaanbaatar but also in 21 Aimags and 330 Soums but accessibility is limited in Aimags and Soums;
- Use of online finance and transactions has increased significantly by COVID-19;
- Business start-ups by Mongolian returning from foreign countries are increasing and “Proof of concept (PoC)” is their strong point;
- Mongolian ICT market may serve as sandbox for PoC;
- Mongolia start-ups and links with Japanese firms may be supported by Japanese Business Council in Mongolia, co-working space and the MonJa start up program by JICA;
- Experimentation for 5G communication system has started in Mongolia, but its application is still questionable due to limited capacity constraining its speed;
- Education of general public is important to promote digital literacy; and

- The ICT ecosystem should be strengthened by integrating various ICT application communities.

The NCDP emphasizes ICT application in many sectors, and lessons may be learned from these seminars related to implementation of the NCDP and its monitoring and evaluation including the following:

- 1) In some sectors, ICT application is more advanced in Mongolia than in Japan, and COVID-19 has expanded opportunities in more sectors including agriculture, manufacturing and social services delivery as proposed by the NCDP;
- 2) The high potential capability of Mongolian and the coverage of all the Soums by 4G communication system provide fundamental conditions for much wider ICT application already in Mongolia;
- 3) The JICA ongoing supports for start-ups and “Proof of concept” pilot implementation should be further developed to facilitate business development by linking Mongolian and Japanese firms; and
- 4) For further ICT application including 5G communication system in the future, educating general public is vital, and involvement of people in ICT-based monitoring and evaluation as suggested by the NCDP may be effective.

6.2 NCDP Promotion Videos

Production of a promotion video for the NCDP was contracted out through competitive bidding among qualified Mongolian entities. The original terms of reference (TOR) for preparation of the promotion video are presented in Attachment D. The objectives specified by the TOR are:

- 1) To convey an idea of the development plan effectively and attractively, and
- 2) To promote implementation of the projects proposed in NCDP.

The promotion video was prepared through communications between the selected agent and the JPT, and scope and contents of the video were modified in the process. Upon the request by JICA, a short version of the video was produced for use at the NCDP promotion seminar. The full version was prepared reflecting the review of the short version at the seminar.

6.3 Follow Up on Selected Pilot Projects

As part of the NCDP Project, five pilot projects were formulated and implemented as well as four supplemental surveys, expecting as a means to promote the NCDP itself. A few of them have been followed up during the extension period in cooperation with the Mongolian side to facilitate the promotion of the NCDP as well.

(1) Urtuu service stop

An official taskforce was formed in September of 2021 consisting of MET, MRTD and MNCCI by the initiative of MET with a decree to further the study and research on establishing roadside stations and service facilities and to formulate recommendations and proposals. A total of 20 locations have been taken under state special designated land, and around 20 private sector representative companies have expressed their interests in establishing roadside stations and service facilities. Within the framework of the Urtuu pilot project implemented as part of the NCDP, a capacity training seminar

was conducted twice, which were quite useful for raising awareness on the Urtuu facilities. During the training and further discussions, it was clarified that Mongolian standards would need to be updated and reformulated.

In response to the MET's letter to the JPT requesting assistance for the taskforce, the JPT organized another workshop on the 30th of November 2021 to assist the Mongolian side. The main purpose of the workshop was to improve the Mongolian standards by comparatively studying the Japanese Michi-no-Eki's guiding principles, receiving a lecture from the Japan Research Institute for Road and Street. The program of the workshop is shown in Attachment E. The Mongolian side further requested assistance to help with the planning process of establishing a model roadside station that would be established through PPP, while the investment would come from the private sector.

(2) Gobi dinosaur museum

On the 23rd of November 2021, the JPT member in charge had a meeting with the local authorities and citizens' representatives of Bulgan Soum in Umnugovi Aimag to report about the outcomes of the project and the recent progress. During the meeting, the local authorities expressed their gratitude to the JPT and they would be ready to support the project, especially in terms of the land related matters. On the 8th of December 2021, an official meeting was held to decide the land allocation/usage for 2022. The JPT prepared all the necessary materials for the Gobi dinosaur museum's land request and sent the application through an online system. This would be a very essential step towards the project realization.

The next upcoming stage would be to conduct a full feasibility study that would start from the Spring of 2022. A site visit may be undertaken to gather more detailed information and meet with the stakeholders. The construction work would start during 2022, and the actual opening of the museum would take place in 2023. The Gobi dinosaur museum would be the first privately funded museum that would be developed according to international standards. There are similar museums that are privately funded, particularly in North America; and donors interested in supporting the museum are already in contact with the JPT.

(3) Local information platform

A supplemental survey was undertaken as part of the NCDP to establish a local information platform (LIP) for nomads and local administrations. It established LIP objectives and functions, presented a conceptual model for information exchange between local people including nomads and local administrations, and proposed LIP management organization and association with logistic hubs.

NDA has been following up to establish an ICT ecosystem for a pilot LIP with easy access by local people and local firms to obtain information useful for livestock and other local industries. Specifically, establishment of a base for online transaction of livestock products will be pilot implemented. This initiative may be followed up by the Ministry of Digital Development and Communications expected to be established in 2022.

(4) Industry-university partnership promotion

A pilot project was formulated and implemented as part of the NCDP for industry-university partnership promotion, and through initial surveys and discussions between JICA and the Mongolian side, the ICT sector was selected as the priority. Industry-academia consultative meetings were organized a few times between MUST, MOSA, NUM and other institutes, Mongolia National Council for Education Accreditation and a few private IT firms, and a memorandum of understanding (MoU) was signed between their representatives. As part of follow up activities, a seminar was planned for ICT incubation and conducted as reported in Section 6.1 (2).

(5) Strengthening historical and cultural buildings

The proposal by MCUD for strengthening earthquake resistance of historical and cultural buildings

was pilot implemented as part of the NCDP. It covered the following:

- Review of existing law to clarify needs for reform,
- Confirmation of evaluation guidelines for earthquake resistance,
- Earthquake resistance evaluation of four selected buildings, and
- Proposal for strengthening earthquake resistance procedure.

To follow up this initiative, MCUD has proposed another technical cooperation project and drafted an aid proposal in cooperation with the JPT as shown in Attachment F.

Attachment A: NCDP Promotion Seminar

NCDP Promotion Seminar

1. **Date:** October 27 (Wed)
2. **Venue:** 4th floor meeting room, Novotel hotel (small meeting in combination with online by Zoom)
3. **Objectives:**
 - 1) To disseminate the NCDP proposals widely to facilitate early approval of the HSP and the RDP in preparation by reflecting the NCDP;
 - 2) To rouse discussions on the NCDP proposals for promotion of the development paradigm, vision and strategy; and
 - 3) To promote early implementation of projects proposed by the NCDP through cultivating understanding and support.
4. **Participants:**

Mongolian Government ministries and agencies, Aimag administrations, private sector, academe, youth groups etc.
JICA, JICA Advisory Committee (JAC), JICA Project Team (JPT)

5. Program:

Subject	Presentation/discussion by	Time
Opening remarks	JICA head office	10:00 ~ 10:05
Messages	Cabinet Secretary, MCUD State Secretary, NDA Chairman	10:05 ~ 10:25
Video show	JPT team	10:25 ~ 10:30
NCDP presentation	JPT team leader	10:30 ~ 11:15
Commentary	JICA Advisory Committee	11:15 ~ 11:25
Progress report on HSP	MCUD/CDC	11:25 ~ 11:45
Q & A	Participants	11:45 ~ 12:15
Progress report on RDP	NDA	12:15 ~ 12:35
Q & A	Participants	12:35 ~ 13:05
Panel discussion	MCUD, CDC, NDA, JICA and JPT	13:05 ~ 13:55
Closing remarks	JICA Mongolia Office	13:55 ~ 14:00

Attachment B: Attendance List for NCDP Promotion Seminar

Attendance List for NCDP Promotion Seminar

Date: 2021/10/27
Time: 10:00~14:00
Place: Novotel Hotel Ulaanbaatar
Title of Meeting: **NCDP Promotion seminar**

*The Project for Formulation of National Comprehensive Development Plan
Final Report: Supplemental Report*

No.	Names	Organization	Position	Participation
1	B. Gunbold	MCUD	Head of Department of Strategic planning	In person
2	D. Belegaikhan	MCUD	Officer	In person
3	S. Densmaa	MCUD	Officer	In person
4	G. Baljmaa	MCUD, CDC	Officer	In person
5	Tamura Eriko	JICA	Mongolia office	In person
6	Koizumi Taiga	JICA	Mongolia office	In person
7	B. Zaya	JICA	Mongolia office	In person
8	Yoshida Tasuke	JICA	Mongolia office	In person
9	E. Dondmaa	ADB, AHURP project	Advisor	In person
10	Gantumur	MCUD	Officer	In person
11	Mungunchimeg P	ADB HSDP	Urban planner	In person
12	Stephane Milhaud	ADB HSDP	TL, urban planner	In person
13	Enkhzul Natsagdorj	SMP	Producer	In person
14	S. Davaanyam	MCUD CDC	Head of division	In person
15	L. Dolgor	Young researcher's support foundation	Researcher	In person
16	Altanbagana	IGG	Researcher	In person
17	G. Luvsanjamts	Tokyo University	Ph.D	In person
18	N. Narantsatsralt	NDA	Officer	In person
19	Sh. Enkhsetseg	ADB HSDP	Deputy TL	In person
20	Kh. Oyunbayar	ALAGAC	Head of Division	In person
21	N. Shine-Orgil	ALAGAC	Head of Division	In person
22	Chinbat	Mongolian National University	Professor	In person
23	Erdenebaatar	Mongolian National University	Professor	In person
24	O. Odgerel	MRTD	Analyst	In person
25	Ts. Otgonkhuu	IGG	Researcher	In person
26	M. Bayarjargal	IGG	Researcher	In person
27	M. Amarjargal	NDA	Contracted officer	In person
28	B. Oyuntulkhuur	NDA	Contracted officer	In person
29	B. Byambajav	MCUD	Advisor	In person
30	Ts. Ikhbayar	ALAGAC	Senior officer	In person
31	B. Odbaatar	ALAGAC	Senior officer	In person
32	J. Nomin	Young researchers support fund	Director	In person
33	D. Ganzorig	Unread	Editor	In person
34	A. Narmandakh	NDA	Officer	In person
35	D. Bolormaa	MCUD	Senior researcher	In person
36	Sh. Gerelee	MULS	Officer	In person
37	Bayarbat	MCUD	Head of Department	In person

*The Project for Formulation of National Comprehensive Development Plan
Final Report: Supplemental Report*

No.	Names	Organization	Position	Participation
38	Densmaa	MCUD	Officer	In person
39	Hashimoto Tsuyoshi	JPT	Leader	In person
40	Tungalag Tsedendamba	JPT	Local leader	In person
41	Marie Taketani	JPT	Consultant	In person
42	Bolorchimeg Byamba	JPT	Consultant	In person
43	Mungunsaran. B	JPT	Translator	In person
44	Bolormaa. J	JPT	Assistant	In person
45	Bayantuul	Translator	Translator	In person
46	Bolor-Erdene	MoF	Officer	In person
47	S. Orkhon	MLSP	Officer	In person
48	Odgerel	Translation Equipment rental person		In person
49	Erdenebayar	NDA	Head of Division	In person
50	Rinchinbazar	Vision2050	Advisor	In person
51			Deputy Director	Online
	Kazumasa Sanui	JICA Headquarters		
53				online
	Mr. Kubota	JICA Advisory Committee		
54			Chairperson	Online
	Mr. Onishi	JICA Advisory Committee		
55	KOBE Nobuyuki (JICA)			Online
56	MRTD Ugtakhbayar			Online
57				Online
	F. Seta(瀬田)	JICA Advisory Committee		
58	Davaatseren Narmandakh (Univ. of Tokyo)			Online
59	Mungunchimeg Perenlei			Online
60	Tamiraa			Online
61	Erdenechuluun Tumur	MULS		Online
62	HDRTC NGO			Online
63	Munkhchuluun			Online
64	Ugtakhbayar	MRTD		Online
65	Sugar Lkhagvarentse	NDA		Online
66	Gantsooj Badnaa	NAOG		Online
67	Altaa	MECS		Online
68	L. Dolgor	CDC		Online

*The Project for Formulation of National Comprehensive Development Plan
Final Report: Supplemental Report*

No.	Names	Organization	Position	Participation
69	O. Chinbayar	ALAGAC		Online Online
70	G. Munkhzul	ALAGAC		Online
71	Galaariidii Gal			Online
72	Tseyenkhand IGG			Online
73	Uvs	Uvs Aimag,		Online
74	Munkhsaikhan Dorjkhорloo	MET		Online
75	Byambasuren NAOG	NAOG		Online
76	Ankhibileg			Online
77	B. Purevsuren			Online
78	Enkbold (XTCI)	Urban planning research institute		Online
79	Shine-Orgil Nasan	ALAGAC		Online
80	Zoloonoo			Online
81	CDC			Online
82	Tuvshintugs	ERI		Online
83	Sh. Narantuya MES	MES		Online
84	Nomin-Erdene	ALAGAC		Online
85	D. Altanzagas	ALAGAC		Online
86	Bertsetseg NDA	NDA		Online
87	Bulgan GHBHBGazar	Bulgan Aimag		Online
88	Huvsgul	Khuvsgul Aimag		Online
89	Tegshbayar Sanduijav			Online
90	Bilegdelger	Dornogovi Aimag		Online
91	Asuka Tsuboike	JICA Headquarters	Deputy Director General	Online
92	Momo Munkhzul			Online
93	Tumendelger.b			Online
94	Bayarbileg Altansukh			Online
95	Enkh-Erdene	ALAGAC		Online
96	B.Khangal	Selenge Aimag		Online
97	Bulgan			Online
98	Chimegee	Govisumber aimag		Online
99	Begzsuren NUM	NUM		Online
100	Jargalsaikhan. D	Young researchers support fund		Online
101	Mendsaikhan			Online
102	Sodchimeg			Online
103	Dornogovi	Dornogovi		Online

*The Project for Formulation of National Comprehensive Development Plan
Final Report: Supplemental Report*

No.	Names	Organization	Position	Participation
104	Nyambayar	Khuvsgul		Online
105	Bayarkhuu	Khentii		Online
106	B. Batdemberel	MUST		Online
107	Oyunchimeg.l	NDA		Online
108	Khentii- GHBHBGazar	Khentii Aimag		Online
109	J. Erkhemtugs			Online
110	Natsagnyam Chogdon	Ministry of Culture		Online
111	Ganzorig	Govisumber		Online
112	B. Naranbat	Water service regulatory commission of Mongolia		Online
113	Uugantuya Enkhbayr			Online
114	B. Danaasuren	NOAG		Online
115	Uurtsaikh	Cabinet Secretariat		Online
116	Erdenebaatar Dash dondog			Online
117	Munkh-Erdene	Cabinet Secretariat		Online
118	Z. Enkhbold	Ministry of Law		Online
119	Enkhmenr	Dundgovi Aimag		Online
120	Akatsuka JICA	JICA Headquarters	From Japan	Online
121	M. Erdenebayar	UN Development Program	Advisor	Online
122	Davaatseren Narmandakh (Univ. of Tokyo)		From Japan	Online
123	Tsevelmaa			Online
124	Tuvshinbayar Jamiyankhorloo			Online
125	Altansuvd Sengedorj	NAOG		Online
126	Soyolmaa E			Online
127	Myagmarsuren EOT			Online
128	D. Munkh-Od	Cabinet Secretariat		Online
129	Ariuntuul Bazarragchaa	NAOG		Online
130	Natsagsuren. B			Online
131	G. Dulmaa	NAOG		Online
132	Togtokh	NDA	Advisor	Online

No.	Names	Organization	Position	Participation
133	Ganzorig	Bulgan Aimag,		Online
134	Surenchimeg	NAOG		Online
135	Mr. Amada	JICA Headquarters	Director General	Online
136	Enkh-Amgalan.G	Mongolian University of life Sciences		Online
137	Munkhzolboo Purev			Online
138	Vadmaa Chojjamts			Online
139	Dulmaa Ganbold			Online
140	Ujin		From Japan	Online
141	Z.Amarzaya			Online
142	Tseegii	CDC		Online
143	Toshiyuki Handa		From Japan	Online
144	Chinbayar	ALAGAC		Online
145	Batbold Erdenebat			Online

Attachment C: Plan for Mongolia ICT Seminar

Plan for Mongolia ICT Seminar

1. Background

In Mongolia, there is an advantage on development of information and communication infrastructure and digital services provided by the Government, compared to other developing countries in general. The number of employees at ICT companies in Mongolia remains at a low level of about 1.1% of the total number, while the number of university students majoring in ICT is steadily increasing. It can be said that the human resources are becoming more fulfilling. However, the framework for supporting start-ups, which is important in the development of the ICT industry, seems inadequate.

In DX (Digital Transformation) and ICT sector of the NCDP, it has analyzed digital services provided by the Government and affiliated organizations, and investigated the potential of digital industry and wide range of adaptation related to IT/ICT in the several sector. Also, human resources and institutional aspects related to IT/ICT sector is considered.

As a way to promote the application of advanced technology, the JPT (JICA Project Team) plans to hold an ICT seminar (hereafter “the seminar”) managed by the Mongolian Government, the JPT and the experts related to ICT sector, inviting public entities and private companies who are considering or are interested in introducing advanced technology.

2. Purpose of the seminar

By applying advanced technology, especially to the sectors handled by NCDP, it will be possible to flexibly respond to development issues in Mongolia. The Sector Report (DX and ICT sector) in the NCDP exemplifies the application of the advanced technologies in each sector, however, it is necessary to seek ways to address a wider range of development issues.

Therefore, the JPT will hold the seminar on November 2021, when the contents of NCDP (National Comprehensive Development Plan) would be fixed, in order to widely inform the possibility of applying advanced technology. The purpose is to solicit proposals for starting a new business by

Mongolian IT/ICT company, implement some projects and deal with development issues.

According to above description, two points are expected in the seminar: 1) responding to Mongolian development issues and 2) promoting investment in the ICT industry.

3. Date

25th November 2021 (Thursday). *The seminar has two parts.

- Morning session (10:00-12:00 in Mongolia Standard Time): for Mongolian companies
- Afternoon session (15:00-17:00 in Japanese Standard Time): for Japanese companies

4. Outline of ICT seminar for Mongolian companies (Morning session)

- Name of the seminar: ICT/DX Promotion Seminar in the project of National Comprehensive Development Plan – the New Trend of DX –
- Organizer: Mongolian government (NDA, MCUD, CITA) and JICA
- Venue: Online (via Zoom)
- Language: Japanese and Mongolian by simultaneous translation
- Objective: To build momentum for its application to Mongolia’s development agenda and for the adoption of ICT/DX in various sectors by sharing the position of ICT/DX in the NCDP and the result of the survey.
- Participants: Mongolian leading companies, SMEs, Start-Ups, etc.
- Way to invite the participants: Through NDA, MUCD, CITA, MNCCI (Mongolian National Chamber of Commerce and Industry), and Media
- Agenda (10:00-12:00 Mongolia Standard Time)

(1) 10:00-10:05 Opening Remarks, by Ms. Tamura, Representative of JICA Mongolia office

(2) 10:05-10:20 Opening Remarks, by Mongolian Government (NDA, MCUD, CITA)

(3) 10:20-10:25 Presentation “The position of ICT sector in the NCDP”, by Dr. Hashimoto, Team Leader of JPT (5min)

(4) 10:25-10:35 Presentation “Survey result on ICT/DX sector in Mongolia”, by Mr. Kawamura, Deputy Team Leader of JPT (10min)

(5) 10:35-11:05 Presentation “The New Trend of DX in private sector (Tentative)”, by Mr. Nikami, executive officer of IBM Japan, Ltd. (30min)

(6) 11:05-11:35 Presentation “Digital Transformation in Rwandan Government to promote Nationhood (Tentative)”, by Mr. Yamanaka, Professor of Kobe Institute of Computing (30min)

(7) 11:35-12:00 Q&A Session

5. Outline for ICT Seminar for Japanese companies

- Name of the seminar (tentative): Business seminar on IT/Start-Up in Mongolia
- Organizer: JICA
- Venue: Online (Zoom)
- Objective: To increase the momentum of Japanese IT-related companies considering entering the Mongolian market by introducing case studies of business expansion into Mongolia and the status of Mongolian IT companies and Start-Ups.
- Participants: Japanese leading companies, SEM, Start-Ups, etc., which considering entering the

Mongolian IT business market

- Way to invite the participants: JICA (including domestic agencies/offices, JETRO, Organization for Small & Medium Enterprises and Regional Innovation, Media, Unread, etc.
- Agenda (15:00-17:00 Japanese Standard Time)
 - (1) 15:00-15:05 Opening Remarks, by Ms. Tamura, Representative of JICA Mongolia Office
 - (2) 15:05-15:10 Presentation “The position of ICT sector in the NCDP”, by Dr. Hashimoto, Team Leader of JPT (5min)
 - (3) 15:10-15:20 Presentation “Survey Result on DX/ICT sector in Mongolia” by Mr. Kawamura, Deputy Team Leader of JPT (10min)
 - (4) 15:20-15:30 Presentation “Introduction of the overview of IT/Start-Up Intensive Country Promotion by JICA Mongolia Office” by Mr. Koizumi, JICA Mongolia Office (10min)
 - (5) 15:30-15:45 Presentation “Introduction of E Mongolia of Mongolian Government” by CITA (15min)
 - (6) 15:45-15:55 Presentation “Current situation and future perspectives for IT Human resources”, by MobiCom. Corporation LLC
 - (7) 15:55-16:15 Presentation “Introduction of case studies of IT companies expanding to Mongolia”, by Data Artist Inc.
 - (8) 16:15-16:25 Presentation “Introduction of Success Stories of Start-Up in Mongolia”, by AND Global Pte. Ltd.
 - (9) 16:25-17:00 Q&A Session

Attachment D: TOR for Preparation of Promotion Video

TOR for Preparation of Promotion Video

1. Background

The over-concentration of population and economic activities in Ulaanbaatar has resulted in various urban problems such as air and water pollution and traffic congestion as well as disparities between urban and rural areas in Mongolia. To resolve problems caused by imbalanced distribution of population and economic activities and the resultant disparities, comprehensive development planning for the entire country of Mongolia is needed.

The Mongolian Government, therefore, made a request to the Government of Japan to help prepare a National Comprehensive Development Plan (NCDP) to promote more balanced and sustainable development in urban and rural areas, utilizing experiences in Japan for national comprehensive development planning over several decades.

The Project for Formulation of NCDP in Mongolia has been implemented by the JICA Project Team (JPT) since January 2019 based on the agreement between the Mongolian Government and the Japan International Cooperation Agency (JICA). As of July 2021, the contents of NCDP are mostly finalized so that it would be necessary to publicize efficiently the achievement and the outcome of the Project to all stakeholders in public organizations, the private sector and citizens. A promotion video to be produced at this time is expected to be an effective tool for publicity cultivation related to the NCDP.

2. Objectives

The objectives of the work to produce the promotion video (the Work) at this time are as follows:

- 1) To convey an idea of the development plan effectively and attractively, and

2) To promote implementation of the projects proposed in NCDP.

3. Schedule

The schedule of the services is tentatively planned as follows.

Early August 2021: Conclusion of a contract

August 20, 2021: Interim report on work progress

September 3, 2021: Initial video submission for promotion seminar

October 6, 2021 Revised video submission

October 20, 2021: Final video submission

4. How to Prepare the Video

The JPT already has many materials such as figures and photos as well as formal reports prepared through the activities undertaken so far, and will provide them to the selected video producer after the contract. The video producer shall prepare the video using those existing materials with improvement as necessary to enhance effectiveness and producing additional materials through interviews of selected key persons of the Project and creating image/picture/animation for related scenery and concepts by themselves.

The initial video shall be submitted for use at a promotion seminar planned in the middle of September. Reflecting effectiveness of the video at the seminar and responses of seminar participants, the video should be improved incorporating additional materials including the scenes of the seminar itself. The revised version of the video should be submitted for review by the JPT, and the final video should be submitted after approval by the JPT.

The video shall be prepared in Mongolia with English and Japanese subtitle (total three types of video shall be prepared: 1. Only Mongolian narration, 2. Mongolian narration with English subtitle, and 3. Mongolian narration with Japanese subtitle. The JPT will support the creation of Japanese subtitle. Appropriate narration and background music shall be part of the video. The contents of the video to be produced are indicated in the following table, but may be changed through communications between the JPT and the video producer.

Contents of the Video to Be Produced(draft)

	Contents	Specifics	How to produce materials	Approx . time (min.)
1	Introduction	Introduction to Mongolia: from the past to the present	Original video or archives	1.0
2	Speeches by key leaders	Video interviews with: Cabinet Secretary, MCUD Minister, and NDA Chairman on: a. Recent history; uniqueness of Mongolia b. Government policy: Vision2050 c. JICA cooperation	Interviews by the video producer	1.0
3	NCDP Project	R/D signing; Position of NCDP Objectives, implementing arrangements	NCDP material (1)	0.5
4	Existing conditions	Explanation of natural features and socio-economic situation in Mongolia supported by videos and graphics	NCDP material (2) Videos and graphics	0.5
5	Project approach	Participatory approach with MSH meetings including MSH with youth groups	NCDP material (3) Videos/photos of Aimag visits and seminars	1.0

		Aimag visits; Seminars		
6	Development vision	Mongolia's position; Mongolia's value Development vision and acronym	NCDP material (4)	1.0
7	Development alternatives	Definition and comparison of four alternatives	NCDP material (5)	2.0
8	Spatial frameworks	Urban hierarchy; artery network; land use plan	NCDP material (6)	1.0
9	Development initiatives with projects and programs	Four development initiatives Anchor projects	NCDP material (7)	2.0
10	Integrated regional development programs	Regional division IRDPs for six regions	NCDP material (8)	2.0
11	Presentation of candidate areas for private investments	Visual presentation + video Presentation of following areas for investments a. Livestock industrial cluster; b. Coal-based industrial cluster; c. ICT projects	NCDP material (9) Videos/photos of similar activities	2.0
12	Ending	Images	Video and graphics	1.0 for total 15 min or less

*The JPT can provide video producer with NCDP materials (1) to (9) (Attached)

*The contents and specifics may be changed based on the discussion between the JPT and the Mongolian government.

5. Reference Materials

The JPT prepared the first promotion video to introduce NCDP contents prior to finalization of NCDP. This could be a reference for a new promotion video. The JPT provides two promotion videos produced for other similar projects in other countries as a reference. These are provided in below link.

- Previous video of NCDP: <https://www.youtube.com/watch?v=vYIzaxjBFYo>
- The Philippines project video : <https://www.youtube.com/watch?v=IONXpkZy3xU>
- Mauritania project video : <https://www.youtube.com/watch?v=auTtybekoLw>

Attachment E: Michi-no-eki” Capacity Building Training Workshop

Michi-no-eki” Capacity Building Training Workshop

Date: 2021.11.30 (Tuesday) 09:00~12:35 (Online, Zoom platform)

Language: Japanese, Mongolia (simultaneous translation)

Objectives: Introduction to the Japanese “Michi-no-eki” system, its activities, role, impact, management strategies and issues and the lessons that could be applied to improving the roadside stations in Mongolia and improvement of the Urtuu concept through group discussion

Participants: MCUD, NDA, CDC, MET, MRTD, MNCCI, ALAMGAC, Aimag authorities, researchers

Program

08:55 ~ 09:00 Registration

09:00 ~ 09:05 Introduction to the training (JICA Project Team tourism development expert B. Bolorchimeg)

09:05 ~ 09:10 Opening remarks (MNCCI's secretary general Ms. Bayasgalan Saranjav)

09:15 ~ 10:15 Japanese "Michi-no-eki system and its activities (Japan Research Institute for Road and Street Mr. Yoshihara)

10:15 ~ 10:35 Q&A

10:35 ~ 10:50 Break, NCDP promotional video

10:50 ~ 12:05 Comparative analysis and discussion of the "Michi-no-eki" guiding principles and the Mongolian Standard MNS 5537:2016 "Service stations along the road network – Classification and General requirements" - breakout session for group discussion (Facilitators – JICA Project Team)

12:05 ~ 12:35 Presentation of each group

12:35 ~ 12:40 Closing remarks (JICA Project Team tourism development expert B. Bolorchimeg)

Attachment F: Aid Proposal for a Technical Cooperation Project for Capacity Development to Strengthen Historical and Cultural Buildings

Aid Proposal for a Technical Cooperation Project for Capacity Development to Strengthen Historical and Cultural Buildings

1. Date: December 1, 2021

2. Project title: Capacity Development Project to Strengthen Historical and Cultural Buildings

3. Background of the request

(1) In the provision 2.6.1.15 of the implementation plan of the Action program of the Government of Mongolia for 2020-2024, it is stipulated that "legal environment for strengthening buildings and structures will be revised and improved, and works to strengthen historical and cultural buildings will be started in phases".

(2) Out of 185 buildings under state protection by the Government resolution with number 13 of 2020, 607 buildings under local protection by the order of the Minister of Education and Science with number A/161 of 2020, and 3739 buildings categorized as historical and cultural buildings by a survey conducted, it was concluded that 354 buildings are architectural monuments.

(3) The Ulaanbaatar City Urban Development Department is organizing works to certificate buildings, and four out of 121 buildings that need to be strengthened are historical and cultural monuments.

(4) A preliminary study was undertaken as part of the Project to Formulate a National Comprehensive Development Plan (NCDP) of Mongolia supported by Japan International Cooperation Agency (JICA) to enhance awareness for safety of historical and cultural buildings, and to prepare for related legal and institutional reforms and evaluation system.

4. Objectives of the project

(1) To develop capacity of human resources for strengthening historical and cultural buildings and structures,

(2) To study and introduce norms and standards in the field of strengthening historical and cultural buildings and structures,

(3) To conduct training of trainers (TOT) in the field of strengthening historical and cultural buildings, and

(4) To strengthen a few selected historical and cultural buildings in Mongolia.

As part of the NCDP project, the following main outcomes have been obtained by the preliminary study:

- 1) Clarification of reform needs for existing law,
- 2) Confirmation of evaluation guidelines for earthquake resistance,
- 3) Earthquake resistance evaluation of four selected buildings, and
- 4) Proposal for strengthening earthquake resistance procedure.

Based on these outcomes, the proposed project will follow up this pilot implementation for development of institutional and human capacity to strengthen historical and cultural buildings and structures. The project will lead the legal and institutional reform in the urban sector as a whole to implement NCDP proposals more effectively. Strengthening historical and cultural buildings and structures will contribute also to heritage tourism considered important by the NCDP.

5. Outline of the project

The proposed project is a technical cooperation project to be implemented by combining assignments of experts in various fields related to strengthening historical and cultural buildings and structures, training program including the TOT and training tours to advanced countries as well as on-the job training through collaborative works, and provision of equipment necessary for evaluating and strengthening historical and cultural buildings and structures. Details are shown below. The total amount of the project costs requested is roughly US\$3.5 million.

- (1) Outline of requested facilities or/and equipment
- (2) Rough request amount.
- (3) Benefits /beneficiaries and expected results of the project
- (4) Location (Attach maps if available)
- (5) Requested schedule of implementation, and its reason

6. Name of implementing agency

The Ministry of Construction and Urban Development (MCUD) is the main implementing agency. MCUD will cooperate with the Minister of Education and Science (MES) and the Ulaanbaatar City Urban Development Department.

7. Relation with other assistance schemes of Japan's ODA

- (1) The project has been formulated by the technical cooperation by JICA for the Project to Formulate a National Comprehensive Development Plan of Mongolia; and
- (2) The project will extend the efforts by the NCDP project through its pilot implementation by utilizing its outcomes.

8. Environmental and social considerations

The project will not involve any adverse effects on natural and social environment. Strengthening historical and cultural buildings and structures will contribute to the tourism development in Mongolia including heritage tourism, which will provide opportunities to enhance social environment of local communities around them.

9. Request amount of the project

10. Any relevant information of the project from gender perspective

The NCDP conducted workshops to identify “happiness concepts by three Ps: pleasure, purpose and pride” by Mongolian women and men. History and culture were identified as valuable sources of pride by both women and men participated in the workshops.

11. The detailed contents of the project

(1) Facility

1) Site address

2) Rationale for the selected sites (Please specify the priority of the candidate sites)

3) The number and the size of the facility

4) Cost of construction (Cost breakdown)

5) Lay out plan (if available)

6) Specification of construction materials (if any)

(2) Equipment

1) Site address to be installed

2) Function

3) Names of main equipment

4) Cost of purchase (Cost breakdown)

5) Specifications, the numbers, and unit prices (if available)

6) Invoice (if available)

(3) How to operate and maintain the facility / equipment, including the staff and technical level of the responsible organization

(4) Preparation and environment of site

1) Land secured or to be secured

2) Leveling, drainage, availability of electricity, water, and telephone

3) Natural condition

4) Security condition

12. Aid by third countries or international organizations in the related field

Chapter 7 Final Remarks

7.1 Project Period and Recognition of Need for Paradigm Shift

The R/D for the technical cooperation project “Project for Formulation of National Comprehensive Development Plan of Mongolia” was signed by representatives of Mongolian Government and JICA on 22 August 2018. Substantive works of the Project started on 9 January 2019 as the first field work period was started by the JPT and collaborative works with the Mongolian counterpart team continued since then. After the field works were suspended due to COVID-19 in March 2020, the JPT and the Mongolian counterpart team continued collaboration by communicating by online meetings and mail correspondence as well as supplemental data collection and analyses by national experts in Ulaanbaatar under the guidance of the JPT. The Project period was extended by agreement between JICA and the counterpart organizations of MCUD and NDA for July through December 2021. The JPT conducted the last field works despite the COVID-19 situations during 10 through 29 October.

During the three years period, perceptions of development worldwide have changed significantly. In particular, need for fundamental changes in way of life and socio-economic structure has been recognized widely in the past year due to increasing understanding of climate change. The COVID-19 pandemics have served only as an additional factor for the recognition of need for changes in life style and socio-economic structure. It is becoming a common understanding that some kind of paradigm shift is inevitable to save the human being and the earth.

7.2 NCDP to Realize a Paradigm Shift

The NCDP has been prepared from the very beginning three years ago on the basis that a paradigm shift is necessary for sustainable and inclusive development of Mongolia. This is natural as Mongolia experienced a paradigm shift from the socialistic paradigm before 1990 to the largely capitalistic one in recent years. More importantly, Mongolia has started to pursue another paradigm shift in response to the United Nations SDGs initiative. This is again natural as it is clear the high economic growth realized during 2010’s lead by large scale mining development cannot be sustained and has widened disparities against inclusive development.

It is commendable that Mongolia responded to the UN SDGs initiative promptly. SDGs, however, do not specify any development paradigm to pursue, and some of the targets set by SDGs are mutually conflicting if not contradictory. Therefore, how to formulate such a development paradigm with mutually consistent targets has been indeed the main issue in preparing the NCDP. Such a development paradigm should be unique to Mongolia based on indigenous resources and strategic position of Mongolia on the one hand and consistent with traditional culture and values embraced by Mongolian people. This has been the challenge that the NCDP has tried to meet.

Despite the strong headwind against utilization of coal worldwide, Mongolia will continue to need coal for some time to earn foreign currencies by exporting coal and to realize self-sufficiency in energy supply by coal-fired thermal power and heat generation. The real challenge is how to shift to a new development paradigm by structural changes in national socio-economy and national spatial structure, while relying on coal and mining development in the short-to-medium term to accumulate capital necessary for the structural changes.

7.3 NCDP Meeting Challenge for Paradigm Shift

(1) No mega infrastructure projects

The NCDP has been formulated to provide answers to this challenge. This is reflected in characteristics of the NCDP. For instance, no new coal-fired thermal plant for power and heat supply is proposed by the NCDP and only limited extension of national power transmission is proposed. Instead, the NCDP proposes regional energy systems based on renewable energy including hydropower, solar, wind and even geothermal energy in some areas. Clean energy research and development are also recommended. Also, no new mega infrastructure projects typically new railway lines to transport coal and other mining products are included in the NCDP. It does not mean these mega infrastructure projects should not be implemented, but rather no such projects will be needed than already planned without the NCDP.

(2) Industrial cluster development

The NCDP will pursue development of various industrial clusters as the basic strategy on the basis of primary production such as livestock farming and mining. That is, instead of supplying primary products for domestic and limited export markets, simple and value-added processing of primary products should be undertaken to establish industrial clusters producing various products including high value export products. By establishing such industrial clusters that produce viable export products, the entire value chains will be within the national territory of Mongolia. This will not only increase the total production value but more importantly allow Mongolia to take the initiative in marketing of export products.

(3) Spatial structure strengthening

To establish viable industrial clusters, primary production areas, local cities for primary processing, regional cities for value-added processing, and consumption areas and export bases should be effectively linked by transport and communication systems. For the purpose, the NCDP proposes strengthening spatial structure of the entire Mongolia in a more cost-effective way to link all the 21 Aimags and the Capital City of Ulaanbaatar. The viable industrial clusters linked by effective transport and communication systems will realize regional development to reduce disparities.

The proposed ring artery is instrumental for this purpose. It links most urban centers at higher tiers of urban hierarchy proposed by the NCDP and improve access to export markets directly to Russian and China from Aimags neighboring on these countries and indirectly through the artery transport system to markets beyond the neighboring countries. Another way to strengthen the spatial structure for regional development is to enhance urban functions of selected urban centers according to the proposed urban hierarchical structure. These urban centers will facilitate social services delivery to outer areas as well.

(4) ICT promotion

The NCDP emphasizes ICT application to all the sectors for economic development and social services delivery. It proposes specific projects such as smart agriculture, agro-IT park, ICT monitoring and support system for livestock, food traceability platform, tourism sector database and health information center. Pilot projects formulated and implemented as part of the NCDP include the local information platform (LIP) to facilitate communications between local people including nomads and local administrations, distance education for primary school and handicapped children, and industry-university partnership promotion focusing on the ICT sector. The NCDP proposes also a special program for ICT application and promotion to improve the overall ICT ecosystem in Mongolia.

The industrial cluster development, spatial structure strengthening and ICT promotion emphasized by the NCDP are illustrated by livestock industrial cluster as shown in Figure 7.1. In addition to

effective transport and communication systems linking livestock grazing areas, primary and value-added processing centers and consumption areas and export bases, e-transaction system should be strengthened in steps with bases equipped with facilities for e-transaction.

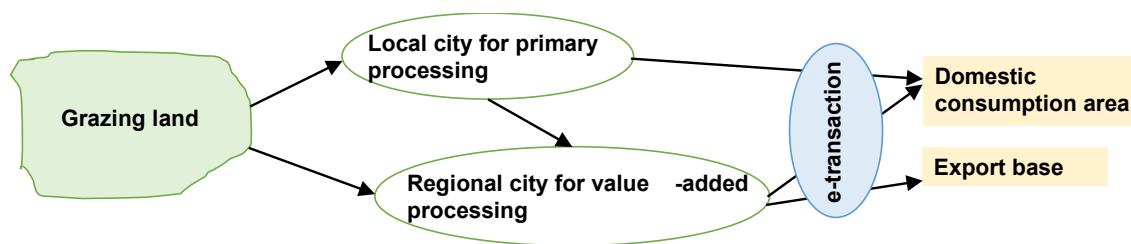


Figure 7.3.1 Livestock Cluster Linked by Transport and Communication System