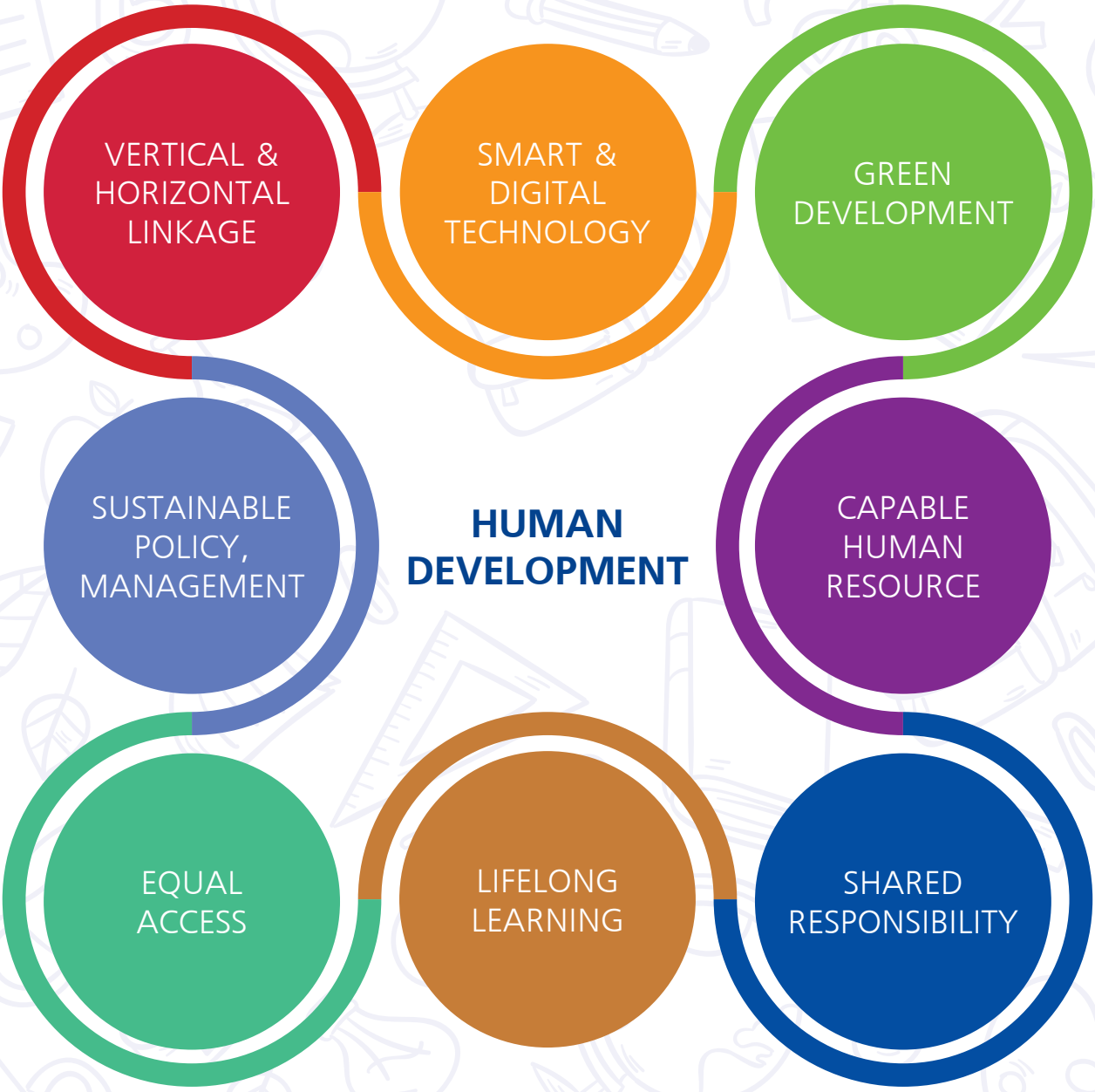
GOVERNMENT OF MONGOLIA

MINISTRY OF EDUCATION AND SCIENCE



EDUCATION SECTOR MID-TERM DEVELOPMENT PLAN

2021-2030

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Ulaanbaatar
October 2020

This plan has been developed with the technical support of ADB TA MON 51103-001: Supporting the Education Sector Master Plan Development Project. Additional support has been provided by the Global Partnership for Education's (GPE) Education Sector Plan Development Grant (ESPDG) which was managed by the World Bank Group.

CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ACRYONYMS

ADB	Asian Development Bank
AE	Adult Education
CBT	Competency Based Training
CC	Career counselling
COUC	Consortium of Universities and Colleges
CPD	Continuing Professional Development
CSO	Civil Society Organization
CWD	Children with disabilities
VETPICD	Vocational Education and Training Policy Implementation and Coordination Department
ECD	Educational and Culture Department
ECE	Early Childhood Education
EEC	Education Evaluation Center
EMIS	Education Management and Information System
EPSSim	Education Policy and Strategy Simulation
ESMTDP	Education Sector Mid-Term Development Plan
EU	European Union
GALSWS	General Authority for Labor and Social Welfare Services
GASI	General Authority of Specialized Investigation
GDP	Gross Domestic Products
GER	Gross enrollment rate
GES	Graduate`s Employment Survey
GNI	Gross National Income
GPE	Global Partnership for Education
GRE	Global Report on Education
HDI	Human Development Index
HE	Higher Education
HEI	Higher Education Institutions
HEMIS	Higher Education Management and Information System
HSES	Household Socio-Economic Survey
ICE	International Classification of Education
ICT	Information and Communication Technology
IIEP	International Institution for Education Planning (UNESCO)
IMF	International Monetary Fund
ISCED	International Standard Classification of Education
ITPD	Institute of Teacher`s Professional Development
KPI	Key Performance Indicator
LLE	Life-long Education
LLL	Life-Long Learning
LM	Labor Market
MASM	Mongolian Agency for Standard and Meteorology
MEA	Mongolian Education Alliance
MES	Ministry of Education and Science
MICS	Multiple Indicator Cluster Survey
MIER	Mongolian Institute of Education Research
MNCEA	Mongolian National Council for Education Accreditation
MOH	Ministry of Health

MoLSP	Ministry of Labor and Social Protection
MOF	Ministry of Finance
MSUE	Mongolian State University of Education
MTEF	Medium Term Expenditure Framework
NCEA	National Council for Education Accreditation
NCLLE	National Center of Lifelong Education
NCNFEDL	National Center for Non-Formal Education and Distance Learning
NCVET	National Council for Vocational Education and Training
NDA	National Development Agency
NER	Net Enrollment Rate
NQF	National Qualification Framework
NSC	National Security Council
NSO	National Statistical Office
OECD	Organisation for Economic Co-operation and Development
PC	Polytechnic College
PISA	Programme for International Student Assessment
PMT	Proxy Means Testing
PPE	Pre-Primary Education
PPEI	Pre-Primary Education Institution
PPP	Public Private Partnership
PSE	Primary and Secondary Education
PWD	People with Disabilities
QA	Quality Assurance
RILSP	Research Institute for Labor and Social Protection
RMC	Regional Methodological Center
RPL	Recognition of Prior Learning
SDE	Sustainable Development Education
SDG	Sustainable Development Goals
SDV	Sustainable Development Vision
STC	Save the Children
STR	Student Teacher Ratio
TLM	Teacher/Learning Materials
TVET	Technical and Vocational Education and Training
TVETMIS	Technical and Vocational Education and Training Management and Information System
UIL	Institute for Lifelong Learning (UNESCO)
UN	United Nations
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFPA	United Nations Population Fund
UNICEF	United Nations Fund for Children
VET	Vocational Education and Training
VETAMIC	Vocational Education and Training Assessment, Methodology and Information Center
VETP	Vocational Education and Training Partnership
VETPICD	Vocational Education and Training Policy Implementation and Coordination Department
VTPC	Vocational Training and Production Center
WASH	Water, Sanitation and Health
WB	World Bank

FOREWORD

My warmest regards to the readers of this policy document.

It's my pleasure to present to you Mongolia's Education Sector Medium-Term Development Plan (2021-2030) after its approval.

A large team, comprised of government, non-government organizations, professional organizations, academics, and researchers in the sector, developed Mongolia's Education Sector Medium-Term Development Plan in conformity with Mongolia's long-term development policy document - Vision 2050, and relevant laws, policies, and regulations. After a thorough analysis and review of the education sector achievements, constraints, and gaps of the past decade, the team managed the difficult task of identifying the future strategic development objectives, in close consultation with the stakeholders.

I would like to highlight the support of the Asian Development Bank (ADB), which was critical to the development of this plan. I would like to extend my sincere gratitude to the ADB for its long-standing knowledge and investment support to the nation's education sector since 1992. My gratitude also extends to our partners, including Global Partnership for Education, World Bank, Embassy of Japan in Mongolia, UNESCO, UNICEF, for their valuable financial support and active technical expertise in the review and assessment process leading up to this plan as well as the development of the plan itself.

The end goal of Mongolia's Education Sector Medium-Term Development Plan (2021-2030) is to **"To ensure the holistic development of Mongolian citizens with competencies to thrive in the digital technology era as active participants in a knowledge–based society which enables life–long learning through quality, open, inclusive and flexible education services".**

The Ministry of Education and Science, sectoral organizations, and practitioners will join forces and make every effort to implement the plan with excellent outcomes.

I wish all of you success and all the best in your future endeavors.

MINSTER OF EDUCATION AND SCIENCE

L.TSEDEVSUREN

МОНГОЛ УЛСЫН ЗАСГИЙН ГАЗРЫН ХУРАЛДААНЫ ТЭМДЭГЛЭЛЭЭС

БОЛОВСРОЛ, ШИНЖЛЭХ УХААНЫ ЯАМАНД

Монгол Улсын Засгийн газрын 2020 оны 9 дүгээр сарын 23-ны өдрийн хуралдааны 51 дүгээр тэмдэглэлд:

"XII.5. "Боловсролын салбарын хөгжлийн дунд хугацааны төлөвлөгөө (2021-2030)"-ний талаар Боловсрол, шинжлэх ухааны сайд Л.Цэдэвсүрэн Засгийн газрын гишүүдэд танилцуулав.

Үүнтэй холбогдуулан "Боловсролын салбарын хөгжлийн дунд хугацааны төлөвлөгөө (2021-2030)"-г дэмжин, уг баримт бичгийг Хөгжлийн бодлого төлөвлөлт, түүний удирдлагын тухай хуульд нийцүүлэн "Алсын хараа-2050" Монгол Улсын урт хугацааны хөгжлийн бодлого, Монгол Улсыг хөгжүүлэх таван жилийн үндсэн чиглэл, Засгийн газрын үйл ажиллагааны хөтөлбөртэй уялдуулан боловсруулж, зохих журмын дагуу батлуулахыг Боловсрол, шинжлэх ухааны сайд Л.Цэдэвсүрэнд даалгав." гэжээ.

ЗАСГИЙН ГАЗРЫН ХЭРЭГ ЭРХЛЭХ ГАЗАР

МОНГОЛ УЛСЫН
БОЛОВСРОЛ, ШИНЖЛЭХ УХААНЫ
САЙДЫН ТУШААЛ

2020 оны 10 сарын 09 өдөр Дугаар А/196 Улаанбаатар хот

"Боловсролын салбарын хөгжлийн дунд хугацааны төлөвлөгөө (2021-2030)" баримт бичгийг батлах тухай

Монгол Улсын Засгийн газрын тухай хуулийн 24 дүгээр зүйлийн 24.2, Засгийн газрын 2020 оны 9 дүгээр сарын 23-ны өдрийн хуралдааны 51 дүгээр тэмдэглэлийг тус тус үндэслэн ТУШААХ нь:

1. Монгол Улсын "Боловсролын салбарын хөгжлийн дунд хугацааны төлөвлөгөө (2021-2030)" баримт бичгийг хавсралтаар батлагсугай.

2. "Боловсролын салбарын хөгжлийн дунд хугацааны төлөвлөгөө (2021-2030)-г "Алсын хараа-2050" Монгол Улсын урт хугацааны хөгжлийн бодлого, Монгол Улсыг хөгжүүлэх таван жилийн үндсэн чиглэл, Засгийн газрын үйл ажиллагааны хөтөлбөр, төлөвлөгөөтэй уялдуулан хэрэгжүүлэх ажлыг удирдлагаар хангахыг Боловсрол, шинжлэх ухааны яамны Бодлого төлөвлөлтийн газар /Ж.Ганбаатар/, хэрэгжилтийг зохион байгуулж ажиллахыг Сургуулийн өмнөх боловсролын газар /Ж.Мягмар/, Бага, дунд боловсролын газар /Т.Ням-Очир/, Дээд боловсролын газар /Г.Батнэмэх/, Шинжлэх ухааны газар /С.Мөнхбат/ нарт тус тус даалгасугай.

3. Боловсролын салбарын хөгжлийн дунд хугацааны төлөвлөгөө (2021-2030)-г хэрэгжүүлэхэд шаардагдах хөрөнгийг нарийвчлан тооцон Эдийн засаг, нийгмийг хөгжүүлэх үндсэн чиглэл, нэгдсэн төсөвт тусгах талаар холбогдох арга хэмжээ авч ажиллахыг Боловсрол, шинжлэх ухааны яамны Гадаад хамтын ажиллагааны газар /Д.Гарди/, Санхүү, эдийн засгийн газар /С.Нансалмаа/, Хөрөнгө оруулалтын газар /Ч.Энх-Амгалан/ нарт тус тус даалгасугай.

4. Боловсролын салбарын хөгжлийн дунд хугацааны төлөвлөгөө (2021-2030)-ний хэрэгжилтэд хяналт тавьж, хэрэгжилтийн явцыг жил бүрийн 2 дугаар сарын эхний хагаст багтаан танилцуулж байхыг Боловсрол, шинжлэх ухааны дэд сайд /Г.Ганбаяр/-д даалгасугай.

САЙД Л.ЦЭДЭВСҮРЭН

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EXECUTIVE SUMMARY

The Government of Mongolia has implemented a succession of education plans over the past three decades: the Master Plan for Developing the Education Sector of Mongolia in 1993, the Strategic Plan for Education during 2000-2005, and the Master Plan for Education of Mongolia during 2006-2015.

The 2006-2015 Master Plan enabled the education sector to achieve significant outcomes in terms of modifying pre-primary, primary and secondary education curricula and vocational education and training, higher education um and program content, revising student textbooks and learning materials and establishing a favorable learning environment. Positive changes were also made in the supply of qualified teachers and the capacity of kindergarten and school buildings.

Despite these significant outcomes, the sector still faces the following challenges:

- Enhancing the quality of education services
- Eliminating the urban-rural gap in education
- Establishing a child-friendly and accessible learning environment
- Strengthening cross-sector linkages and building partnerships with all stakeholders
- Improving governance and management of the education system.

This Education Sector Medium-Term Development Plan (ESMTDP) for 2021-2030 is aligned with related legal and policy documents such as UN-Sustainable Development Goals 2030, the Mongolia Long-Term Development Policy Planning Law,[1] the Mongolia Long-Term Development Vision 2050 and the Government Policy for Education 2014-2024.

In conformity with Clause 5 of the Long-Term Development Policy Planning Law, the Education Sector Plan for 2021-2030 is designed to provide all citizens with equal access to education services, ensure vertical and horizontal links in education policies, disseminate smart and digital technology at all levels of education, and promote green development in the learning environment and materials.

The Plan has been developed and revised based on feedback and recommendations provided by the following study reports and workshop discussions:

- Education in Mongolia: Country Report 2019,[2] produced by the Mongolian Institute of Education Research and other sector institutions.
- Mongolia Education Policy Review 2020,3 analyzed by UNESCO expert teams.
- Education Sub-Sector Analysis Reports 2019-2020, led by ADB national experts and technical teams.
- User Satisfaction Survey Report 2019, conducted by the Mongolian Institute for Educational Research.
- Donor organization workshops and discussions led by local education group during 2019-2020.
- Stakeholder workshops (total of 12), including representatives from professional organizations, researchers, experts, teachers, parents and learners during 2018-2020.
- External Appraisal Report supported by Global Education Partnership in 2020.

The Education Sector Medium-Term Development Plan aims **to ensure the holistic development of Mongolian citizens through quality, open, inclusive and flexible education services that enhance their capacity to live and work in the digital technology era, actively participate in knowledge–based society and engage in lifelong learning.**

[1] Amended in 2020.
[2] https://www.mier.mn/archives/3716.
[3] Монгол Улсын боловсролын бодлогын тойм шинжилгээ., ЮНЕСКО, 2020.

The Plan identifies policy priorities in each sub-sector to:

- Enhance the quality and relevance of the education system and services;
- Increase equal access and inclusiveness;
- Improve the efficiency of education governance, management and administration;

Within the umbrella of above priorities, the Plan sets 15 strategic objectives, 47 programs and 254 actions.

The first five years of implementation, 2021-2025, will require a total of 16,405.8 billion MNT in funding.

Table. Projection of required cost (billion MNT)

Indicators	2021-2025	2021	2022	2023	2024	2025
GDP		42,660.9	46,851.9	51,931.3	56472.0	61,647.1
Total education cost, of which:	**16,405.8**	**2,997.9**	**2,940.9**	**3,218.3**	**3,469.0**	**3,779.7**
Share of education cost in GDP		4.7%	4.9%	5.1%	5.3%	5.4%
Share of education cost in public budget expenditure		15.4%	15.9%	16.4%	16.8%	17.3%
Required total cost for education sector	16,051.9	2,943.3	2,881.5	3,147.1	3,390.9	3,689.1
Required cost for ESMTDP implementation	353.9	54.6	59.4	71.2	78.1	90.6
Funding resources, of which:						
Public budget	13,274.5	2,015.3	2,300.2	2,641.0	2,965.2	3,352.8
Share of public budget in total cost projections	80.8%	67.2%	78.2%	82.1%	85.5%	88.7%
Additional fund required	**3,131.3**	**982.6**	**640.7**	**577.3**	**503.8**	**426.9**
Required funding for implementing the ESMTDP	353.9	54.6	59.4	71.2	78.1	90.6
Additional funding required	2,264.0	928.0	581.3	506.1	425.7	336.3

Implementation of the ESMTDP shall achieve the following outcomes by 2030:

1. Providing all citizens with equal opportunity to access quality education by scaling up the inclusive education system, in keeping with the objectives of first phase (2021-2030) of Mongolia's long-term development policy vision, Vision 2050, will have achieved
2. Objectives in the Five Priority Areas of Mongolia Development for 2021-2025 will have attained.
3. The quality and relevance of the education system and services will have improved:
    - Curriculum content of all education levels shall have modified to reflect patriotic thinking, respect for Mongolian culture and tradition, discipline and formation of character, and development of individual and scientific inquiry skills; and it will be relevant to the demands of labor market.
    - Modalities of flexible training for leaders and teachers at all education levels will have increased; and a merit-based human resource policy will have disseminated; and earnings and social security of personals will have improved.
4. Education equity and inclusiveness will have amplified:
    - Kindergarten and school capacity shall have increased in response to population growth, and equitable access shall be

promoted. Open education services shall be diversified. All kindergartens and schools will have the enabling environment to include special needs children.

- In relation to technology and innovation reforms, the education system will have transitioned into the digital system; and a flexible system of lifelong learning for all citizens will have established.
- Equal and quality education opportunities shall have provided to all citizens regardless of their developmental needs, location and lifestyles.

5. Education governance, management and administration shall will have strengthened.
   - Independent, autonomous governance and management system for TVET and higher education institutions will have established at the national level.
   - For the sake of efficiency of education budgeting and effectiveness of policy implementation, primary and secondary school structures and types will have mapped and aligned with local population growth and regional development perspectives. Based upon the result of the mapping, specialized high school policy will have promoted.
   - Internal and external quality assurance systems will have reinforced at all education levels.

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CHAPTER ONE. DEVELOPMENT POLICY AND INTERNATIONAL TRENDS TO BE ADHERED TO IN THE EDUCATION SECTOR MID-TERM DEVELOPMENT PLAN

- **Mongolia Development Concept and Education Policy**
- **Global Trends in Education Development**
- **Implementation of the Education Development Master Plan 2006–2015 and Lessons Learned**

CHAPTER ONE. DEVELOPMENT POLICY AND INTERNATIONAL TRENDS TO BE ADHERED TO IN THE EDUCATION SECTOR MID–TERM DEVELOPMENT PLAN

1.1 MONGOLIA DEVELOPMENT CONCEPT AND EDUCATION POLICY

A key focus of Vision 2050 is Human Development; and its chapter on education specifies the strategic objective of developing socially active and healthy citizens by affording them access quality education. This objective is key to the security of family life and the development of the country in a manner that ensures the well-being of all Mongolians. The implementation and outcomes of the objective are defined three phases.

During the first phase (2021-2030), all citizens shall be provided equal opportunity to access quality education and reforming an inclusive education system. This phase includes specific actions for each sub-sector:

The pre-primary education sub-sector is perceived as a fundamental period for child character formation and development. Therefore, actions are intended to enhance the quality of kindergarten services and training. It annually updates the nutritional needs and food cost for children aged 1-3 and 4-6, respectively; establish an equal opportunity environment where all children from herder, migrated, and low-income families are able to access quality education, taking into account their special and distinctive needs; and build the capacity of parents and guardians to provide a learning environment for their children. The Plan includes integrated actions to promote child development through active participation of parents and guardians.

In primary and secondary education, attention is given to children who cannot access education services and those at risk. Each child of this group shall be given necessary support to be included in education. Moreover, the quality of primary and secondary education shall be improved by modifying the curriculum content and methodology to reflect Mongolian language, history, culture and tradition, patriotic thinking, individual development, character formation, bilingual education and common values of humanity. Actions in this sub-sector also include a factor analysis of student learning achievement, with results to be reflected in policy planning and implementation.

The vocational education and training sub-sector, in alignment with long-term development policy, shall be reformed to respond to labor market demands and needs reforming training system. By 2030, the workforce shall be fully supplied by high-skilled, qualified workers.

In higher education, training providers shall be developed in line with international standards, and their partnerships with higher education institutions and industries shall be strengthened by drawing the results of graduates' employment surveys and employer satisfaction surveys. Qualification programs shall be revised, with at least 20 credit hours of learning converted into internships inconfirmity with regional features economic priorities research universities will be developed.

Lifelong education shall be strengthened through the development of open education systems. An integrated platform for online training shall be created; and lifelong learning opportunities for all citizens shall be afforded regardless of time and location.

State Policy on Education 2014-2024 aims to provide all citizens with opportunities to acquire knowledge, skills and competencies to develop their talents, work productively, increase their well-being, and respect humanity and national values throughout this. In particular, the State Policy sets the following objectives:

- Ensure the participation of all stakeholders (policymakers, professional associations, research institutes, experts and citizens) in the development and implementation

of education policy, strategy, plans, programs and projects,
- Pursue principles of openness, transparency, good governance and evidence-based decision making,
- Take into consideration the structure, location, characteristics and type of education facilities in sector policymaking and planning.
- Ensure the interrelationship of functions and operations of government, local, professional, and public organizations,
- Develop and expand the Education Management and Information System (EMIS) and ensure its security and transparency,

Within the scope of these objectives, the State Policy on Education sets policies aimed at enabling all children to access pre-primary education by promoting alternative services; implementing core curricula that provide opportunities for all children to develop through creative actions based on individual characteristics; and sharing the cost of food with parents and caretakers. Some of these policies have been successfully implemented.

For primary and secondary education, the State Policy sets objectives related to adher internationally recognized progression pathways and structures; learning through flexible curricula; and implementing core curricula.

The technical and vocation education and training (TVET) sub-sector has successfully implemented policies to develop curriculum in line with labor market demand and technology advancement, improve training and quality assurance, and set standards for internal and external accreditations. Policies are also aimed at developing specialized TVET provider campuses and establishing a National Qualification Framework.

In higher education, policies are aimed at supporting and implementing improved labor market orientation of programs, research and development, quality assurance with elaboration of an accreditation system, development of different types of modalities guided by international common standards, international training programs, and mutual recognition of graduate degrees.

Moreover the ESMTDP 2021-2030 will establish conditions and support implementation of the objectives of both Vision 2050 and the State Policy on Education 2014-2024, and attain targeted outcomes by 2025 and 2030.

1.2 GLOBAL TRENDS IN EDUCATION DEVELOPMENT

Global trends in education development were identified by UNESCO as well as from directives and initiatives on education followed by the Organisation for Economic Co-Operation and Development (OECD). The Incheon Declaration 2030 is the main strategy to develop education until 2030.

The Incheon Declaration

The Incheon Declaration 2030 promotes quality lifelong learning opportunities for all, in all settings and at all levels of education. This includes equitable and increased access to quality technical and vocational education and training and higher education and research, with due attention to quality assurance. In addition, the Declaration includes important provisions for flexible learning pathways, as well as for the recognition, validation and accreditation of knowledge, skills and competencies acquired through non-formal and informal education. It also commits to quality education and to improving learning outcomes, which requires strengthening inputs, processes and evaluation of outcomes and mechanisms to measure progress. The Declaration also ensures the empowerment, recruitment, training, professional qualifications, and motivation of teachers and educators within well-resourced, efficient and effectively governed systems. It encourages the provision of at least one year of free and compulsory quality pre-primary education through changes in education policies and a focus on the most disadvantaged, especially girls and children with special needs.

Moreover, according to the "Global Report on Adult Learning and Education" by the UNESCO Institute of Lifelong Education[4] and the UNESCO "Global Education Monitoring Report":

"Lifelong learning comprises all learning activities undertaken throughout life with the aim of improving knowledge, skills and competencies, within personal, civic, social and employment-related perspectives." [5]

The first report uses the concepts of both "lifelong education" and "lifelong learning," while the second report more often uses the concept of "lifelong learning." The term "lifelong learning" is more commonly used in UNESCO documents because it is less focused on structure and institutions and puts individuals at the center of the learning process. One clear example is that "lifelong learning" is the term used in the Sustainable Development Goals Target 4.[6]

UNESCO's Futures of Education: "Learning to Become" Initiative

UNESCO's Futures of Education: "Learning to Become" initiative aims to rethink education and shape the future. The initiative is catalyzing a global debate on how knowledge, education and learning need to be reimagined in a world of increasing complexity, uncertainty and precariousness. It aims to mobilize the many rich ways of being and knowing in order to leverage humanity's collective intelligence. The initiative relies on a broad, open consultative process that involves youth, educators, civil society, governments, business and other stakeholders. The work will be guided by a high-level International Commission of thought leaders from diverse fields and different regions of the world. In November 2021, the Commission will publish a report designed to share a forward-looking vision of what education and learning might become and offer a policy agenda on how to catalyze knowledge and learning to shape the future of humanity and the planet.

The concept of learning to become points to a philosophy of education and an approach to pedagogy that views learning as a process of continual unfolding that is ongoing and lifelong. To think in terms of "becoming" is to invoke a line of thought that emphasizes potentials, rejects determinism and expresses a flexible openness to the new. Learning to become also invokes the need to develop the capacity to

[4] UNESCO UIL. 2009.
[5] UNESCO. 2018. Global Education Monitoring Report, page 8.
[6] ADB, MES. 2019. Lifelong Education Analysis Report.

imagine a good and fulfilling life. Around the globe, for the many that live in conditions of poverty, exclusion, displacement and violence, the future can appear more as a set of shrinking possibilities than a world of hope and promise. When human aspiration is wasted, the world suffers. As we come to terms with human-caused changes to the planet and face the possibilities of fundamental transformations in social organization, human consciousness and human identity, humanity needs to devote attention to the question: what do we want to become? Knowledge and learning are at the core of transformations in human minds and societies.

OECD's Future of Education and Skills 2030 Project

The OECD Future of Education and Skills 2030 project has identified some innovative features of education systems that are just emerging but may become the new normal in tomorrow's education systems. Education is part of a larger eco-system; and decisionmaking and responsibilities are shared among stakeholders, including parents, employers, communities and students. The shared responsibility means that everyone works together and assumes responsibility for a student's education, and students also learn to be responsible for their own learning. An effective and quality school experience values not only outcomes but also process. In addition to student performance and student achievements, students' learning experiences are in and of themselves recognized as having intrinsic value. This means a focus not only on academic performance but also on holistic student well-being. It also means an approach to curriculum design and learning that emphasizes a non-linear progression in which each student has his/her own learning path and is equipped with different prior knowledge, skills and attitudes when he/she starts school. Through the Future of Education and Skills 2030 project, the curriculum analysis will shift its focus from "curriculum redesign" to "curriculum implementation."

Modern problems such as climate change, urbanization, new technologies, sustainability of the environment, inclusiveness and gender equality will influence the future of education, and are addressed in the Sustainable Development Vision of Mongolia. Education planning needs to be in line with these challenges.

1.3 IMPLEMENTATION OF THE EDUCATION DEVELOPMENT MASTER PLAN 2006–2015 AND LESSONS LEARNED

The Education Development Master Plan 2006-2015 laid the groundwork for preparation of the ESMTDP by setting goals related to the development of the education sub-sector and non-formal education, and to education sector performance during 2018-2019 academic year. The Master Plan 2006-2015 set several objectives in early childhood education, primary and secondary, informal education, vocational training, technical education and higher education and cross-sector areas as follow:

In pre-primary education, performance indicators imply that 52 percent of the targets included in the pre-primary education plan have been fully achieved, 36 percent have not been realized, and 11 percent have been partially attained.7 Objectives of reducing class size, increasing the supply of qualified teachers to all kindergartens and building the capacity of %) percent of teachers are not well implemented.

In primary and secondary education, 18 objectives are set in the quality area; in which, 38.9 percent have been fully implemented and 16.7 percent partially achieved. In education management, 50 percent of the objectives are not implemented. For instances, objectives to enable 40.0 percent of dropout students to access education service through equivalency of learning programs in non-formal education[8] and to exercise primary and secondary school

[7] ADB, MES. 2019. Pre-primary Education Sub-sector Analysis Report.
[8] By the 2015-2016 academic year, EMIS reported that 8.9% of dropout students studied in the equivalent program.

mapping are not implemented.

In the TVET sub-sector, out of 18 objectives, 70.6 percent are successfully implemented and attained the target value; 23.5 percent are partially implemented and 5.9 percent are not been implemented.[9]

In higher education, objectives to increase the percentage of learners in engineering and technology, natural science, teaching and agriculture from 29.1 to 45.0 percent; and decrease. the percentage of learners in other qualifications from 38.9 percent to 34.0 percent are not fully implemented.

The Master Plan 2006-2015 contained a dedicated section on non-formal education and adult learning. The following targets were put forward in the areas of access, quality and management:

- To make non-formal education meet the needs of users;
- To improve the learning environment at all levels of non-formal education and increase capacity through additional resources;
- To elaborate a policy and strategy for the non-formal education sector, and establish a finance system;
- To achieve a literacy of 97.7 – 99.0 percent by 2008;
- To re-educate 40 percent of students who are school dropouts through non-formal education and equivalency of learning programs;
- To increase the funding for non-formal education, for the national center for distance learning, and for centers for non-formal education in soums and districts every year by 8 percent;
- To include costs for teachers' professional development in the overall expenditure and finance these costs annually;
- To establish a nationwide education information, monitoring and evaluation system;

As of the academic year 2018-2019, 6 fundamental directions of lifelong education are not expanded, staff and teacher professional development system has not been established; all lifelong education centers do not have building facilities, no database system; and a monitoring and evaluation system are not been established.

Although this Master Plan could not achieve all the target values, it had significant achievements in some areas. Pre-primary, primary, secondary, TVET and higher education curricula were optimized; student textbooks and learning materials were upgraded; favorable learning environments were established; the supply and capacity of school leaders and teachers were strengthened to some extent. Significant achievements were also observed in constructing schools and kindergartens in urban areas. Furthermore, informal education programs for school dropout children were significantly improved, giving them a foundation for lifelong learning. One of the crucial lessons from implementation of the Master Plan was the need to establish a donor coordination mechanism; this mechanism was a main factor in the achievement of the Plan's objectives.[10]

In addition, it should be noted that during first half of implementation, the Ministry of Education, Culture and Science (former name; now the Ministry of Science, MES) reflected related strategies and objectives in its policies and annual plans and monitored outputs and outcomes. However, during the second half, implementation was not seriously managed by the Ministry.

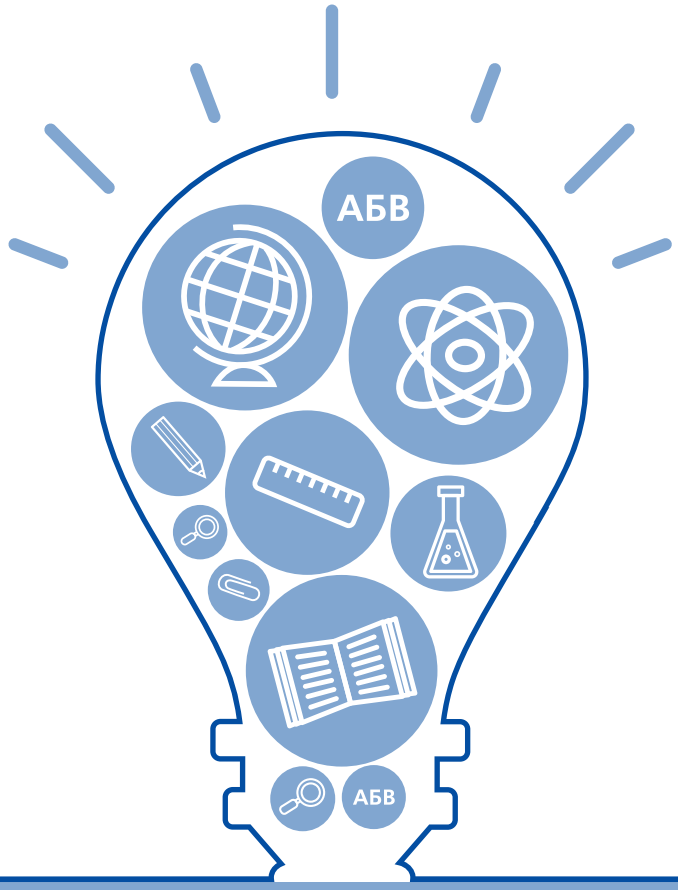
This lesson implies that the Ministry needs

[9] ADB, MES. 2019. TVET Sector Analysis Report.

[10] Begz, N. 2020. 25-year Experience in Development of Mongolian Education: Experience and Lessons Learned (1992-2017).

to prioritize implementation of the ESMTDP and establish a mechanism, including a responsible unit, to ensure coherence and integration of planning at all levels with the ESMTDP strategies; oversee implementation; review outputs and outcomes; and reflect feedback on the ESMTDP.

The ESMTDP 2021-2030 is developed based on the studies and diagnostic analysis carried out in 2018 and 2019; thus, all data are withdrawn from 2018-2019 academic year.



CHAPTER TWO. CURRENT SITUATION AND CONTEXT FOR EDUCATION DEVELOPMENT DURING 2021–2030

- **Population and Socio-Economic Context of Mongolia and Trends Toward 2030**
- **Education Sector Resources and Opportunities**
- **Summary of Issues and Challenges in the Education Sector**

CHAPTER TWO. CURRENT SITUATION AND CONTEXT FOR EDUCATION DEVELOPMENT DURING 2021–2030

2.1 POPULATION AND SOCIO-ECONOMIC CONTEXT OF MONGOLIA AND TRENDS TOWARD 2030

Demographic Context

As of 2018, the total population of Mongolia is 3,238,479, of which 50.4 percent are female and 49.6 percent are male. The total population has increased by 61.6 thousand people (1.9 percent). Children up to 15 years old comprise 32.6 percent of the total population; young people under 35 years comprise 63.8 percent, and people over 65 make up 3.5 percent. As of 2018, 3.3 percent of the total population (105,730 people) are officially registered as people with disabilities; of these, 33.7 percent live in the capital, Ulaanbaatar, while the remainder reside in rural and remote areas.[11] The population density is higher in urban areas; 53.4 percent of Mongolians live in urban areas while 46.6 percent live in rural or remote areas.[12] In total, 1588.9 thousand people reside in rural areas, of which 483 thousand reside in soum centers and 667.1 thousand in remote areas.[13] More than half - 51.7 percent of soums have resident populations below 3,000; 30.1 percent of the soums have populations between 3,000-5,000. And 8.5 percent of soums have populations between 5,001-7,000 citizens; Only 9.7 percent of the soums have over 7,001 residents.

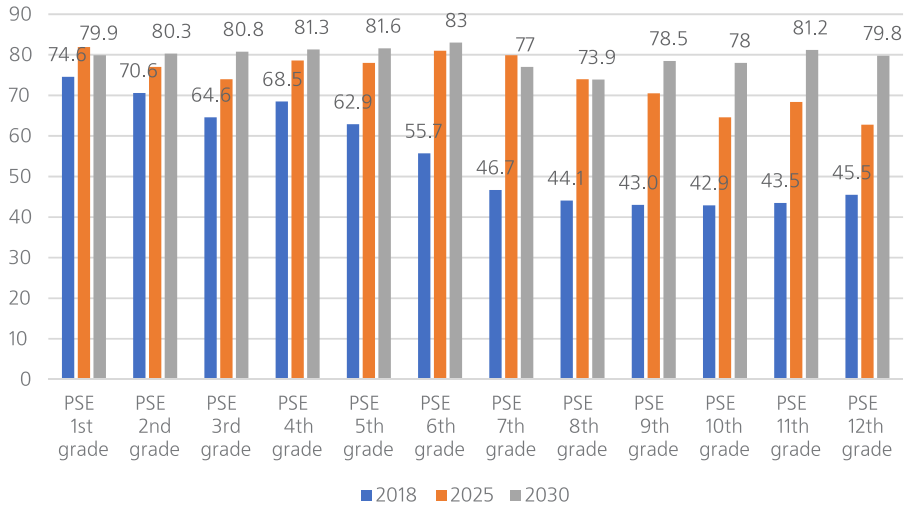
Due to the decreasing birth rate and low child mortality rate, life expectancy has increased from 60.3 in 1990 to 69.5 in 2018. The difference between men's and women's life expectancy has increased annually and the gap is now 9 years (66 for men and 75 for women), This gap has negatively impacted Mongolia's average life expectancy index.[14]

According to 2010 Population and Housing Census data, the completion rate for secondary education is relatively higher among people aged 20-40 than for other age groups, but the completion rate for people over 35 has been decreasing. If the current numbers remain static, the needs of older adults for life long education access is like to increase in the near future.[15]

According to the projections of population growth,[16] by 2025 the population is likely to increase by 13.1 percent over the 2018 population; and is likely to reach at 3,662,221 by 2030. A population increase of 18.01 percent (high scenario) implies that the number will reach 3,950,052.[17] More importantly, this growth is likely to mostly occur in Ulaanbaatar. By 2030, the 2 to 5 year age group is projected to increase by 0.4 percent relative to 2019, the 6-14 age group by 26 percent, the 15-17 age group by 84.8 percent, and the 18-22 age group by 46.6 percent.[18] However, starting in 2030, this growth is projected to slow and the population aged 5-14 will decrease.[19]

[11] NSO website: www.1212.mn вэбсайт
[12] NSO website: www. 1212.mn вэбсайт
[13] ADB, MES. (2019). Life-Long education sub-sector analysis report
[14] ADB, MES. (2019). Primary and Secondary Education Sub-sector Analysis Report.
[15] ADB, MES. (2019). Lifelong Education Sub-sector Analysis Report.
[16] NSO website: www.1212.mn.
[17] Population growth projection based on population statistics provided by NSO 2018 population data.
[18] Estimation is made by UNESCO EPPSim 2.9 by using EMIS data, MES.
[19] Updated Population growth estimation by the NSO, 1212.mn.

Figure 2.1 Population growth up to 2030, by age and class (thousand people)



Mongolia`s Human Development Index value for 2018 is estimated at 0.740 education index value at 0.721, life expectancy at 0.722, and the gross national income (GNI) value at 0.727.[20] The gender inequality index as calculated as 0.289[21] due to inequality in male and female reproductive health care issues, power distribution and labor market participation.

Social Context

According to the National Statistical Office (NSO), as of 2018, the national poverty rate was 28.4 percent, in which 27.2 percent in urban areas and 30.8 percent in rural areas. The poverty gap between urban and rural areas was estimated as 7.2 percent.

As of March 2019, 35.7 percent of the total population are employed; and the labor force participation rate is calculated as 60.1 percent. The employment rate is 54.2 percent and unemployment is 9.9 percent at the national level. Overall, the labor force participation rate has increased by 1.3 percent and unemployment has decreased by 1.2 percent relative to the previous year.[22] The total number of unemployed population is 88,907, of which 62.1 percent are male and 37.9 percent are female.[23] Within all types of economic activities, the share of the employed population who has successfully completed secondary education is high. In the agriculture and forest sectors, however, the share of population who did not complete secondary education is higher; 11.2 percent of the population employed in these sectors have no formal education. This indicates that a majority of people engaged in these sectors are less educated and have not pursued any qualification studies.[24]

According to a study conducted by the Research Institute for Labor and Social Protection (RILSP) in 2018,[25] 70.2 percent of total TVET graduates are employed,[26] 12.1 percent are

[20] UNDP. (2018). Human Development Indices and Indicators Report.
[21] Website of NSO of Mongolia, www.1212.mn.
[22] RILSP. (2018). Labor Market Barometer Survey.
[23] NSO, 2019 Statistical Bulletin.
[24] ADB, MES, (2019). Lifelong Education Sub-sector Analysis Report.
[25] RISLP. 2018. TVET Graduate Follow-up Studies.
[26] 2015-2016 graduates from universities and TVECenter.

unemployed, and 17.7 percent are registered as economically inactive. Of the total number of higher education institution (HEI) graduates, 75.2 percent are employed.

In recent years, internal migration and rapid urbanization have been identified as key challenges. Figure 2.2 shows urbanization trends up to 2050.[27] The figure illustrates that by the year 2030, 78.61 percent of a total population will be living in urban areas. By 2049, 77.39 percent will be living in urban areas. This is going to result a significant burden or load on education, social welfare and health care services.[28]

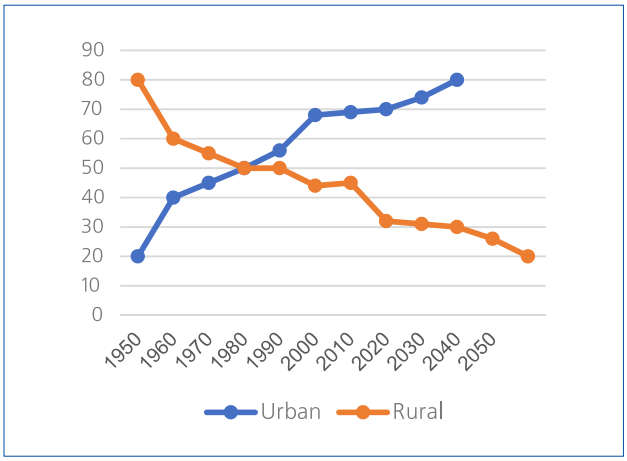


Figure 2. 2 Mongolian population and urbanization trends up to 2050

Economic Context and Trends

Mongolia's Gross National Income (GNI) per capita reached USD 3,800 in 2018, and the Gross Domestic Product (GDP) was 32.2 trillion MNT. This was 4.3 trillion MNT higher than the previous year (15.3).

Table 2.1. Population of selected countries, GNI, GDP, 2018, (WB classification by income and region)

Country	HDI	HDI ranking	Life expectancy /year/	Expected years of schooling /Year/	Years of schooling	GNI Per capita (2011 PPP$)
Mongolia	**0.741**	**92**	**69.5**	**15.5**	**10.1**	**10103**
Kyrgyzstan	0.672	122	71.1	13.4	10.9	3255
Turkmenistan	0.706	108	68	10.8	9.8	15594
East Asia and pacific countries	0.733		74.7	13.3	7.9	13688
HDI high ranked values	0.757		76	14.1	8.2	14999

Source: World Bank, Global Development Indicators 2018.

Compared to other countries with a similar social and demographic context, Mongolia is ranked as average in terms of social indicators.

[27] https://ourworldindata.org/urbanization.
[28] NSO website.www.1212.mn.

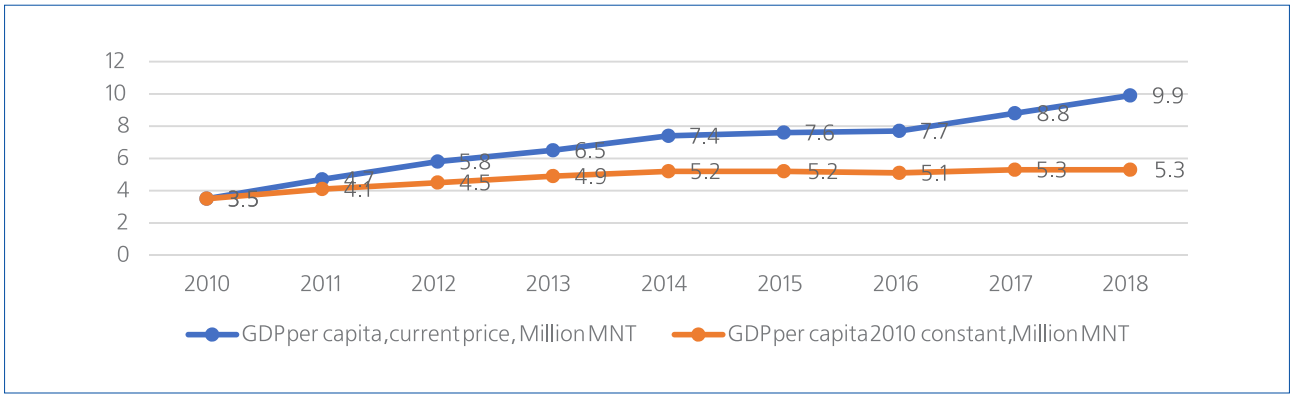


Figure 2.3. GDP per capita (million MNT), 2010-2018

GDP growth increased over the last decade, as shown in the next table; and GDP per capita reached 9.9 million MNT (USD 3,740 USD) in 2019.

According to projections by international donor organizations, GDP growth will likely increase by 5 percent over the medium term. The Ministry of Finance and IMF projections for GDP growth are shown in Table 2.2.[29]

Table 2.2. Mongolia`s GDP growth trends and projections

	2016	2017	2018	2019	2020	2021
Real Sector						
GDP, nominal price (billion MNT)	23886.4	27438.0	31992.2	36190.0	40529.5	44873.8
Mining sector GDP, (billion MNT)	4768.4	6069.0	7408.9	7483.4	7697.3	7988.7
Non-mining sector GDP, (billion MNT)	19118.0	21369.0	24583.4	28706.6	32832.1	36885.1
GDP actual growth (percent)	1.0	3.3	4.2	8.0	6.0	6.0
Actual growth of mining sector	0.7	(7.4)	3.9	3.1	0.2	11.5
Actual growth of non-mining sector	1.1	6.8	4.3	9.4	7.7	4.6
Export size (total)	6063.0	6210.0	7674.0			
Import size (total)	4208.7	4371.4	6184.8			
Balance of foreign trade (million USD)	1854.3	1838:6	1489.2			
Consumer price growth (at year end)	0.5	7.7	8.6	8.0	8.0	8.0
USD rate (year end)	2165.0	2469.9	2501.8	2468.0	2470.0	2470.0

Source: MOF, IMF.

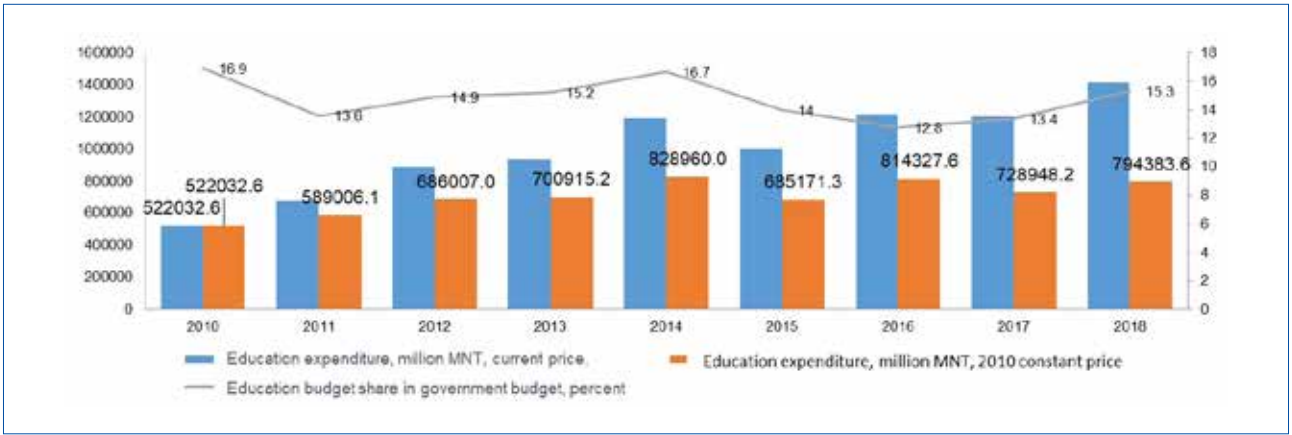
[29] https://mof.gov.mn/article/entry/mongol-uls.

2.2 EDUCATION SECTOR RESOURCES AND OPPORTUNITIES

Finance and Investment

The share of the education budget in Mongolia's GDP averaged 4.3-6.5 percent over the past 10 years (Figure 2.4). This suggests that education expenditure has reached the global average (5%). Figure 2.4 shows education budget expenditures and the share of education in the government budget during 2010-2018 in current and nominal prices.[30]

Figure 2.4. Education budget expenditure dynamics, nominal and 2010 current prices



Source: NSO, MOF

In conformity with relevant provisions[31] of the Education Law of Mongolia, both state and private educational institutions are funded based on fixed, normative costs. In 2016, the Government of Mongolia approved Resolution No. 242,[32] "Approval of average normative for variable cost and financing methodology." State and private kindergartens, schools and vocational schools are funded applying these norms.

The funding formula considers several components (economic categories) and separate estimations of average variable cost per student in private schools, to enable a detailed allocation of funding, as shown in Table 2.3.

[30] ADB, MES. 2019. Education Financing and Investment Report.
[31] Mongolian Law on Education, provisions 40, 41.
[32] https://www.legalinfo.mn/law/details/11937?lawid=11937.

Table 2.3.Components of variable costs

№	INDICATORS	
1	Teacher salary and incentives, kindergarten and dormitory teachers and staff salary and some additional benefits. Some additional benefits include supplementary salary for rural employment, special skills, classroom teacher, and teaching methodology	
2	Social insurance premium payable by employer for basic and additional salary of teacher	
3	Other variable costs of goods and services	1. Training and production practice
		2. Stationery
		3. Books and publications
		4. Mailing and internet fee
		5. Domestic work trip
		6. Inexpensive household items
		7. Clothes and soft items
		8. Medications
		9. Waste disposal, disposal of rodents and disinfectants
		10. Fee for outsourcing of common work and service
		11. Other goods and services

Source: MES.

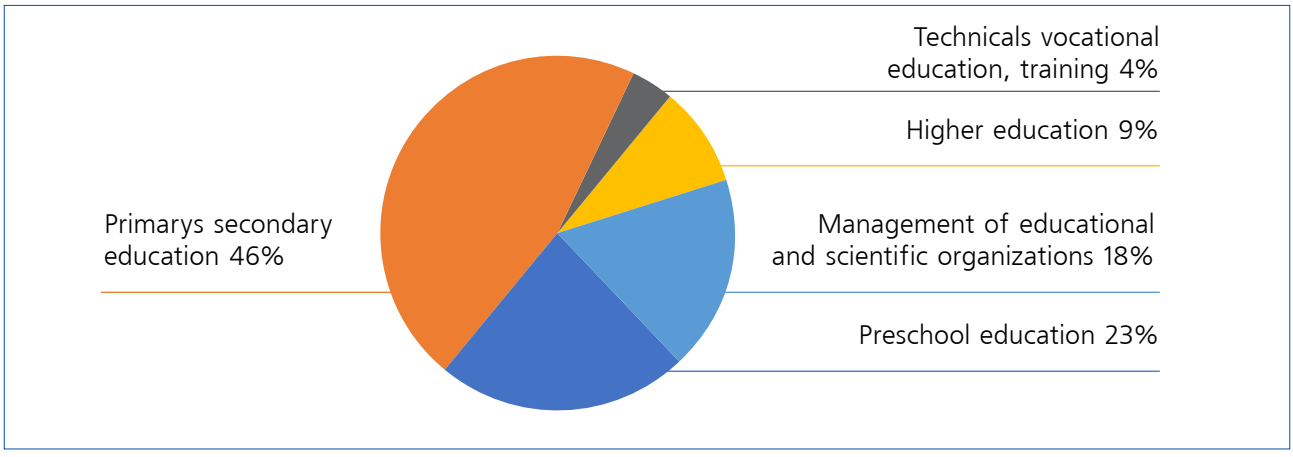
Under the Education Law of Mongolia, all kindergartens, schools and vocational schools are funded applying norm-based funding; and as of the 2019 physical year, the following norms are applied.

Table 2.4. Variable cost normative (thousand MNT), as of 2018

Items	Kindergarten	School	Resolution
Variable cost per child per year			
Aimag and soum center	905.3	437.9	Government Resolution No. 242 of 2016
Metropolitan area	807.8	374.0	
Dormitory		387.5	
Meals per day	1.650		Government Resolution No. 106 of 2012
Meal for dormitory children per day		2.315	
Lunch/tea per day for 1-5 grade pupils		0.600	
Lunch meal per day for special education schools		2.400	Government Resolution No.162 of 2017

Source: MES.

Figure 2.5. Education sector budget expenditure structure by sub-sector, 2018



As of 2018, 46 percent of the education budget was spent in the primary and secondary sub-sectors, 23 percent on pre-primary education, 18 percent on management of the MES, 9 percent on higher education, and 4 percent in the vocational education and training sub-sector. The 4 percent allocated to vocational education and training can be explained by the fact that VET is attached to the Ministry of Labor and Social Protection (MoLSP); thus, most of its budget is allocated from the MoLSP budget package. The 4 percent to VET from the government budget goes to fund the delivery of general education courses to students in VET schools.

On average, over the last 10 years, about 85 percent of budget expenditures on education has been spent on recurrent or daily consumption expenditures, and about 15 percent on investments or long-term funding. During 2017-2018, the education sector investment policy was aimed at increasing pre-primary enrollment, eliminating three shifts in general education schools, and financing construction, repair and equipment.[33]

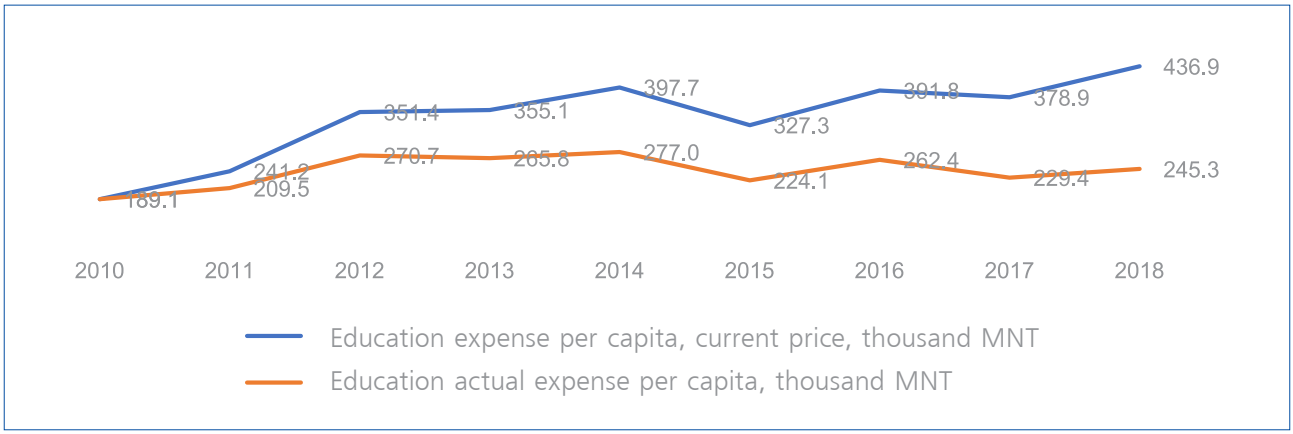
Table 2.5. Education sector investment amount (million MNT), and share of the Minister of Education budget package of 2015-2019

Indicator	2015	2016	2017	2018	2019
Total investment (including loan)	127,905.5	179,305.9	178,475.0	371,082.7	616,453.7
Education sector investment	96,701.6	115,107.1	77,197.5	211,642.6	488,997.2
Percentage of the total investment	75.6%	64.2%	43.3%	57.0%	79.3%

Source: MES.

As of 2019, sector investment has improved by 488.9 billion MNT and increased fivefold compared to 2015. In 2018, there were 32.4 students per 1000 population and the education budget per capita has been increased over the last ten years.[34]

Figure 2.6. Education expense per capita, nominal and real prices (thousand MNT), 2008-2018



Source: MES

[33] ADB, MES. 2019. Education Sector Finance and Investment Report.
[34] ADB, MES. 2019. Education Sector Finance and Investment Report.

The state budget for 2008-2017 included 2586.0 billion MNT for investment in the education sector, but actual investment was only 880.0 billion MNT (34 percent of the target). The performance of the investment varied throughout the fiscal years, but averaged around 34 percent. In 2010-2018, a total of 536 projects were implemented in the sector; the number of seats was increased by 103453 and a total of 657.5 billion MNT was spent. However, there was a lack of financial management and solutions for the realization of investment needs and financial and social benefits. The table of estimates below shows the shift usage coefficient of the buildings of general education schools.[35]

Table 2.6. Shift coefficient distribution of general education schools, by property type and classification

Shift coefficient	Property type	Number	Elementary school	Secondary school	Upper secondary school	Complex school
Up to 0-0.1	State-owned	24	3	5	15	1
	Private	11	3	-	8	
0.1-0.5	State-owned	59	18	23	18	
	Private	53	11	-	40	2
0.5-1	State-owned	181	18	56	101	6
	Private	64	8	-	54	2
1-1.5	State-owned	187	8	23	144	12
	Private	15	2	-	13	
	State & private owned	1			1	
1.5-2	State-owned	117	3	6	95	13
	Private	2			1	1
2 and above	State-owned	87	5	2	72	8
	Private	1			1	
TOTAL		802	79	115	563	45

Note: EMIS researchers' calculations based on UNESCO's EPSSim program information.

Based on 2017-2018 academic year statistics,[36] a projection has been made on the shift usage coefficient of secondary school buildings used by private and state-owned secondary schools, and there is a vast difference between the two. For instance, in Ulaanbaatar, state-owned secondary schools have three shifts, while in rural areas, secondary schools do not have a sufficient number of students. Private secondary schools have fewer students than state- owned secondary schools.

Capacity of Professional Institutions

The Education Law and other legal instruments and policies are implemented under leadership of the Ministry of Education in cooperation with professional and training institutions. Government and national professional institutions are (i) MES, (ii) the Mongolian Institute for Educational Research (MIER), (iii) the Education Loan Fund, (iv) the National Council for Educational Accreditation (NCEA), (v) the Institute of Teacher`s Professional Development (ITPD), (vi) the National Center for Lifelong Education (NCLLE), (vii) the Education

[35] ADB, MES. 2019. Education Sector Finance and Investment Report
[36] MES, EMIS data and projection

Evaluation Center; and at regional level, (viii) the Education and Culture Department and (ix) the Lifelong Education Center. Since 2012, technical and vocational education and training has been under management of the Ministry of Labor and Social Protection; and key professional institutions in TVET are (i) the National Council for Vocational Education and Training, (ii) the Department of TVET Policy Implementation and Coordination within MoLSP and (iii) the TVET Evaluation, Information and Methodology Center.[37]

An assessment has identified the following issues and challenges in relation to these education institutions[38]:

- Lack of inter-ministerial and inter-institutional coordination mechanisms;
- Frequent changes of staff and leaders, leading to a lack of continuity of policies and sustainable implementation;
- Lack of data-driven planning and management system;
- Limited budget, organizational structure and capacity of professional institutions, leading to improper operation of legal functions;
- Insufficient research materials and online/offline library to access education research findings from the higher-rank journals and references;
- Lack of professional development opportunities for staff of MIER, NCEA, NCLLE;
- Lack of autonomy and independence of education institutions, which negatively impacts financial and operational planning and implementation;
- Staff lack opportunities and funding to visit schools and oversee implementation of policies and programs;
- Lack of VET management and information system negatively impacts policy implementation.

Under the Education Law, the rights and responsibilities of education leaders are formulated in a centralized administrative manner, which limits the implementation of legal provisions related to decentralizing school and local education management. The sector also faces challenges in establishing a system for preparing mid to high-level staff,[39] ensuring the sustainability of human resources and developing professional skills. Furthermore, the institutions encounter difficulties in providing consultancy and professional management services to the sector units.[40]

Capacity of Training Providers

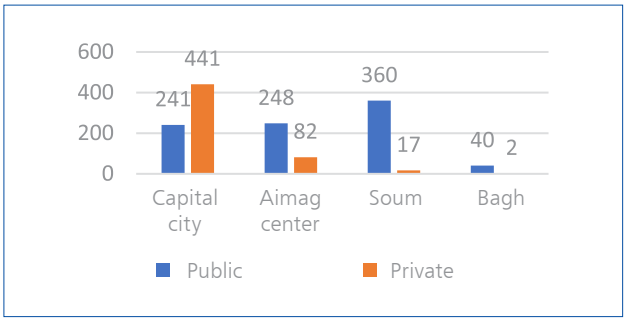


Figure 2.7. Number of kindergartens

In the 2018-2019 academic year, a total of 1,435 kindergartens were operating throughout the country. Of these, 889 kindergartens are state owned and 546 are privately owned (Figure 2.7). Of the state-owned kindergartens, 27.1 percent are in Ulaanbaatar, 27.8 percent are operating in aimag centers, 40.4 percent are in soum centers, and 4.4 percent are in bag centers. Eighty percent of the privately owned kindergartens are in Ulaanbaatar. During the 2018-2019 academic year, a total of 261,354 children were covered. Of these, 239,764

[37] Formerly, VET Assessment Center, restructured in 2019 as TVET Evaluation, Information and Methodology Center,
[38] Interviews were conducted with senior managers of MES and professional organizations.
[39] Including MOE specialists, staff of local education departments, MIER researchers, ITPD methodologists, EEC officers, school principals and managers; and under the MoLSP, VETPICD specialists, VET AMIC staff, VET school principals and managers.
[40] ADB, MES. 2019. Primary and Secondary Education Sub-sector Analysis Report.

preschoolers (91.7 percent) were enrolled in regular kindergarten and 21,590 (8.3 percent) were enrolled in alternative programs.

A total of 7,903 classes were full and operational. The number of students in class was 36.9 percent in state-owned kindergartens and 22.6 percent in privately owned kindergartens.

As of 2018, there are 27,172 people employed at preschool education institutions. Five percent are kindergarten principals, 2 percent are methodologists, 28 percent are teachers, 26 percent are assistant teachers, 39 percent are other staff members. Of the teachers, 88 percent are classroom teachers, 9 percent are music instructors and one percent are teachers at alternative preschool education services.[41]

According to MES projections based on EMIS data, there will be only a small increase in the number of children in the 0-5 age group and a decrease in the number of age 5 children until 2024, then a slight increase in 2024 (81,947), then a decrease down to numbers similar to 2019. Therefore, it is likely that the net enrollment rate of preschoolers may not increase more than 2 percent until 2030.[42]

Also in the 2018-2019 academic year, a total of 803 (public 656, private 147) primary and secondary schools were operating. Of these, 558 are in rural areas and 245 are in Ulaanbaatar. These schools have a total of 20,574 classes with 593,150 students and 49,441 staff, of which 30,411 are full-time teachers.[43] According to 2018-2019 academic year statistics, 8,451 students are attending 212 third-shift classes in 28 schools. Of the 28 schools with three shifts, 7,743 students are in 188 classes in Ulaanbaatar. This indicates that school location and student load are imbalanced between urban and rural areas.[44]

Class sizes are different among education levels; on average, there are 30.3 students in primary classes, 26.9 students in lower secondary classes and 30.3 students in upper secondary class. When the class size is further analyzed nationwide, the average class size is 31.5 students in urban areas and 26.1 students in rural areas (30.7 at aimag center schools, 24.5 at the bag and khoroo levels, and 18.2 in rural village schools). In the 2017-2018 academic year, 6.1 percent, or 35,012 students, were enrolled at private secondary schools. In last twelve years, the number of students enrolled at private secondary schools increased by 1.1 point annually. (Figure 2.8). In 2006, the rate of students enrolled at private secondary education was 5.3 percent; in 2015, it was 5.8 percent (5.6 percent in primary schools, 5.0 percent in lower secondary, and 7.2 in upper secondary).

Based on population growth projections[45] and the subject syllabus for 2018-2019, approximately, 30,000 teachers will be needed by 2030.[46]

[41] ADB, MES, 2019. Pre-primary Education Sub-sector Analysis Report.
[42] MES, 2019. EMIS projection.
[43] MES. 2019. 2018-2019 academic year statistics.
[44] ADB, MES. 2019. Primary and Secondary Education Sub-sector Analysis Report.
[45] Please refer to demographics in this chapter.
[46] Based on 2018-2019 training plan and annual retirement projections.

Figure 2.8. Numbers of students enrolled at state-owned and private schools

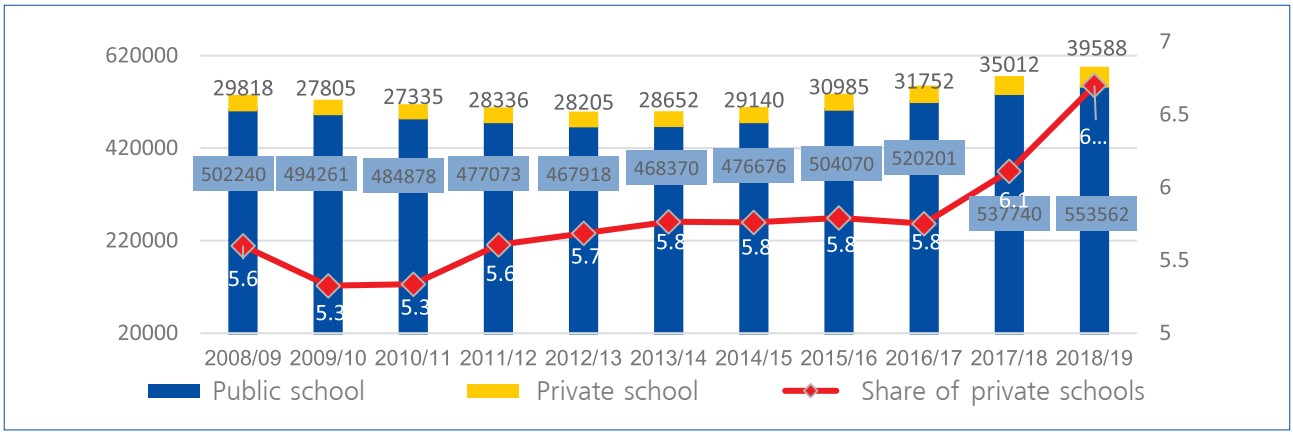


Table 2.7 shows the number of teachers required for primary and secondary schools to 2030.

Table 2.7. Number of school teachers required for primary and secondary schools

№	Subject	2018			2020		2025		2030	
		Current	Total	New	Total	New	Total	New	Total	New
1	Primary class	10397	10759	362	11727	1590	12265	3428	12696	5158
2	Mongolian language, scripts and literature	2654	3370	716	3808	1220	5257	3001	5762	3838
3	Math	2363	2425	62	2740	436	3783	1774	4147	2433
4	Information technology	705	703	-2	795	107	1097	498	1203	691
5	Physics	998	1137	139	1285	312	1774	925	1944	1221
6	Biology	844	1137	293	1285	462	1774	1056	1944	1332
7	Chemistry	739	1137	398	1285	564	1774	1145	1944	1408
8	Geography	602	758	156	856	269	1182	671	1296	860
9	History	634	954	320	1078	460	1488	949	1631	1171
10	Social study, Citizen`s education	1106	1716	610	1939	861	2677	1737	2934	2133
11	Fine art, topography	1943	2684	741	3033	1139	4187	2536	4590	3181
12	Music	1080	1413	333	1597	544	2204	1286	2416	1633
13	Physical education	2042	2308	266	2608	617	3601	1865	3947	2467
14	Health	345	813	468	919	583	1269	976	1391	1141
15	English language	2766	2341	-425	2646	-51	3653	1301	4004	1998
16	Russian language	720	667	-53	754	52	1041	429	1141	619
	Total	29940	34323	4383	38355	9163	49025	23576	53082	31284

By 2025, 23,576 new teachers will be required for primary and secondary schools.[47] By 2030 teacher need that number is projected to be 53,000, of which 31,284 teachers will need additional preparation.

In the TVET sub-sector, as of the 2018-2019 academic year, a total of 86 polytechnic colleges and Vocational Training and Production Centers (VTPCs) have been providing vocational education and skill training. These colleges and VTPCs have a total of 38,526 students, 4,624 workers, 2,469 primary teachers, 103 directors and deputy directors, 80 heads of training units, 339 managerial level staff and 1,633 other staff.[48]

[47] ADB, MES. 2019. Education Sector Data and Information Analysis Report.
[48] ADB, MES. 2019. TVET Sub-sector Analysis Report.

In the higher education sub-sector, as of academic year 2018-2019, there are 94 institutions, of which 18 are state owned, 73 are privately owned, and 3 are universities with foreign investment. A total of 157,625 students are enrolled in these institutions, of which 87,992 are at state-owned universities, 69,370 students are at private higher education institutions and 263 students are studying at universities with foreign investment. A total of 12,634 people are employed in the higher education sub-sector, of which 6,668 are full-time teachers. Of all full-time teachers, 62.7 percent are employed at state owned institutions. Of the newly enrolled students at HE institutions, 71.6 percent are secondary school graduates. Out of the total number of students, 27.5 percent are majoring in business administration or law; 14.8 percent in education; 4.5 percent in engineering or industrial production; and 14.2 percent in health or social protection sector.[49]

Based on population growth projections to 2030, the expected growth of each sub-sector is shown in Table 2.850 and Table 2.9 compares growth projections with baseline data from 2018.

Table 2.8. Projections of student growth

Level	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Pre-primary	312,447	308,213	312,052	315,128	322,460	326,240	324,655	322,659	319,721	317,055	314,949	313,729
Primary secondary	697,205	734,991	770,085	805,629	835,460	865,749	891,865	910,630	923,468	939,660	949,353	954,476
Higher education	189,219	185,184	179,695	174,471	173,074	176,312	189,079	208,872	233,129	250,939	265,730	277,345
TVET	38,257	38,497	39,235	40,382	41,798	43,352	45,438	47,113	48,885	50,829	49,895	54,527

Table 2.9. Children and youth population growth, in comparison with 2018

Education level		2018-baseline	2019	2020	2025	2030
Pre-primary		318,422	312,447	308,213	324,655	313,729
		Growth rate	-2	-3	2	-1
Primary and secondary	Primary	341,257	358,321	371,142	389,702	403,922
		Growth rate	5	9	14	18
	Secondary, upper secondary	321,538	338,884	363,849	502,163	550,554
		Growth rate	5	13	56	71
Higher		190,539	189,219	185,184	189,079	277,345
		Growth rate	-1	-3	-1	46
TVET		38,526	38,257	38,497	45,438	54,527
		Growth rate	-1	0	18	42

Based on these projections, the number of students in secondary and upper secondary school will increase by 56 percent by 2025, and by 71 percent by 2030 in comparison to the baseline.

The number of students in pre-primary education tends to be relatively stable over the period.

On the other hand, the number of students in higher education will increase by 46 percent by 2030. The number of TVET students is projected to increase by 42 percent by 2030.

[49] MES. 2018-2019 academic year statistics.
[50] ADB, MES. 2019. Education Sector Data Analysis Report.

2.3 SUMMARY OF ISSUES AND CHALLENGES IN THE EDUCATION SECTOR

The issues and challenges discussed in this section are divided among the key priority areas that frame the ESMTDP. Though there are some sub-sector specific issues, many issues and challenges are germane to the sector as a whole. Issues such as legal framework, coordination, human resource capacity, demographic shift, teacher supply, infrastructure, teacher pre-service and in-service training, quality assurance, and infrastructure are among those that affect the entire sector.

The overarching focus of the ESMTDP is on quality human resources, quality of provision, and flexibility through lifelong learning, within an overall framework of quality, access, and governance. Three overarching issues and challenges related to these issues are highlighted below:

Policy Environment. The Law on Education (2016) governs the sector, with numerous policy amendments to address specific policy issues that have subsequently emerged. As the current legal framework is not forward thinking, however, an education policy review will be necessary to achieve the development vision and priorities defined by the government. For instance, the current policy designates school leaders as administrative, with no responsibility for academic leadership–a necessary responsibility of school leaders. Further, the purpose of ICT in education, its integration with curricula and learning outcomes, and its financial support are not well defined. The purpose of higher education is defined as primarily academic, with little provision for linkages to industry or more professional alignment with emerging marketplace needs. There are many more examples that are identified within specific priority areas.

Demographic Bubble. One of the main issues facing Mongolia is the demographic bubble of students currently moving through the education system. Population projections forecast that by 2024, the secondary school student population will nearly double, with impacts felt mostly in the capital city. Moreover, the bubble will move through the system, requiring a huge mobilization of resources to accommodate the surge in students by 2024. Teacher supply and infrastructure capacity are the two main challenges, particularly given the fact that teacher and infrastructure needs for 2024 will diminish by 2030. Low-cost portable classrooms may be one infrastructure solution. The shift in teacher supply needs is a more difficult issue. Pre-service programs can be scaled up, but teacher layoffs will likely be inevitable once the bubble has passed.

Quality of Learning. Learning assessments indicate that Mongolian students struggle with basic literacy (language) and numeracy, as well as science. Students are weak at information processing, critical thinking and problem solving. This reality implies that the means and mode of instruction are not adequate to provide the necessary learning environment for improving learning outcomes. Improvements in human resource capacity, curriculum, school learning environment, and system capabilities are needed to efficiently and effectively deliver quality education. Current pre-service and in-service teacher development is not standards based or coherent. Learning materials production is not defined by a specific policy, and the curriculum cycle is relatively inflexible to emerging learning needs.

Though international attention is on universal access, Mongolia's policy focus for the next ten years is on quality improvement through human resource development. The focus on quality, however, has led the government to identify access priorities, and to propose measures to improve access for children with disabilities and special needs, with a particular focus on herder children's access, school readiness, safety, nutrition, and improved lifelong learning services supported by ICT.

Strengthened Governance, Management, and Administration

Challenge: Lifelong learning as a single vision for the entire sector

One of the key challenges for sector development is to ensure that learning is accessible, flexible, and relevant. Furthermore, Mongolia envisions that the principles of lifelong learning (LLL) should be embedded in all levels of education; i.e.: learning is continuous throughout life; learning takes place in different contexts inside and outside of school; education is holistic and includes academic, process, social and skills competence. According to these principles, lifelong learning is not external to traditional education but is embedded at all levels: in school curriculum, learning materials, pedagogy and school governance, with a focus on learning to learn.

Lifelong education (LLE) in Mongolia is governed as a separate sub-sector that provides equivalency programs for out-of-school adults. There are 354 LLE centers operating throughout Mongolia. The policy on Non-formal education provides the governance framework for LLE. According to priorities identified in the ESMTDP, LLE centers will be transformed into LLL centers to support a broader mandate to provide NQF-based career counselling, online TVET and secondary and higher education courses for students, and professional development access for teachers and school leaders.

Issues:

- National Council for Lifelong Education which governs LLE does not have clear roles and responsibilities;
- There is no designated budget for LLE;
- Local authorities do not have legal right to allocate budget;

Strategy:

- Strengthen life-long education centers to become lifelong learning centers;
- Identify inter-sectorial mechanism for implementing a policy on the lifelong learning;
- Establish LLL information database and have tracer system;
- Restructure Lifelong Education Centers in phases;
- Improve quality evaluation of LLL based on defined standards.

Challenge: Effective investment in the pre-primary education sector to support implementation of policies aimed at improving the school environment, child health and safety, learning materials and necessary toys

According to the Law of Mongolia on Pre-primary Education, the purpose of pre-primary education is to establish a basis for lifelong education that is appropriate to the age, skills and creativity of children through care and protection services and educational training activities.[51] As a joint decision by the MES and the Ministry of Health (MOH), the early child physical development policy aims to promote and regulate coordination and communication among state organizations engaged with child nutrition, social welfare, and protection of children and mothers.[52]

Issues:

- Weak system to monitor food nutrition and safety standards;
- Learning materials and toys do not follow progressive standards or meet the needs of child development;[53]
- Water, Sanitation and Health (WASH) facility standards are inconsistent, particularly for students with disabilities.

Strategies:

- Involve parents to support food and child safety;
- Promote local production of learning materials and toys based on newly defined standards;
- Map kindergartens to establish needs-based WASH facility upgrades.

[51] The Law of Mongolia on Pre-primary Education, 2008.
[52] UNESCO. 2008.
[53] World Bank. 2015. Pre-primary Education in Mongolia Report.

Challenge: Understanding the contextual situation of each school for improved evidence-based, data-driven planning and efficiency

As part of the implementation of previous Education Sector Master Plans, the structure of primary and secondary education was changed twice and school entrance age was set at six years.54 However, information on socio-economic, socio-cultural, demographic, geographic, transportation, and other factors important for effective and efficient planning are not available for individual schools.

Issues:

- Weak human resource capacity to undertake a national school mapping exercise;
- Lack of an MES coordination mechanism for efficient and effective implementation;
- School mapping urgently needed to enable better planning for the projected demographic shift.

Strategy:

- Undertake comprehensive school mapping based on scientific rationale, in-depth study and evidence, in line with the country context and the different characteristics of school children (age, physical and mental development);[55]
- Review and improve EMIS facility to enable better filtering of information, reporting and validation;
- Improve evidence-based, data-driven planning.

Challenge: Improved school leader qualifications and skills[56]

The Law of Mongolia on Education and other laws state that the roles and responsibilities of management staff at all levels of education institutions are administrative. However, within the school community, school leaders are seen as key agents of change and learning.

Issues:

- Policies limit the leadership role of school managers;
- The selection and appointment of primary and secondary education management does not follow defined policy;[57]
- There is no systematic approach or framework to train and re-train school managers.
- Training opportunities are limited.[58]

Strategies:

- Define school leader standards, and reformulate relevant policies;
- Review and update school leader job descriptions based on new standards;
- Review and improve school leader professional development programs;
- Provide continuous professional development for school leaders.

Challenge: Improved coordination within the TVET sub-sector

Since 2012, management of the TVET sub-sector has been under the authority of the Ministry of Labor and Social Protection (MoLSP). According to the Law on Vocational Education, the highest administrative body in the sub-sector is the National Council of Vocational Education, which defines the tasks and duties of school managers and provides inter-sectoral coordination among the relevant ministries, private sector and representative organizations. The MoLSP's department for TVET policy implementation and coordination serves as the central administrative institution for TVET matters, including policy, legislation and implementation of the sub-sector.

Issue:

- Lack of efficiency in the current TVET management system for effective inter-sectoral coordination.

[54] In 2006, the ages for TV Center primary, lower secondary and high secondary were 6, 3 and 3 years, respectively. In 2012, the ages were 5, 4 and 3.
[55] School Mapping Project Report.
[56] UNICEF. 2019. End-User Sample Survey on Education Sector Services – Final Report.
[57] UNICEF. 2019. End-User Sample Survey on Education Sector Services – Final Report.
[58] ADB, MES. 2019. Primary and Secondary Education Sub-Sector Report.

Strategy:

- Establish effective TVET management led by inter-sectoral coordination principles and public-private partnerships.[59,60]

Challenge: Improved quality assurance in the TVET sub-sector

The TVET Assessment Center was established in 2016 with the primary mandate of carrying out competency-based training (CBT) assessments and quality assurance of training institutions. Regional Methodological Centers were established in 2012 under the Regional Development Policy, with the primary mission of developing teachers and implementing the CBT system. These two institutions were restructured in December 2019 as one institution.

Issues:

- TVET program quality assurance system not standardized;
- Lack of efficiency and relevance between CBT curriculum and certification system;
- Lack of cross-sectoral competence framework, leading to weak coherence.

Strategies:

- Improve cooperation among skills-based sectors;
- Strengthen TVET data management;
- Strengthen labor market information system.

Challenge: Align higher education programs with the National Qualifications Framework (NQF) to support professionalism as well as academic achievement

Universities and colleges approved and utilized higher education standards for 130 programs during 2003-2013. Since 2014, higher education institutions have used "The general requirements for bachelor's programs" and "The general requirements for master's programs" as guidelines. Previously, the higher education sub-sector subscribed to a "professional standard" system that emphasized not learning outcomes but rather the core contents of the field of study.[61]

Issues:

- Emphasis on core contents of academic studies detracts from studies relevant to market needs;
- Weak linkages between HE and private industry;
- Lack of capacity for institutional assessment against international standards.

Strategies:

- Update HE qualification indices and programs based on NQF, and disseminate new programs;
- Enhance partnerships between HE institutions and industry;
- Improve linkages of higher education MIS with labor market needs;
- Disseminate outcome-based internal quality assurance system.

Enhanced quality and relevance of education

Challenge: Strengthening lifelong learning centers to align with NQF

The NQF provides a framework for learning hard and soft skills relevant to emerging market needs. Transformation from LLE to LLL to more broadly support all areas of learning will use the NQF as a guiding framework for quality improvement of the system.

Issues:

- High rate of staff/teacher turnover due to poor work environment, lack of social security and other benefits; [62]
- Lack of continuing professional development for LLL center teachers/ staff.

[59] MoLSP. 2019. TVET Development and PPP – Cooperation Memorandum of Understanding.
[60] Operational Procedures of TVET National Council.
[61] ADB. 2019. Higher Education Sub-sector Report.
[62] ADB, MES. 2019. Lifelong Education Sub-sector Analysis Report.

Strategies:

- Implement a National Program on Lifelong Learning;
- Build the capacity of teachers and staff at the Center for Lifelong Learning;
- Strengthen learning assessments aligned with NQF standards.

Challenge: Improving the quality of the pre-primary system, and addressing the skills gaps of underserved children

In 2011, child development standards were approved; and in 2014, a pre-primary core curriculum was developed and implemented. The core curriculum emphasizes that pre-primary education will be based on children's individual development, and includes a mechanism to monitor and evaluate curriculum implementation and child development.

Issues:

- Lack of proper training of school teachers and staff to address underserved learners;
- Skills gaps are high among children from rural areas, vulnerable families, and ethnic minorities, many of whom lag behind their peers in terms of cognitive, language and emotional development;[63]
- School readiness of the underserved is low;[64]
- The difference between pre-primary age children's development is different in urban and rural areas;[65]
- Assistant teachers are not well trained to support academic and social learning;[66]
- The CPD system for pre-primary teachers is not sufficient to address professional development needs.

Strategies:

- Develop and implement pre-primary education curricula and assessment standards;
- Implement a support program for parents with children 0-5 years old;
- Regularly conduct a comprehensive development study of each child;
- Develop and implement pre-primary teacher standards;
- Develop flexible in-service training pathways for pre-primary education teachers;
- Train and develop pre-primary education assistant teachers;
- Develop and implement a regulation to assess school readiness of children aged 5;
- Support open and distant learning initiatives in pre-primary education.

Challenge: Ensuring that primary and secondary curricula remain relevant and support the learning vision of the country

The core curricula were developed during 2012-2018 under a new 10-year curriculum cycle, and are now being implemented. Concepts such as sustainable development, holistic human development, continuous (lifelong) learning, and green environmental issues are included. Academic as well as soft skills are emphasized. These include cooperating with others, developing skills for continuous scientific inquiry, developing and integrating life choices with awareness of the surrounding environment and its importance for social and economic wellbeing. These objectives are strongly related to SDG 2030 goals for Mongolia, and require that school leaders manage more effectively; that school teachers update their teaching and professional competencies; and that school social workers and parents be more supportive of children choosing their own electives. School staff and parents should also ensure that classes are arranged efficiently and reflect the needs of the community and different types of students, and that resources are used effectively.

Issues:

- Implementation has commenced without sufficient school preparedness training;[67]

[63] Wordl Bank. 2018. Монгол улсын цогц дүн шинжилгээ.
[64] ADB, MES. 2019. Pre-primary Sector Study
[65] World Bank. 2015. Pre-primary Education in Mongolia.
[66] ADB, MES. 2019. Pre-primary Sector Study.
[67] ADB, MES. 2019. Primary and Secondary Education Sub-Sector Study Report,

- Assessment of student learning against defined benchmarks is lacking;
- Primary and secondary teacher standards are lacking;
- School-based support for teachers is lacking;
- Mongolian language proficiency is weak among teachers;[68]
- Students' basic skills are low compared with learning standards.

Strategies:

- Implement Curriculum Management Cycle and review the implementation;
- Regularly conduct a comprehensive development study of each child;
- Strengthen standards-based in-service teacher development;
- Develop a Mongolian language proficiency evaluation system;[69]
- Strengthen inquiry learning skills.

Challenge: Strengthening the TVET system to improve market relevance of student skills

Basic indicators for defining the quality of TVET have been graduate employment and acquisition of skills needed for the labor market. The quality and performance of teachers is one of the main factors that directly impact the quality of student training. Optimally, the TVET sector requires an effective pre- and in-service teacher training system to better ensure overall quality. As labor market demand changes, teachers need to develop new competencies to ensure that Mongolian workers have the appropriate skills.[70]

Issues:

- TVET providers do not meet the needs of the labor market;[71]
- TVET providers do not reference recognized standards and requirements for establishing the learning environment, identify the competence framework, use the proper materials and tools, or assess learner outcomes;
- TVET providers do not emphasize the development of soft skills such as attitude toward the job, problem solving, team work, communicating with others and entrepreneurial skills; [72]
- Teachers' skills are not adequate to teach required skills to students;
- There is no effective teacher pre- and in-service training system;[73]
- Teacher Development Centers are not operating at full capacity.

Strategies:

- Develop and implement occupational standards and a competency-based training curriculum;
- Disseminate a TVET teacher development program;
- Enhance the research and innovation capacity of TVET;
- Improve utilization of labor market information for TVET.

Challenge: Transforming higher education to ensure graduates leave with relevant knowledge and skills to meet the needs of Mongolia

Academic coherence among HE institutions is important to ensure equivalency in the delivery of quality programs that give students the opportunity to gain relevant skills for employment and socio-cultural harmony. HE policy focuses on academic achievement through quality programs and strength in research. However, there is increasing emphasis on research and professionalism within HE institutions internationally, in order to bring more relevance into students' studies.[74] To better align HE programs with labor market realities, it has been determined that the course and program indexes for the professions need

[68] ADB, MES. 2019. Primary and Secondary Education Sub-Sector Study Report,
[69] World Bank. (2017. Early Grade Reading and Mathematics Ability Assessment Report.
[70] UNESCO. 2019. Education Policy Review.
[71] ADB, MES, 2019. TVET Sub-sector Study Report,
[72] RILSP. 2018. Graduate`s Employment Survey.
[73] UNESCO. 2019. Education Policy Review.
[74] UNESCO, MIER. 2019. Education Policy Review Country Background Paper.

to be renewed to ensure professional alignment and marketplace relevance.[75] A further shift from the andragogical, constructivist approach to a heutagogical self-directed, connectivist approach should be encouraged.[76]

Issues:

- Academic programs among institutions are not of equivalent quality;
- Recruitment in many institutions is driven by financing;
- Poor employment of graduates due to oversupply in the labor market;
- Curricula are not aligned to the structure and demands of national and domestic labor markets and characteristics;
- Ineffective forms of teaching and learning, and weak promotion of research-led teaching;
- A lack of open and distance learning opportunities.

Strategies:

- Update HE qualification indices and programs, and disseminate new programs that embed national identity;
- Develop HE internship program;
- Implement HE professional excellence program;
- Develop and support open and distance learning initiatives and resource materials;
- Enhance partnership between HE institutions and industries.

Increased equitable access and retention

Challenge: Improving access to lifelong education for all citizens

Lifelong education includes the following key areas: 1) Literacy curriculum, 2) Equivalent training curriculum, 3) Life skills and other (family, civic, moral maturity, life science, and aesthetic).[77] During 2007-2018, a total of 78,499 citizens were covered by the literacy curriculum implemented by the Lifelong Education Centers; 80 percent were young adults age 15 and older. Of the participants under 15 years, the majority were children with disabilities. The equivalent training curriculum is open to any citizen who is willing to obtain primary and secondary education. Citizens or groups covered by this service are children, youth, adults, housewives, unemployed, migrants, pre-kindergartens, their parents, vulnerable groups, and disabled people who have dropped out and are out-of-school. Illiterate and dropouts, especially those who are over 15 years of age, are among the majority of learners in equivalent training.

Issues:

- The literacy program is perceived as dedicated to dropouts or children with disabilities;
- There is limited access to education for young people with disabilities;
- Nearly half the total number of congenitally disabled youth are illiterate or uneducated;[78]
- Limited access by those living in rural and remote areas;
- Sixty percent of lifelong education centers do not meet hygienic requirements; desk chairs are insufficient, non-standard and non-ergonomic for adult bodies;[79]
- Demand for learning materials exceeds their availability in most centers.

Strategies:

- Improve infrastructure of the Lifelong Education Centers to support lifelong learning;
- Identify form and type of lifelong learning at each educational level and its alignment with the NQF.

[75] UNESCO, MIER. 2019. Mongolia Education Policy Review.
[76] UNESCO, MIER. 2019. Education Policy Review.
[77] ADB, MES. 2019. Life-long Education Sub-sector Study Report.
[78] UNDP. 2016.
[79] National Center for Lifelong Education. 2018.

Challenge: Achieving 100 percent access to pre-primary education

During the 2018-2019 academic year, access to pre-primary education was 82.8 percent.[80] Attendance of children aged 3- 5 years living in urban areas was 81.4 percent, compared to 58.2 in rural areas. The wealth index indicates that children from the fifth quintile have a higher likelihood (88.5 percent) of being placed in kindergartens, followed by the fourth (86.5 percent), second (79.9 percent) and middle (77.2 percent) quintiles. Only 34.1 percent of preschool children from the poorest families attend kindergartens.[81] Of the total number of children enrolled in pre-primary education, herders' children make up 11.5 percent. Only 45.2 percent of herder children are enrolled in kindergartens compared to 90.2 percent of children residing in aimag centers.[82] The enrollment of herders' children by year shows that during 2006-2015, their numbers increased by 44 percent but fell by around 9 percent in 2018. Nationwide, pre-primary enrollment of children with disabilities was 21.4 points lower than average enrollment.[83] Approximately 30 percent of total non-state kindergartens have inadequate arrangements for storage and processing of children's food (27.1 percent of them are at high risk of food-borne illness), lower access to the outdoors, inadequate child safety measures (25.1 percent are at high risk of injury), as well as inadequate teacher training.[84]

Issues:

- Lack of proper understanding, knowledge and experience among parents on the importance of early childhood education and development for school preparedness;[85]
- Significant disparity in access between urban and rural pre-primary aged students;
- Herder children's access is significantly lower that all other demographic groups;
- Access by children with disabilities is low;
- Lack of kindergarten food safety.

Strategies:

- Improve pre-primary education environments to be more inclusive and accessible for children with disabilities;
- Improve food safety and nutritional value of kindergarten meals.
- Ensure 100 percent enrollment of children from vulnerable groups and herders in pre-primary education.

Challenge: Improve TVET learning environment to enable the achievement of relevant skill competencies

Overall, there were 38,526 students in the 2018-2019 academic year, of which 15,097 were female. In terms of location, 19,085 students were in the city and 17,954 were in rural areas. Of the total number of students, 18.4 percent study technical education, 77 percent participate in vocational education programs, and the remaining 4 percent participate in professional training to get a competency certificate. In general, the enrollment rate for TVET tends to be dependent on political and government decisions on financial incentives or stipends provided by the TVET schools. This results in the formal TVET enrollment capacity being under-utilized.[86] Instead of utilizing an incentive-based TVET enrollment policy, the sector policy shall henceforth be focused on promoting lifelong learning opportunities for all citizens to support the acquisition of new knowledge and skills, while supporting and recognizing their prior learning. There is still a need to develop individual trainings and curricula for citizens with disabilities.[87] The equipment, buildings, furniture and other materials used

[80] GPE, Education Alliance. 2019. Pre-primary Education Sub-sector Analysis.
[81] Children from those households under the poverty line, HH livelihood status is assessed through proxy means testing (PMT) methodology, and households are divided into 20 different groups depending on their score.
[82] NSO, UNFPA, UNICEF. 2018. Multiple Indicator Cluster Survey (MICS).
[83] GPE, EDU Alliance. 2019. Pre-primary Education Sub-sector Study Report.
[84] ADB. 2019. Pre-primary Sector Study.
[85] GPE, EDU Alliance. 2019. Pre-primary Education Sub-sector Sudy Report.
[86] UNESCO. 2019. Education Policy Review.
[87] UNESCO. 2019. Education Policy Review.

in the vocational education and training sector are generally outdated and do not meet the demands of industry.[88]

Issues:
- TVET providers lack adequate infrastructure, equipment and ICT;
- TVET facilities are not used efficiently;
- Lack of specialized TVET institutions leads to inefficiencies;
- TVET financing does not keep pace with demand;
- Access to services is limited to schools; little flexibility for learners far from TVET facilities;
- No system to recognize non-formally acquired skills.

Strategies:
- Upgrade infrastructure, equipment, technology and simulation technology at TVET institutions;
- Promote shared workshops among TVET providers;
- Develop specialized TVET schools;
- Develop partnerships for local production of learning materials, tools and furniture;
- Increase TVET access through the promotion of various modalities and lifelong, continuous and flexible learning pathways;
- Scale up student support services;
- Establish and implement a Recognition of Prior Learning (RPL) system.

Challenge: Improve the higher education environment and accessibility for a more relevant and flexible system

Share of the senior secondary school graduates in total entrants in HEI were, on average, 74 percent during 2007-2009, 70 percent during 2010-2013, and 81 percent during 2014-2018. In academic year 2017-2018, 59.4 percent of the total number of graduates were female and 40.6 percent were male, a gender gap of 1.46 (146 female graduates per 100 male graduates). To improve the overall quality of enrollment and prepare qualified personnel for the labor market, the threshold score to enter an HE institution is 480 for both public and private schools, according to the Decree №A/195 of Minister of MES. Starting in 2018, applicants from rural areas with scores of 420 have been admitted in order to increase enrollment from rural areas. Although it has been repeatedly reflected in national policy and priorities that higher education must coincide with labor market demand, it still does not do so.[89] There is also a need to formulate policy solutions to increase the quality of HE in rural areas and reduce the differences in quality of education services among urban, rural and regional centers. The quality and effectiveness of HE can also be improved by increasing open sources and online platforms for HE programs, and providing professional development and lifelong learning opportunities for graduates.[90]

Issues:
- Outdated infrastructure;[91]
- HE admission policies do not measure future academic success or knowledge, skills, attitude and character at graduation;[92]
- Access to HE services limited to urban and regional institutions.

Strategies:
- Upgrade infrastructure of HE institutions;
- Revise undergraduate and graduate admission procedures;
- Promote flexible learning policies to include delivery of online and distance courses.

[88] UNESCO, MIER. 2019. Mongolia Education Policy Review - Country Background Paper.
[89] UNESCO, MIER. 2019. Education Policy Review.
[90] UNESCO, MIER. 2019. Education Policy Review.
[91] ADB Higher Education Sub-sector Study.
[92] ADB Higher Education Sub-sector Study.

CHAPTER THREE. EDUCATION SECTOR MID-TERM DEVELOPMENT AREAS AND OBJECTIVES DURING 2021-2030

- **Aim of the Education Sector Mid-Term Development Plan**
- **Principles of the Education Sector Mid-Term Development Plan**
- **Policy Priorities in the Education Sector Mid-Term Development Plan**
- **Scope and Timeline of the Education Sector Mid-Term Development Plan**
- **Summary of Objectives and Outcomes**

CHAPTER THREE. EDUCATION SECTOR MID-TERM DEVELOPMENT AREAS AND OBJECTIVES DURING 2021-2030

3.1 AIM OF THE EDUCATION SECTOR MID-TERM DEVELOPMENT PLAN

The aim of the ESMTDP is to ensure the holistic development of Mongolian citizens, with competencies to work and live in the digital era, actively participate in knowledge-based society, and engage in lifelong learning through quality, open, inclusive and flexible education services that meet their development needs. The Plan envisions the continuous development of the human being from birth throughout life by keeping pace with the Industrial Revolution 4.0, while considering the fact that new technologies such as the Internet of Things, Big Data and Artificial Intelligence are concretely influencing the industrial sectors.

3.2 PRINCIPLES OF THE EDUCATION SECTOR MID-TERM DEVELOPMENT PLAN

With its focus on holistic human development, the Plan is based on the following overarching principles:

- Provide equal opportunity to all citizens to access education services;
- Strengthen and support shared responsibility and accountability among stakeholders;
- Strengthen sustainable and professional management in the sector;
- Ensure vertical and horizontal linkages of education policies;
- Utilize smart and digital technology at all education levels;
- Promote green development in learning environment and materials.

3.3 POLICY PRIORITIES IN THE EDUCATION SECTOR MID-TERM DEVELOPMENT PLAN

In the development of lifelong learning for all citizens through quality education, the ESMTDP prioritizes:

1. Quality and relevance

Various studies and analyses of the education sector, as well as a series of discussions with stakeholders, have shown that the most challenging issue in the sector is low quality and lack of relevance of education services. In particular, student low performance and lack of skills demanded by the labor market, the urban-rural achievement gap, and learning gap due to socio-economic status are the most important areas for quality improvement. Strategies have been identified to enhance the quality of curricula and training programs, promote integration among different programs, improve linkages between the curriculum and assessment, strengthen teacher capacity, promote smooth transitions among the education levels and increase relevance to the labor market. The strategies give specific attention to improving the quality of rural schools and teachers.

2. Equal access and inclusiveness

The Education Sector Medium-Term Development Plan aims to ensure the holistic development of Mongolian citizens through quality, open, inclusive and flexible education services that enhance their capacity to live and work in the digital technology era, actively participate in knowledge-based society and engage in lifelong learning. Moreover, to enable students with special needs be included in mainstream schools and training organizations, it is necessary to provide an enabling environment and identify more alternative education services for children from herder and disadvantaged families.

3. Efficiency of Governance, Management and Administration

Mongolia's education sector faces a particular governance and management challenge related to the lack of a sustainable human resources policy. Resources for education management are changed every four years based on political decisions, which affects the continuity and sustainability of policy implementation. Once

new management is appointed, implementation of the previous policy is often suspended and a new policy initiated without proper evidence. This has been an obstacle to development of the sector. To address this challenge, the ESMTDP identifies strategies to enhance coordination and build the capacity of professional education organizations; implement human resource policies that are merit based and independent of political decisions; promote evidence-based, data-driven policy planning; and disseminate an internal and external quality assurance management system. The human resource policy shall not only modify the present appointment mechanism for education leaders but also improve teacher management. In addition, to promote the efficiency of the system, the Plan promotes pre-primary, primary and secondary school mapping and reorganization.

3.4 SCOPE AND TIMELINE OF THE EDUCATION SECTOR MID–TERM DEVELOPMENT PLAN

The Plan is intended to develop the lifelong learning, pre-primary, primary, secondary, technical and vocational education and higher education sub-sectors for the period 2021-2030.

3.5 SUMMARY OF OBJECTIVES AND OUTCOMES

Summary of Objectives

1. SECTOR LEVEL

Code[93]	Objectives
1.1	Enhance quality, integration and relevance of education services
1.2	Increase citizens' opportunities to access equal and inclusive education throughout their life
1.3	Enhance efficiency of education governance, management and administration

2. PRE-PRIMARY EDUCATION

Code	Objectives
2.1	Strengthen the quality of pre-primary education services, focusing on children's holistic development and ensuring relevance to next level of education
2.2	Increase children's opportunities to access pre-primary education services regardless of their level of development, geographical location and socio-economic status
2.3	Improve the efficiency of pre-primary education providers' management and administration

3. PRIMARY AND SECONDARY EDUCATION

Code	Objectives
3.1	Improve the quality and relevance of primary and secondary education
3.2	Increase all children's opportunities to access primary and secondary education regardless of their level of development and geographical location, and promote equal and inclusive education services
3.3	Strengthen primary and secondary education management and administration to enhance the efficiency of schools

4. VOCATIONAL EDUCATION AND TRAINING

Code	Objectives
4.1	Improve the quality of TVET, ensuring relevance to learner needs, labor market demand, employer requirements and international standards
4.2	Enhance TVET access and inclusiveness by expanding flexible and open learning opportunities, to enable citizens to upgrade their technical and vocation competencies throughout their life
4.3	Establish autonomous TVET governance and management with public-private partnerships and cross-sector coordination

[93] First digit of the code represents the sector or sub-sector, and second is priority area.

5. HIGHER EDUCATION

Code	Objectives
5.1	Improve the quality of higher education, respond to learner needs and aligning with the science and economic priorities of the country and international standards
5.2	Increase higher education equal opportunities through the promotion of a flexible, open education system
5.3	Strengthen higher education governance and management

Summary of Expected Outcomes

1. SECTOR LEVEL

Code	Outcomes
1.1	The quality and relevance of education at all levels will be equivalent in urban and rural areas; and qualified, professional, sustainable human resources will have been established in the sector
1.2	Citizens will have been provided with equal and inclusive lifelong learning opportunities to access education services regardless of time, location and level of development
1.3	Efficiency at all levels of education will have been enhanced

2. PRE-PRIMARY EDUCATION

Code	Outcomes
2.1	All children aged 5 will have been properly prepared for primary school
2.2	Children, especially those from herder and vulnerable families and children with special needs, will have accessed pre-primary education services aligned with their needs and potentials
2.3	Quality assurance tools for effective policy implementation outcomes will have been developed and utilized

3. PRIMARY AND SECONDARY EDUCATION

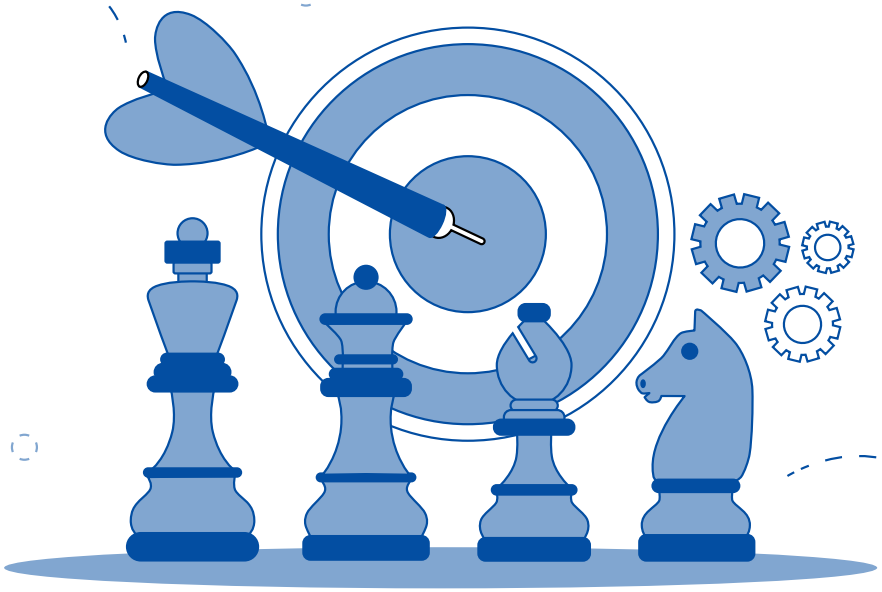
Code	Outcomes
3.1	Learning achievements of primary and secondary students will have improved; and achievement gaps will have become smaller for ethnic minority, special needs and rural children
3.2	All children will have accessed primary and secondary education services regardless of their level of development, location, and socio-economic situation
3.3	Efficiency of general education schools will have improved; and quality assurance tools will have been developed and implemented

4. VOCATIONAL EDUCATION AND TRAINING

Code	Outcomes
4.1	The quality and relevance of TVET providers and teachers will have improved in relation to labor market needs and the requirements of Industrial Revolution 4.0
4.2	TVET access will have been enhanced, supporting people with special needs and enabling flexible learning pathways
4.3	TVET providers will have established specialized and autonomous management systems

5. HIGHER EDUCATION

Code	Outcomes
5.1	HE graduates will have met international standards and labor market requirements. The capacity of teachers in rural HE institutions will have been strengthened; and teachers with PhDs will have reached 50 percent of the total number of teachers
5.2	Open, online and distance training modalities will have expanded; and talented students from rural HE institutions will have received support from the Government
5.3	State-owned HE institutions will have instituted autonomous governance; and all HE institutions will have been ranked. HE institutions will have developed in line with regional development concepts, and research universities will have been established and supported by the Government



CHAPTER FOUR. EDUCATION PRIORITIES AND STRATEGIES

- **Sector Level Objectives and activities**
- **Sub-sector Level Objectives and activities**

CHAPTER FOUR. EDUCATION PRIORITIES AND STRATEGIES

4.1 SECTOR LEVEL

1. Objectives

Objective 1.1 (Quality): Enhance quality, integration and relevance of education services

Expected outcome: The quality and relevance of education at all levels will be the same in urban and rural areas; and qualified, professional, sustainable human resources will have been established in the sector.

Studies and analysis indicate that the quality and relevance of education are weak. In particular, frequent changes in curricula, programs and syllabus, assessment, evaluation and learning materials, including textbooks, affect the quality of education and interrupt the continuity of education development. For instance, education terms and terminologies such as action-oriented pre-primary education, competence-based primary and secondary education, competence-based VET, program and learning outcome-based HE, have been introduced to the sector without proper development and conceptual frameworks. The use of different terminologies at different levels of educations creates misperceptions and makes integration of different levels of education more difficult.[94] It also negatively affects the relevance of education.

Engaging all 5-year old children in pre-primary education enables them to be prepared for primary school and enhances their performance in school. Therefore, it is important to provide more alternative services targeting herder children and deliver special programs to herder parents to enable them to help their children.

Integration across secondary, VET and HE education is weak; thus, senior secondary education curricula and evaluation must be linked with VET and lower HE studies.

Research on the correlation between education level and employment[95] has shown that 8.3 percent of citizens who completed senior secondary education and 7.5 percent higher education graduates are unemployed. It has also been challenging for VET to find employment.

Another challenge is the gap in the quality of urban and rural education. Cognitive development of children in pre-primary education, learning achievement in primary and secondary education, and employment of TVET and HE graduates are weak and varied in the urban and rural context. Rural education quality needs to be supported with a focus on school leaders and teacher capacity, learning environment and materials. Local education departments must play a role in providing continuous support to teachers. In addition to poor quality, ethnic minority student achievement is lagging behind that of their peers due to their poor proficiency in the Mongolian language. It is necessary to implement a national program to promote the language ability of ethnic minority students and their teachers.

Evidenced by sector studies, quality-related challenges and issues are caused mainly by weak professionalism of human resources, low retention of school leaders, subjective influence of political decisions, and the abandonment of the merit principle in education policy.[96] These challenges are compounded by the absence of education leaders, well-prepared education managers, or a continuous training system. The majority of education leaders and managers lack experience, professional capacity and the background for effective leadership. As a consequence, they become a burden rather than effective leaders of the complex and

[94] UNESCO, MIER. (2019. Country Background Paper.
[95] UNESCO, MIER. 2019. Education Policy Review.
[96] UNESCO, MIER 2019. Country Background Paper.

diverse reforms in the education sector.[97] Thus, it is a pressing priority to update the human resource policy emphasizing professionalism and merit-based principles. Any decision on human resources must be independent from political influence. Job profiles and requirements for all positions need to be updated to align with NQF. All appointment procedures need to be transparent, merit-based, professional, and insulated from politics. If the procedures are violated, appropriate measures need to be taken.[98]

Another human resource issue is related to teacher management. Teachers spend most of their time on administrative tasks; thus, they do not have sufficient time to focus on teaching and support of students' learning. In the coming years, the education sector is likely to face a shortage of qualified teachers. The professional capacity of sector personnel are lagging behind. Professionals in institutes such as MIER, ITPD, EEC and the Vocational Education and Training Assessment, Methodology and Information Center (VETAMIC) have not had opportunities to build their capacity and continue their professional development. Researchers and methodologists at MIER and ITPD do not have time to visit schools and kindergartens to provide continuous support to teachers and leaders, and identify problems and challenges faced by learners and children. Their job profiles need to be updated and aligned with the legal functions of their institutions.

Therefore, the sector's human resource policy must updated to address issues such as job descriptions, selection, recruitment, retention, appointment, career pathways, workloads, professional preparation, retraining, lifelong development, health and social security, demand and supply, shortages, retirement, human resource management system, salary and other compensation. An integrated human resource information system needs to be developed, dedicated modules for human resources in the education sector. It is also necessary to develop a manager-level human resource preparation and continuous professional development system in cooperation with related HEIs.

Objective 1.2 (Access): Increase citizens' opportunities to access equal and inclusive education throughout their lifetimes.

Expected outcome: Citizens will have been provided with equal and inclusive lifelong learning opportunities to access education services regardless of time, location and level of development.

The people of Mongolia have insufficient and unequal opportunities to access education to develop and improve their competencies throughout their lifetimes. The existing system is very rigid and unconnected. For example, merely two-thirds of school drop-outs are able to access education services through an equivalence program. Once students have dropped out or left school, most do not have a second chance for education. Lifelong education in Mongolia only covers out-of-school individuals, focuses on school and higher education, and pays much less attention to non-formal education or adult learning in non-formal settings.[99]

Within the international framework,[100] lifelong learning entails the integration of learning and living, covering learning activities for people of all ages (children, young people, adults and the elderly, girls and boys, women and men) in all life contexts (family, school, community, workplace and so on) and through a variety of modalities (formal, non-formal and informal) which together meet a wide range of learning needs and demands. Therefore, in the ESDMTP, lifelong learning is defined as an organizing principle of education covering all levels of education and all forms of learning – formal and non-formal education and informal learning.[101]

[97] UNESCO, MIER. 2019. Country Background Paper.
[98] UNESCO, MIER. 2019. Country Background Paper. Recommendation 1.2.2.
[99] ADB, MES. 2019. Lifelong Education Analysis Report.
[100] Education 2030 Framework for Action.
[101] Education 2030 Framework for Action.

To realize quality lifelong learning for all citizens of Mongolia, the major tasks are to identify people's needs and to promote inclusion and equity by reaching out to disadvantaged individuals. At the international level, lifelong learning is aimed at all citizens for self-development and improving the quality of their work and life in flexible ways, rather than at certain people in targeted groups. Technological and social development over the recent years has influenced the training needs of the citizens of all ages.[102] Identification of the needs of all citizens will enable the creation of a framework for lifelong learning in Mongolia, and the development of related capacity. In the promotion of inclusion and equity in education, open education and blended, flexible learning will all be utilized. At each level, interventions such as providing the enabling environment will take place. Presently, there are open education centers in major universities of Mongolia; thus, it is feasible to develop open education relying on HEIs. To advance open education, Mongolia needs to strengthen the capacity of teachers and staff in schools and training institutions to develop open content and resource materials to facilitate learning. The information and communication technology (ICT) environment also needs to be improved to enable citizens to access the learning modalities.

Students, teachers and the community at large need to be engaged in understanding and implementing lifelong learning. Professionals working in institutions devoted to delivery, such as community learning centers and online learning platforms, also need continuing professional development (CPD)[103] and capacity building.

The transition between different learning modalities and the recognition, validation and accreditation of learning outcomes from non-formal education and informal learning could improve the prospects of the people enrolled in these types of continuous learning.[104]

Objective 1.3 (Management): Enhance efficiency of education governance, management and administration

Expected outcome: Efficiency at all levels of education will have been enhanced.

An institutional assessment[105] identified inter-ministerial coordination and the interrelation among education institutions as weak. These institutions also lack resource materials and libraries. The absence of a system for professional development , lack of independence, and limited budget are the main challenges for these institutions. Researchers and methodologists at MIER and ITPD do not have opportunities to properly carry out the legal functions of the institutes. For example, MIER researchers in charge of curriculum development are not able to visit schools and identify problems related to the curriculum implementation due to lack of budget and too much unnecessary workload.

One of the priorities of the ESMTDP is to establish a system to build human and physical resource capacity and a mechanism to strengthen MIER as a policy institute, ITPD as an institute to manage professional development of leaders and teachers, EEC as a psychometric unit, the Mongolian National Council for Education Accreditation (MNCEA) as an autonomous institute to ensure the quality of education providers, and VETAMIC as an institute to support the recognition of prior learning (RPL) and skill upgrades of individuals and manage RPL at the national level.

Local education departments must then be restructured, and legal functions reviewed and updated. Policies for strengthening local education departments need to include organizational and structural changes, and continuous professional development for staff depending upon their actual needs.

An education management and information system plays a critical role in education planning. At present, as identified by sector studies, the EMIS unit lacks professional

[102] UNESCO. 2019. Initiative for Future Education.
[103] Lifelong learning in transformation: Promising practices in Southeast Asia
[104] Lifelong learning in transformation: Promising practices in Southeast Asia
[105] Interview notes with authorties of professional organizations in September 2019

capacity to provide data and information for policy planning. Instead, EMIS modules are focused mainly on administration. According to UNESCO's International Institute for Education Planning (IIEP), a well-functioning information system is at the heart of effective planning and management; without data and proper analysis and communication of these data, planning and management decisions may not be based on accurate information.

Administrative data indicators need to be modified, and staff need to be trained on how to process and analyze data for education policy planning and decisionmaking. EMIS data must be utilized in the monitoring and evaluation of policy and programs, and reporting should be customer friendly. Sub-sector analysis has found that teachers struggle to enter administrative data in the system due to lack of hardware and low-speed internet at locals. Investment should be made into the physical capacity of EMIS.[106] More digital tools need to be developed and utilized.

2. PROGRAMS AND ACTIVITIES

Table 4.1. Sector programs and activities

Program	Main activities
Objective 1.1 Enhance quality, integration and relevance of education services	
Program 1.1.1: Strengthen integration of all level curricula and program	1. Strengthen integration of curriculum content and relevance of evaluation at all levels 2. Implement Mongolian language policy and program for ethnic minorities 3. Implement Mongolian language proficiency evaluation and to introduce to all levels of education 4. Expand the career guidance services to all education levels
Program 1.1.2: Implement merit-based human resource policy, apply labor productivity and performance-based principles into teacher evaluation	1. Approve NQF, to register and verify the qualifications in the education sector and update the job descriptions and requirements and implement career promotion policy, promote awareness of gender-based human resource policy 2. Promote professionalism and merit-based selection and appointment that is independent and free from political influence 3. Evaluate teacher labor productivity realistically, implement outcome-based, performance-oriented teacher incentive policy, and increase teacher real salary above the national average 4. Improve teacher living conditions and provide an opportunity to be in accommodation program 5. Investigate demand and supply characteristics of education sector human resources; conduct surveillance study on explicit and implicit shortage of teachers 6. Create education sector human resources database modules within the current structure of EMIS, and apply the data in policy and financial planning 7. Disseminate flexible, blended learning pathways in human resources professional development system using open education and digital learning technology 8. Establish university-based continuous professional development training system for school leaders and managers
Program 1.1.3: Improve the quality of education and training providers in rural areas	1. Build the capacity of rural kindergarten, school, VET and HE institution managers and teachers 2. Improve the learning environment of rural kindergarten, school, VET and HE institutions

106 UNESCO, MIER. 2019. Country Background Paper.

Priority 1.2 Increase citizens' opportunities to access equal, inclusive education services throughout their life	
Program 1.2.1: Encourage lifelong learning for all	1. Administer nationwide survey to identify citizen`s needs of lifelong learning; and identify the content, modalities, alternatives of lifelong learning at all education levels aligning with National Qualification Framework 2. Implement cross-sector financing mechanism for lifelong learning 3. Re-structure national centers of lifelong education and scale up lifelong learning policy in consultation and collaboration with government, NGOs, professional and training organizations and private entities. 4. Strengthen human resource capacity to facilitate lifelong learning of citizens 5. Provide professional support and methodology to Mongolian language and culture centers in overseas for delivering language, history and culture trainings; and encourage overseas lifelong education centers 6. Establish a system to recognize, verify and accredit outcomes of lifelong learning of citizens 7. Develop a database module to register and verify lifelong learning at the EMIS
Program 1.2.2: Develop online training platform, programs and disseminate online content and resources	1. Enable all sectors to exchange data and information through dissemination of innovations in education sector information and scale up of the integrated 2. Implement IT education policy in line with international level, establish outsourcing centers and strengthen the capacity 3. Prepare human resource for artificial intelligence, Big Data, information security 4. Develop computational linguistics in phases, produce online content and training resources and utilize in life long education context 5. Provide computers to all teachers and establish smart school, smart class project 6. To register and verify the quality of open, online and distance learning content, resources and tools
Priority 1.3 Enhance efficiency of education governance, management and coordination	
Program 1.3.1: Promote shared responsibility in the management	1. Strengthen shared responsibility of education institutions and promote shared responsibilities of all related stakeholders, and transfer delivery of some selected education services to accredited non-government or private entities
Program 1.3.2: Enhance effective management and administration	1. Implement data-driven and evidence-based planning in policy and investment 2. Promote investment planning based on population growth and geographical database system; Establish quality assurance system and integrate the internal quality assurance with external mechanisms 3. Integrate VET information system with sector management and information system, and add up related indicators in the system 4. Improve hardware and software of EMIS 5. Develop an evaluation methodology for SDG 4 implementation and use it in mid-term and final stage of the implementation
Program 1.3.3: Build physical and human capacity of education professional organizations	1. Assess legal functions of the institutions in conformity with human and physical capacity of MIER, IPTD, EEC, NCEA, TVET Assessment, Methodology and Information Center and education and culture departments at local level; and update the management and inter-institutional linkages 2. Optimize functions of research and training institutions 3. Establish university-based professional development system for personals of above organizations 4. Establish open, online and distance advising environment at the professional institutions 5. Improve infrastructure, environment and equipment of professional institutions for enabling their sustainable, quality and effective operation 6. Improve infrastructure, IT environment of local lifelong education centers

4.2 SUB-SECTOR LEVEL

4.2.1 Pre-primary education

Goal: Develop accessible, standards-based, high-quality pre-primary education for all children within a safe, healthy and green environment which encourages parents' participation and supports children's school preparation.

As studies reveal, quality pre-primary education services are crucial for supporting children's ability to achieve employment, poverty reduction, social participation and interpersonal relationships throughout their lifetimes.[107] Thus, it is necessary to improve the quality of teaching by strengthening pre-service and in-service training; and by introducing teacher standards and evidence-based and data-driven policy planning, implementation and evaluation to ensure adequate school preparation of all children.[108]

Teachers' qualifications, caring interactions with children, and support from parents play important roles in the quality of early childhood education (ECE), as revealed by research conducted by international organizations.[109] This research indicates the need to allow more space to mobilize resources and the participation of parents and communities in pre-primary education.

1. Objectives

Objective 2.1 (Quality): Strengthen the quality of pre-primary education services, focusing on children's holistic development and ensuring relevance to next levels of education

Expected Outcome: All children aged 5 will have been prepared for primary school.

Mongolian children lag behind their peers in countries at similar levels of development, particularly in literacy and numeracy skills. Merely 9 percent of children aged 3-5 in Mongolia have simple literacy and numeracy knowledge, which is relatively low compared to other countries.

There is also a gap in the skills of rural, vulnerable and ethnic minority children. Their cognitive development and language, and social and emotional skills are lower than their peers in urban area.[110] Teachers' professional capacity is a key determinant of early childhood development, and pre-primary teachers have limited opportunities to continuously improve their professional development. Due to an overly heavy workload, teachers do not take advantage of even limited opportunities to improve their professional capacity or prepare for training activities. This challenge can be solved through in-class trainings as well as flexible and continuous professional development activities that can be organized as on-the-job training regardless of time and geographical location.

The school preparedness of 5 year-olds is not sufficient at the national level. In particular, the school preparedness of 5 year-olds from poorer households is 63.1 percent, which is 27.2 percent lower than other age groups. Eighty-two percent of surveyed parents believe that in order to support child development in this age group, it is important to give parents the tools to work with their children at home. This clearly indicates that early childhood development efforts should not only be limited by kindergarten activities. Researchers highlight that implementing "parent education programs" that will increase parents' knowledge of brain and cognitive development of younger children, their psychological and physical development and socialization will have a positive impact on early childhood development.

Another challenge in early childhood development is the lack of benchmark indicator. Without such indicators, it is relatively difficult to identify and validate the changes and achievements in a child`s cognitive and emotional

[107] Sammons et al., 2008; Sylva et al., 2004.
[108] ADB, MES. 2019. Pre-primary Education Sub-sector Study Report.
[109] OECD. 2018. Starting Strong Report.
[110] World Bank. 2018. Mongolia Comprehensive Analysis.

development status, as well as in education and non-educational activities. Therefore, one of the pre-primary education sub-sector priorities is aimed at conducting conduct child development studies on regular basis, to develop a child`s development benchmark indicators and reflect them into educational activities and the teacher`s methodology. It is important to conduct a study on school preparedness of 5 year- old children, including those who have been fully covered by pre-primary education services, those who have not been covered, and those covered by temporary pre-primary education services.

Objective 2.2 (Access): Increase children's opportunities to access pre-primary education services regardless of their level of development, geographical location and socio-economic status

Expected Outcome: Children, in particular children from herder and vulnerable families and children with special needs, will have accessed pre-primary education services aligned with their needs and potential.

Based on population growth projections until 2030, the growth rate of the population to be covered by pre-primary education services is estimated to be 1-2 percent by 2026. Starting in 2027, that population is likely to decrease by 1 percent. Based on this growth projection and education target set forth in the Sustainable Development Vision 2030, i.e. to decrease the number of students per teacher to 20 students, accommodations for 24,200 additional students will be required. Moreover, in rural areas, the capital city and provincial centers, the number of students has already exceeded the allowed numbers and sanitation facilities are not built in accordance with relevant standards, which will have negative impact on children`s health and safety. Therefore, based on needs and demands, there will be a need to add more beds and update sanitation facilities.

One of the key challenges in terms of equitable access for early childhood education is education services for children from herder households, vulnerable households and children with disabilities, who comprise the majority of children not covered by pre-primary education services. There is still a gap of 45.2 percent in the pre-primary education access of herders' children, which is mostly related to the nomadic lifestyle, increased internal migration from rural to urban areas, and the decrease in the quality and financing of alternative preschool services.[111] In spite of alternative preschool services focused on above mentioned age group, the enrollment rates in these services are varied, and problems encountered when delivering pre-primary education services are still not fully solved. Therefore, in order to tackle this challenge, the types of alternative pre-primary education services should be increased.

It is alarming that only 34 percent of preschool children from the poorest families attend kindergarten.[112] Focus group discussions with teachers and parents revealed that school supplies and other materials required from each child in the beginning of school year, voluntary contributions from parents to improve the learning environment of classrooms, costs related to kindergarten art and sport activities and seasonal clothes for children are the major barriers for children from poorest households to attend kindergarten.

The enrollment rate of children with disabilities in pre-primary education services has not changed in last decade. The heavy workload of teachers and manager at kindergartens, lack of professional development activities, and a poor enabling environment for children with disabilities, all tend to discourage the enrollment of such children. Creating an enabling environment for children with disabilities, improving training for teachers who work with children with disabilities, including those skills in teacher standards, and increasing the number of assistant teachers will all help to increase the enrollment rate of children with disabilities at pre-primary education.

Another effective solution to increase the enrollment rate and access to pre-primary

[111] WB, GPE. 2019 . Pre-primary Sector Study Report.
[112] WB, GPE. 2019. Pre-primary Sector Study Report.

education services is to develop open education and training modules for parents, which will enable them to participate in their child's development. If parents are well informed and able to determine the level of their child's development, and accordingly seek necessary support from pre-primary education institutions, it will have a positive impact on the child`s continuous development.

Objective 2.3 (Management): Improve the efficiency of pre-primary education providers' management and administration

Expected Outcome: Quality assurance tools for effective policy implementation outcomes will have been developed and utilized.

One of the organizational challenges in the pre-primary education sub-sector is that the pre-primary aged population is greater than the capacity of the pre-primary system to serve them. The Vision 2030 aimed to reduce the number of children to 25 per teacher, which required mapping of kindergartens based on geographic location, characteristics of the population and its projected growth rate, in order to identify practical needs and carry out investment planning.

Service for children aged 0-3 are not sufficient; thus, it is necessary to map out existing kindergartens and initiate alternative service to include all children.

Another key challenge is the lack of a quality assurance system. The current mechanisms to evaluate the quality of pre-primary education institutions are weak and inconsistent, and create more work for teachers and managers rather than contributing to early childhood development and quality of kindergarten. In order to solve this challenge, it is important to strengthen the internal quality assurance system for pre-primary education institutions and harmonize it with other external mechanisms.

2. Programs and activities

Table 4.2. Pre-primary programs and activities

Programs	Main Activities
Objective 2.1 (Quality): Strengthen the quality of pre-primary education services focusing on children's holistic development ensuring relevance to next levels of education	
Program 2.1.1: Modify pre-primary education curriculum enriching with discipline of Mongolian child	1. Enrich pre-primary education content with Mongolian language, history, culture and tradition respect to discipline of Mongolian child and implement 2. Modify pre-primary curriculum, syllabus, assessment in conformity with development features of children with disabilities and learning ability
Program 2.1.2: Implement competent teacher program, introduce professional standards and disseminate labor productivity, performance-based evaluation system	1. Develop and verify preschool teacher standards including skills to work with children with special needs 2. Align with the above standards, provide environment and opportunities for continuous professional skill development of pre-primary teachers 3. Provide special education teachers and shift to all kindergartens 4. Prepare pre-primary assistant teachers in related universities
Program 2.1.3: Parental education program	1. Conduct a baseline survey to assess parental skills 2. Develop parents' training package[113] on their skills to support child development 3. Deliver the above trainings based on local education departments and lifelong education centers

[113] This package takes into account the socio-economic background of parents and their literacy level.

Program 2.1.4: Increase the quality and relevance of childhood development research and evaluation to facilitate policy development	1. Conduct comprehensive developmental research for children aged 0-5 years every 3 years and set up a national benchmark for child development, 2. Incorporate research results into preschool curricula, methodologies, learning materials and teacher training 3. Administer national evaluation of school preparedness of 5-year-old children, annually
Objective 2.2 (Access): Increase children's opportunities to access pre-primary education services regardless of their development features, geographical location and socio-economic status	
Program 2.2.1: Improve kindergarten infrastructure and environment	1. Optimally identify kindergarten capacity, structure, building age, and location 2. In relation to growth of kindergarten children, improve the capacity (construct kindergartens) 3. Construct standard, modern toilets in kindergartens with outside toilets annually 4. Provide toys and learning materials in line with learning objectives
Program 2.2.2: Increase up kindergarten food expense 2 times	1. Improve nutrition value of food in line with the norms 2. Qualify food staff skills 3. Increase kindergarten food expense and share the expense with parents/ guardians
Program 2.2.3: Provide necessary materials to children from poor households	1. Integrate EMIS data on vulnerable children with MoLSP database on vulnerable households 2. Update a list for kindergarten and provide necessary material support to children from poor households[114]
Program 2.2.4: Establish condition for CWD to access pre-primary education services	1. Establish a condition for CWD to access pre-primary education within the residential area, 2. Expand the special kindergartens, renovate soft items including furniture and equipment 3. Develop teacher training modules focusing on specific disability features of children 4. Re-train pre-primary teachers focusing on specific skills related to children disability type in distance, online and face-to-face training
Program 2.2.5: Open online pre-primary education program	1. Develop open, online and distance learning content and resources for children and their parents in cooperation with related professional organizations, universities and civil society organizations, companies 2. Develop open, online and distance teacher training content and resources in cooperation with related professional organizations, universities and civil society organizations, companies 3. Support MNCEA to verify the quality of the above open, online and distance content and resources
Objective 2.3 (Management): Improve the efficiency of pre-primary education providers' management and administration	
Program 2.3.1: Set up the quality assurance mechanisms to guide implementation of Programs under 2.1 (quality)	1. Develop standardized evaluation tools[115] for internal quality evaluation of kindergartens 2. Deliver local trainings on internal quality evaluation to kindergarten leaders and methodologists as well as local education department staffs 3. Update the annual planning of local education departments reflecting results of the internal quality evaluation of kindergartens

[114] БСШУС-ын сайдын тушаал №292.
[115] Includes indicators, guides, approaches, etc.

4.2.2 Primary and secondary education

Goal: Develop inclusive, efficient primary and secondary education with skilled teachers who nurture disciplined and internationally competent citizens with respect for Mongolian language, history and culture.

One of the goals of Mongolia's Long-Term Development Policy is to enhance the competitiveness of Mongolian citizens. In order to be competitive, learners need to acquire new skills through inquiry learning and soft skills to be prepared for necessary changes in economic sectors. The rapid development of technology affects large industries; as a result, workplace features have been evolving. Primary and secondary school students need to acquire basic employment skills, cooperative attitudes and competencies in line with global peers.

Coupled with soft-skills development, inquiry-based learning enables students to master competencies to respond to new situations, and greatly improve their likelihood of success. Schools will be transformed to become human development centers, where schools offer not only knowledge, education and skills to children, but also help them grow up healthy, with a positive mind-set, well-disciplined and able to lead a dignified, patriotic life proud of their Mongolian heritage.

Mongolia has joined OECD's student assessment process, and the baseline assessment will be set in 2022. In anticipation of the baseline, it makes sense to undertake a coherent, long-term strengthening of the system to promote inquiry-based learning skills-a competency that will improve learning of Mongolian students against international standards.

1. Objectives

Objective 3.1 (Quality): Improve the quality and relevance of primary and secondary education

Expected Outcome: Learning achievements of primary and secondary students will have improved; and smaller achievement gaps will have been identified for ethnic minority, special needs and rural children.

One of the key challenges to improving the quality of primary and secondary education is that student learning achievements are low (below 60 percent). Further analysis has found that the gap in the learning achievements among students in rural and urban is mainly associated with the professional capacity of teachers. Pre-service and in-service training plays an important role in increasing teachers' professional capacity. In addition, in Mongolia, teachers are prepared at universities and higher education universities. These universities operate with different, unaccredited pedagogical curricula that affect the quality of teachers graduating from these schools. Moreover, there is no linkage between in-service and on-the-job training organized at local and national levels; the content of the trainings does not provide the necessary knowledge and required skills for teachers, which has a negative impact on teacher`s professional development.116 In order to ensure the continuous professional development of primary and secondary education teachers, a special teacher development program or CPD plan, including on-the-job and online training, shall be developed and implemented.

There is a vast difference between national and local assessment results. For instance, according to the qualitative study in 2018, external and self-assessment results on entrance exams were inconsistent as follows: in primary education assessments, results ranged from 31.1–41.1 percent; in lower secondary, 29.4–46.8; and in upper secondary, 30.1– 51.5 percent. This gap is mainly associated with the assessment method and methodology, different concepts of level, and differences in cognitive assessment settings and performance assessment methodology.117 Therefore, there is a need to update and standardize the assessment of primary and secondary school student`s learning achievements.

[116] ADB, MES, 2019. Primary and Secondary Education Sub-sector Analysis Report.
[117] UNESCO, MIER. 2019. Country Background Paper.

Moreover, the quality of primary and secondary education is often affected by the frequent changes in the curriculum. One of the ways to prevent these frequent changes is to have a curriculum management policy that updates the curriculum by certain cycles. As an example, a curriculum management cycle was approved in 2018, and during the review of its implementation in 2019, it was revealed that there is no clear understanding as to the participation of relevant stakeholders and cooperation among them. Furthermore, given the speed of technological development and future-results of the PISA 2022,[118] a 10-year cycle is not suitable and may need to be shortened. In order to solve this challenge and improve curriculum flexibility, it is necessary to revise the length of the cycle, clearly define the roles and participation of relevant stakeholders, conduct regular reviews of the management cycle, and use its final results as the key mechanism to increase the quality of training activities. Therefore, until 2025, the roles and participation of the stakeholders in the management cycle and the length of the management cycle shall be reviewed, in line with education policy and curriculum implementation status.

Another important issue in curriculum implementation, in particular for upper secondary students, is that even though there is a policy directive to enable students to select their preferred subjects and create their own curriculum, its implementation is not sufficient, due to lack of linkage between the selected curriculum and the next level of education and training activities. There is a need for assessment and verification tailored to selected curriculum.

Objective 3.2 (Access): Increase all children's opportunities to access primary and secondary education regardless of their level of development and geographical location, to promote equal and inclusive education services.

Expected Outcome: All children will have accessed primary and secondary education services regardless of level of development, location and socio-economic situation.

The key issue in access to primary and secondary education is the projected growth in the number of students by 2030. Based on growth of the age 6-18 population, the number of students will increase by 56 percent by 2024 and 71 percent by 2030, compared to 2018. In order to achieve the goal set forth in Sustainable Development Vision 2030–to reduce the number students per class to 20, a total of 43,104 additional seats will be required by 2030. More seats shall be added in phases, depending on the need and situation.

The increased number of school-age population will directly impact teacher demand; however, as long as the number of university graduates specializing in teaching remains constant, there will not be an issue with teacher supply. On the other hand, there is a clear shortage of teachers in some locations. This can be solved through mapping of primary and secondary schools.

Another key issue for the equity of primary and secondary education is the lower rate of enrollment of children with special needs. Currently, the majority of children with special needs are enrolled at schools designated for special needs, and their enrollment rate at regular primary and secondary school is extremely low. The key reason is that regular schools do not have an enabling environment for children with special needs, teachers are not supportive of receiving children with special needs and there is a lack of learning materials, including textbooks, for these children. Teachers are not prepared and did not receive necessary training to work and communicate with children with special needs. Children with special needs who are not enrolled at primary or secondary education schools, tend to attend equivalent programs delivered through lifelong learning centers; however, those programs do not fit their development patterns and needs, and as a result, they do not continue to attend these programs. In order to overcome this challenge, the type and number of equivalence programs delivered through lifelong education centers

[118] OECD's Programme for International Student Assessment.

can be improved and increased; and learning obtained through open, online and distance learning shall be accepted and verified. Children with special needs also need dedicated learning materials.

The introduction of school lunch programs and food safety, the increased supply of textbooks and dormitory services are also key solutions to increase the access and equity of primary and secondary education services, and these need to be continuously improved and updated. In terms of textbook supply, the key challenge is the efficient use of accumulated funds from textbook rentals. Ideally, the accumulated income from textbook rentals should be used for updating and reprinting of necessary textbooks. However, this is not happening. This clearly indicates that financing mechanisms for textbook renting are not utilized effectively.

Objective 3.3 (Management): Strengthen primary and secondary education management and administration to enhance school efficiency

Expected Outcome: Efficiency of general education schools will have improved; and quality assurance tools will have been developed and used.

Other pressing issues in primary and secondary education management and governance are school types, locations and patterns of usage. For instance, regardless of the school capacity and population size of a particular administrative unit, all soums, aimags and the capital city have complete secondary schools, which is not cost-effective. When the shift coefficient is estimated based on school capacity and the number of students, the majority of schools have a shift coefficient of 0.5 or lower, which clearly shows the inefficient use of these schools. It should be noted that the concept of school mapping is related to the noticeable differences and disparities in school location among different regions, in particular regions with lower population density as well as socio-economic and cultural condition and factors. The distance between school and home, travel time between school and home, transportation and vehicles, natural and geographical characteristics of the region (mountain, hills, rivers, lakes) must be considered when calculating the coverage of schools. It is also useful to estimate the highest and the lowest capacity of the schools and its standards, in order to increase the internal efficiency of the primary and secondary education sub-sector.

There are specific challenges for upper secondary students. These students have the opportunity to select subjects for their selected professions based on career counseling; however, there may be no teachers specialized in these subjects in some rural schools. This negatively affects the further education choices of many upper secondary students. One of the solutions to this problem is to conduct a school mapping exercise based on geographic location, population size and its growth trend and socio-economic conditions, and establish specialized high schools in phases. Specialized high schools provide opportunities for teachers to conduct quality training activities through their extended professional networks and create an enabling environment for students.

Another challenge in the management and governance of the primary and secondary education sub-sector is inefficient quality assurance for training activities, which is directly associated with the lack of a quality monitoring and evaluation system. Ideally, in order to increase the internal efficiency of primary and secondary education activities, it would be useful to establish a system that enables each school to strengthen its internal quality assurance, which will be assured by the external assessment at a later stage.

2. Programs and activities

Table 4.3. Primary and secondary education programs and activities

Programs	Main activities
Objective 3.1 (Quality) : Improve the quality and relevance of primary and secondary education	
Program 3.1.1: Implement curriculum enriched by content with Mongolian language, history, culture and tradition and embed internationally recognized content respect to discipline of Mongolian child	1. Enrich pre-primary education content with Mongolian language, history, culture and tradition and embed internationally recognized content respect to discipline of Mongolian child 2. Implement the enriched curriculum 3. Update requirements for primary and secondary student learning tools and materials and develop open, optional and online resources 4. Modify primary and secondary education curriculum, syllabus, assessment based on development features of children and their learning ability 5. Conduct Child Comprehensive Development research and identify child development benchmarks every three years 6. Scale up secondary school student career guidance activities
Program 3.1.2: Implement Competent Teacher Program	1. Develop Professional Standards[119] for primary and secondary education teacher 2. Amend teacher pre-service training program in line with Professional Standards 3. Update the current Minister Order #287 to make the primary and secondary school teachers' professional development system more flexible 4. Establish environment and condition for continuous professional development 5. Re-train special education teachers and supply schools with psychologists 6. Implement school-based mentor-teacher activities for newly recruited teachers at each school
Program 3.1.3: Revision of primary and secondary student learning assessment	1. Administer Quality Evaluation annually and improve the quality based on results and feedback 2. Participate in PISA assessment in 2022 3. Based on PISA 2022 results, reform assessment policy 4. Build capacity of teachers and assessment experts who administer assessments 5. Update EEC Item bank reflecting the above skills in mathematics and science subject items 6. Align national school leaving and graduation exams with the learning objectives stated in the curricula 7. Initiate improvisation of relevance and integration of school leaving and grade promoting assessment
Program 3.1.4: Improving quality of rural education program	1. Conduct teacher development needs assessment by local Education Departments and report assessment results to ITPD and MIER, annually 2. Disseminate advisory-activities to rural schools 3. Implement teacher exchange program between aimag and soum school leaders and teachers 4. Deliver capacity building trainings to rural school teachers focusing on IT skills 5. Implement dormitory-based after-school learning activities engaging teachers whose teaching hour do not meet the specified norm[120]
Objective 3.2 (Access): Increase all children opportunities to access primary and secondary education regardless of their development features and geographical location promoting equal and inclusive education services	

[119] These standards should be aligned with National Qualification Framework of Mongolia.
[120] By the regulation, 19 teaching hours per week.,

Program 3.2.1: Classroom construction and infrastructure improvisation	1. Optimally identify school capacity, infrastructure, building age and location 2. Increase school capacity based on school-aged population growth 3. Improve schools' toilet and water and sanitation conditions with standard facilities 4. Ensure the implementation of school dormitory standards 5. Align school, dormitory food production and service expenses with the standards and provide nutritious and healthy food to students 6. Produce school soft items and furniture at local facilities and ensuring the standards
Program 3.2.2: Increase primary and secondary education access and provide equal opportunities	1. Establish condition for CWD to access primary and secondary education within the residential area 2. Expand the special schools, renovate items including furniture and equipment 3. Develop teacher training modules focusing on specific disability features of students
Program 3.2.3: Open education promotion program	1. Establish school-based open, online, distance learning centers in local areas 2. Develop open, distance and online learning resources for students and parents to access primary and secondary education, self-development and career guidance services regardless of learners' development feature, location and time 3. Develop open, distance and online training resources for teachers regardless of teaching experience, location and time 4. Deliver capacity building trainings to school leaders and teachers to develop open, distance and online learning resources and to utilize these resources in teaching 5. Establish a mechanism for recognizing, validating, and accrediting the results of formal, informal and non-formal learning
Program 3.2.4: Strengthen paper-based and e-textbook system	1. Plan development, publishing, distribution, use, and revision of paper-based and e-textbook timely manner using a fund that is accumulated from the textbook renting 2. Conduct a textbook use survey every two years
Objective 3.3 (Management): Strengthen primary and secondary education management and administration to enhance efficiency of schools	
Program 3.3.1: Specialized high schools	1. Conduct needs assessment of specialized high schools; and optimize the specialization 2. Estimate required financial and human resources for establishing specialized high schools and approve the in-phase investment plan for school construction, facilities and teaching and learning materials 3. Establish specialized high schools in districts of Ulaanbaatar and some aimags and soums 4. Re-train high school teachers 5. Establish international curriculum schools in aimags and Ulaanbaatar in phases
Program 3.3.2: Education provision efficiency program	1. Conduct mapping exercise of schools in terms of location, structure (primary, junior secondary, high school structure) and type of schools and provide recommendation on school efficiency 2. Re-plan schools as of type, location and structure taking into account of existing physical and human resources 3. Based on the above plan, re-structure schools in phases (in at least 3 areas) 4. Scale up development of EMIS data indicators related to education policy planning 5. Train professional institutions and local education department staff and school leaders to use EMIS data for effective planning
Program 3.3.3: School internal quality assurance (pilot program)	1. Develop standardized evaluation tools[121] for internal quality assurance of schools 2. Deliver local trainings on internal quality evaluation to school leaders and managers as well as local education department staff

[121] Includes indicators, guides and approaches.

4.2.3 Vocational Education and Training

Goal: Bring TVET to international standards by strengthening public-private partnerships and intersectoral coordination mechanisms.

The TVET sector aims to meet the needs of the labor market, create and develop an effective public-private partnership mechanism, diversify in line with the needs of industrial development, update TVET standards and curricula, train teachers at the level of qualified engineers and technicians, implement the objectives of modernizing the training base and laboratories, provide textbooks and training materials, and introduce services based on the needs of citizens.[122] In the future, it will be necessary to implement the reform objectives by establishing a sectoral governance system with cross-sector coordination.

1. Objectives

Objective 4.1 (Quality) Improve the quality of TVET, ensuring its relevance to learner needs, labor market demand, employer requirements and international standards

Expected outcome: The quality of TVET providers and teachers will have improved in its relevance to labor market needs and the requirements of Industrial Revolution 4.0.

There is an urgent need to improve the quality of TVET, increase the employment rate of graduates, and improve the attitudes, maturity, and problem solving, teamwork and entrepreneurial skills required in the workplace.

In addition to the insufficient professional and personal skills of TVET graduates,[123] the quantitative and qualitative research on the demand for labor market, the leading sectors of the economy, and the labor force required for large-scale construction is not well established; nor is there a mechanism to identify and report on demand in the short term.

TVET standards and curricula should be developed and updated based on the demands of the labor market to ensure the continuity of technical education, vocational education and vocational training content.

There is an insufficient supply of and funding for raw materials, training materials and an enabling learning environment for competency-based training.[124]

Digital skills, information technology, foreign languages, green education, and conversion skills need to be acquired as part of teacher training and continuous professional development. Due to the new technical and technological changes, the implementation of special programs to improve the professional skills of teachers in the workplace, in cooperation with the private sector and employers, is related to the lack of a teacher training and retraining system in TVET.[125,126,127,128] Bringing technical, innovation and research to the institutional level,[129,130,131] and creating a TVET system sensitive to future industrial revolutions and changes, is one of the priorities of the TVET sub-sector.

Objective 4.2 (Access) Enhance TVET access and inclusiveness and flexible and open learning opportunities to enable citizens to upgrade their technical and vocational competencies throughout their lifetime.

Expected outcome: TVET access will have enhanced support for people with special needs and enable flexible learning pathways.

[122] MoLSP. 2016. National Vocational and Technical Education Development Program 2016-2021.
[123] RILSP. 2018. Graduate Employment Survey.
[124] ADB, MES. 2019. Technical and Vocational Education and Training Sector Analysis Report.
[125] MoLSP. 2019. A New Image of a TVET Teacher. Presentation by S. Chinzorig.
[126] MoLSP. 2016. National Vocational and Technical Education Development Program 2016-2021.
[127] UNESCO, MIER. 2019. An Overview of Technical and Vocational Education and Training Policy.
[128] MoLSP. 2019. Memorandum of Understanding and Cooperation on Vocational Education and Training Development, Public-Private Sector. Article 6.
[129] MoLSP. 2019. Minister for Labor and Social Protection S. Chinzorig "A new image of a TVET teacher" presentation
[130] ADB, MES. 2019. Technical and vocational education and training sector analysis report
[131] MoLSP. 2016. National Vocational and Technical Education Development Program 2016-2021

There is a need to improve awareness of TVET, career guidance and career choices for children among parents, target groups, governmental and non-governmental organizations, and businesses, and to improve the sub-sector's reputation. According to sub-sector surveys, the poor reputation of TVET is a major factor influencing the expansion of access.

In addition to formal training to provide citizens with lifelong learning, professional skills and competencies, there is a need for policy planning; improved human resources; financial support for open, online and distance learning; and for recognition, validation and accreditation of prior knowledge and skills.[132]

About 2 percent of TVET students have special needs. At the national level, there are few TVET schools for people with special needs. Rather than establishing special education institutions to increase inclusive education, TVET needs to create an adjustable environment that allows these students to study alongside other peers. Support for special needs and other learners is important for inclusive and equitable enrollment. In the TVET sector, the main purpose of student support services is to provide career guidance to entrants and students, increase graduates' entrepreneurial skills, mediate in the education and labor markets, provide information, and organize internships in cooperation with enterprises.

With the support of international donor projects, the supply of learning facilities and equipment is constantly increasing, but some training institutions need to upgrade their equipment, facilities, furniture, fixtures, textbooks, and training materials to meet modern needs.

Objective 4.3 (Management) Establish autonomous TVET governance and management with public-private partnerships and cross-sector coordination

Expected outcome: VET providers will have established a specialized and autonomous management system.

The TVET management system has limited capacity to implement cross-sectoral coordination and does not provide sustainability in project and investment planning.[133]

The TVET sector is a demand-driven specific sector with cross-sectoral coordination.[134,135] As it is not possible to train the national workforce without the participation of employers and the support of other sectors, there is a need to further develop an independent management system based on public-private partnerships.

In line with Mongolia's regional development concept, there is a need to diversify TVET schools, create campus development policies, plan and implement project and investment planning, and conduct monitoring and evaluation activities to increase the efficiency of TVET financing and investment.

The quality of the TVET management, evaluation and certification system needs to be improved.

One of the immediate and future priorities of the TVET sub-sector is to improve the use of labor market information in operations and policy planning. Many sub-sector policy documents have targeted this issue. In 2019, UNESCO's policy review of TVET in Mongolia provided recommendations[136,137] on how to use labor market information and improve policy coherence. Therefore, one of the goals of the TVET sub-sector in the next five years is to improve the coordination of information between the labor market and the sub-sector.

Moreover, in addition to labor market demand and labor force data, regular research on the required skills of the labor force will have an important impact on improving the quality of TVET.

[132] ADB, MES. 2019. Technical and Vocational Education and Training Sector Analysis Report.
[133] UNESCO, MIER. 2019. Country Background Paper.
[134] UNESCO, MIER. 2019. An Overview of Technical and Vocational Education and Training Policy.
[135] MoLSP. 2019. A New Image of a TVET Teacher. Presentation S. Chinzorig.
[136] UNESCO, MIER. 2019. An Overview of Technical and Vocational Education and Training Policy.
[137] Ts. Batdorj. 2019. Presentation on Current Utilization of Data and Information of Labor Market in Mongolia.

2. Programs and activities

Table 4.4. TVET programs and main activities

Program	Main activities
Objective 4.1 (Quality): Improve the quality of TVET ensuring its relevance to learner needs, labor market demand, employer requirements and international standards	
Program 4.1.1: Improving the quality of trainings and its relevance to needs	1. Develop and approve career directories, TVET standards, and CBT programs in cooperation with employers and professional associations 2. Ensure the continuity of the content of technical education, vocational education and vocational training in accordance with the requirements of the Labor market, when developing and updating TVET standards and programs 3. Correspond the technical education curricula with the university curricula in accordance with NQF 4. Incorporate and implement professional and personal development skills in the curriculum 5. Improve provision and access to CBT environment, necessities, training materials, resources 6. Organize trainings for directors, managers, methodologists, teachers and industry trainers to support the training institutions and the implementation of the TVET programs 7. Involve teachers in methodological trainings of curriculum evaluation and improve the curriculum in accordance with the results of external evaluation 8. Create a database of formal and informal training content and materials
Program 4.1.2: Training and retraining of new teachers	1. Establish a system for training new teachers and for continuously improving teachers' skills 2. Develop and implement a training program for preparing new teachers and for continuous professional development of teachers 3. Implement programs of open, online and distance training for TVET teachers in cooperation with professional organizations, competency centers, universities and employers 4. Recognize and validate open and distance learning outcomes and prior knowledge and skills 5. Implement TVET teacher development program in cooperation with professional universities, employers, professional associations and competency center 6. Develop and implement professional development programs for teachers in the production and in the workplace in line with new technical and technological changes 7. Train the TVET teachers in research methodology and prepare teachers for research
Objective 4.2 (Access): Enhance TVET access and inclusiveness enabling all citizens flexible and open learning opportunities to upgrade their technical and vocational competences throughout their life	
Program 4.2.1: Increase TVET equal access	1. Improve the awareness and positive image of TVET in society 2. Conduct formal and informal trainings in form of open, online and distance learning 3. Organize open, online and distance learning TVET trainings for implementers and stakeholders 4. Improve the environment, type and quality of services that support students 5. Develop an optional training program for people with special needs 6. Step-by-step training of teachers and human resources for people with special needs and target groups 7. Analyze the gender situation in the TVET sector 8. Develop and implement a gender policy based on research findings 9. Teacher training for career guidance and choice of profession 10. Support and develop versatile forms that support career guidance and choice of profession

Program 4.2.2: Improve VET infrastructure and learning environment	1. Increase the supply of training equipment, technology and simulation equipment of training institutions 2. Renew the required equipment, facilities, furniture, belongings, textbooks, and training materials 3. Conduct research and develop a plan to build an inter-school and inter-sectorial internship base 4. Establish an interdisciplinary training base 5. Creating an anabling environment with professional features for TVET students with special needs
Program 4.2.3: Encourage lifelong learning	1. Implement open, online and distance trainings for citizens, that provides with possibilities to access TVET and opportunities of self-development, and assure its quality in cooperation with relevant organizations 2. Strengthen the system for recognizing and validating prior knowledge and skills 3. Continuously organize activities for citizens to acquire employment skills and update their vocational skills, and validate the results
Objective 4.3 (Management): Establish autonomous TVET governance and management with public–private partnerships and cross–sectoral coordination	
Program 4.3.1: Upgrade the independent governance and management of TVET with public-private partnerships and cross-sectoral coordination	1. Establish an independent governance system with an inter-sectoral coordination based on public-private partnerships 2. Develop and implement a policy to diversify TVET and to develop it as a campus 3. Update the financing mechanism of the sector 4. Develop and improve the TVET management information system 5. Improve the coherence and use of the IMIS-Integrated Vocational Education and Training Information System and the labor market information system 6. Organize trainings to stakeholders on improving the use of labor market information and the use of information systems and statistics
Program 4.3.2: Strengthen TVET quality assurance	1. Improve the quality management, TVET evaluation and certification system of the TVET sector 2. Develop internal and external quality assurance of the training institution 3. Organized trainings on internal quality assurance for TVET management, teachers and staff 4. Develop and disseminate quality standards, related methodologies and digital tools for TVET internal quality assurance 5. Integrate the report of the TVET external quality assurance into the TVET information system

4.2.4 Higher Education

Goal: Develop flexible and advanced research-based HE that provides equal opportunities to citizens and prepares them to continuously produce knowledge and technology in line with science and economic priorities at the international level.

Without producing and approving a national qualification framework (NQF) based on the International Standard Classification of Education (ISCED), Mongolia's labor market and its unique characteristics such as pastoral animal husbandry, a complete development of HE programs cannot be realized. As a result of NQF approval, HE training curriculum development will be completed and HEIs can prepare human resources that can meet the requirements of employers as well as benefit from employment opportunities in other sectors, based on lifelong learning skills.

Student-centered learning principles will be followed, which will enable students to develop their own curriculum. An outcome-based training policy will be implemented with the aim of improving academic quality in higher education. Raising the standards of HEI against international standards will help to strengthen the institutions as well as improve the overall academic and professional quality of the

professors. Cooperation with globally known foreign scholars will be important. A redesign of human resource recruitment, promotion and award system based on standards of academic and professional achievement will help bring more relevance to the system. Such strategies as design and implementation of a post-doc program, and implementation of a professor exchange program will serve to improve research capacity and the overall stature of HE in Mongolia.

1. Objectives

Objective 5.1 (Quality): Improve the quality of higher education, responding to learner needs and aligning with science and economic priorities of the country and international standards Expected

Outcome: HE graduates will have met international standards and labor market requirements. The capacity of teachers in rural HE institutions will have built; and the share of PhD teachers will have reached 50 percent.

Professors and teachers in rural higher education institutes need to be knowledgeable; and 50 percentage of rural HE institutes teachers need to have earned PhD degree. Mongolian HEIs do not have research-based training cultures, and university professors emphasize teaching rather than research and innovation[138]. Lack of a research culture is the weakest point of HE of Mongolia and affects the quality of the sub-sector. Therefore, a research-based university development technical assistance project is being launched with financial support from ADB. This project shall design the research university development concept and a plan to be implemented in coming years.

Developing university-based research and innovation system is not only beneficial to higher education sub-sector, but also it becomes a pillar for the country development. During the implementation of the ESMTDP, identifying research priorities of university and national institutes, and engaging customers and end-users for mutual control of the research investment, funding risks and accountability system will be regulated. The Plan intends to establish legal coordination and management to diversify the research funding, and endowment (endowment fund, endowed professorship/ chair, etc).

Moreover, it is planned to build up the system for financial and other supports (tax exemption, incentives for social responsibility, etc) for entities that invest in education. The Plan also enables to improve the learning environment that supports outcomes of learning responding to social and labor market needs, strengthen a partnership between representatives of public organizations, industry, business entities and professional civic organizations and establish open laboratories for research and development under universities.

For the quality of higher education, it is necessary to promote higher education internship-based training model. Disseminating a university-industry partnership program through internship-training at workplace path enables student and graduates to quickly adapt in workplace and develop their practical skills. Establishing the cross-sector, open laboratories of universities in industries will engage employers and business developers in more efficient way of cooperation[139].

Reform and revision of training program needs to be intensified in line with national science and economic priorities, labor market demands and National Qualification Framework. Enhancing graduates' quality using a system like European ISC needs will have positive impacts on the higher education relevance to the recognized needs. In this case, graduates will have recognition of qualifications that fits with emerging workplaces as an attachment to the transcript.

It is required to develop professional standards and pursue it in the program and training. Emerging needs and demands in higher education need to be reflected in the legal

[138] UNESCO, MIER. (2019). Country Background Report
[139] Sustainable development Vision of Mongolia, 2.2.3. Knowledge based society and skilled Mongolian, Objective 5

documents integrating with changes occurred in other sectors. In other words, legal reform needs to be aligned with system changes. Learning outcomes, training methodology and learning environment must continuously revised responding to employer 'needs and reflecting employer satisfaction survey results. Student evaluation must be changed; and quality of training outcomes needs to be continuously assured. Thus, the Plan will implement a policy on outcome-based quality assurance system in a more comprehensive way.

Another factor that influences the quality of HE relates to new entrants. To attract more quality entrants, HE admissions policies need to be reviewed and revised, and HE admission exams need to be aligned with senior secondary education curriculum and outcomes, and apply credit transfer system. Students should have an opportunity to transit from polytechnic colleges to bachelor study applying credit transfer system.

All higher education institutes will be ranked. Universities will be ranked based on quality of departments and professors. Competitive funding mechanism will be utilized for the best universities and teachers. It will enable new entrants and students to choose the best programs, trainings and teachers. The ranking will be prerequisite condition for international ranking in conformity with internationally recognized standards.

There is a need to update the development policy for professors and implement professor excellence programs that will enable them to pursue continuous professional development. Professor development policy will be updated and teaching capacity will be continuously built[140]; as a result, entry requirements for university teachers will be scaled up. The requirements will enable more ethical, responsible, leader, experts, creative and initiative ones will be recruited as teachers in higher education institutes.

Policies to prepare and develop new teachers, improving all teachers' professional skills and training methodology, enabling them to attend in short and long term trainings in overseas, supporting teacher to update research skills, exchange practices and develop at workplace will be implemented. Teacher performance will be evaluated based on training-research-innovation-social service-professional skills. Teacher credit based evaluation system will be updated applying merit —based principle.

Capacity of teaching resources in rural higher education institutions will be built. Regional development policy[141] encourages the participation of rural higher education institutes in economic and social development in regions. Participation, leadership and obligations of rural universities in regional development will be assured; and open education centers attached to universities will promote lifelong learning through online, distance learning modalities.

It is necessary to disseminate open, online and distance trainings for teacher professional development and recognize the outcome. Higher education professor excellence program[142] will provide an opportunity to build local teacher capacity and improve the quality of training.

Objective 5.2 (Access): Increase equal access to higher education through the promotion of flexible learning pathways and an open education system

Expected Outcome: Open, online and distance training modalities will have been expanded; and talented students from rural HE institutions will have received Government support.

Infrastructure of higher education institutes needs to be improved. It is critical to develop requirement for an environment that supports student-centered learning and establish standard-based infrastructure.

[140] National program on "Outcome-based Education" 2019, Objective to improve professional and methodological skills of higher education teachers
[141] Mongolia regional development concept, 2001
[142] Development Policy for Outcome-Based Education, 2018, Objective 3: Higher education professor professional and methodological skills development

ESMTDP will implement a policy and projects for develop regional research universities. At present, 2 campuses are established. These are Mongolia-German Mineral Resource Technology University campus and Training Hospital campus attached to Medical Science University.

Policies on open and joint laboratories, attached hospitals and research facilities will be implemented in cooperation with business entities.

Learning environment and technology conditions will be improved. Regardless of location, comprehensive policies to enable all citizens to participate in the quality higher education will be implemented.

ESMTDP intends to expand student services responding to development needs; and deliver support services to the employment. Currently, learning environment in universities do not meet needs of special needs students. This situation causes drop outs among students with special needs.

Student support services will cover health, employment service and enable students to gain labor experiences through volunteer programs. Student scholarship and financial assistance programs will be implements targeting advanced study students, high-demand profession-students, special need students and students from disadvantaged groups.

In order to increase HE access, it is necessary to promote flexible learning pathways, open education and learning modalities such as blended learning, to provide space for citizens to upgrade their professional and employability skills; and to recognize, validate and accredit the learning outcomes. Flexible learning pathway is one of the solutions to equip students with transfer skills and increase the benefit and efficiency of lifelong learning[143].

University-based open education system must be developed. Through these centers, all citizens of Mongolia will get opportunity to develop and upgrade their employment skills and improve the quality of life.

Objective 5.3 (Management): Strengthen higher education management

Expected Outcomes: State-owned HE institutions will have established autonomous governance, and all HE institutions will have been ranked. HE institutions will have developed in line with the regional development concept, and Government-supported research universities will have been established.

An important issue in HE management is related to variety of internal quality assurance systems used by different HEIs. In order to accelerate impact of the quality assurance system, there is a need to develop an information management system for HE programs that focuses on performance and quality indicators.

There is an urgent need to develop an integrated database for advanced research, and establish research funding mechanisms that protect intellectual property. Related policies and software need to be disseminated according to the Intellectual Property Law of Mongolia.

To scale up the global competitiveness of HEIs of Mongolia, a benchmark and ranking system needs to be developed and disseminated[144].

[143] UNESCO, MIER. (2019). Country Background Report
[144] ADB, MECSS. (2019). Higher education sub-sector analysis report

2. Programs and activities

Table 4.5. HE programs and main activities

Programs	Main Activities
Objective 5.1 (Quality): Improve the quality of higher education responding to learner needs and aligning with science and economic priorities of the country and international standards	
Program 5.1.1: Improve the quality and relevance of HE programs and research	1. Update university programs for developing Mongolian citizens who are competitive at international level, regional economic priorities 2. Align advanced training and research with international standards/levels 3. Establish support system for internationally recognized research articles, innovations, patents 4. Disseminate new knowledge and patent in economic development 5. Comprehensive monitoring, evaluating and recognition mechanism for research; and establish a flexible, competitive funding system for new projects based on criteria referenced from monitoring and evaluation results 6. Increase research funding and introduce Endowment Funding system[145] 7. Develop an industry-partnership research university policy reflecting Industry Revolution 4.0 features 8. Upgrade current industry-training system in credit-based universities; make it integrated, pilot and disseminate nationwide 9. Amend qualification programs of universities in line with NQF and market requirements 10. Revise pre-primary, primary and secondary education teacher qualification programs aligning with Teacher Professional Standards and enabling prospective teachers to learn knowledge and skills to work with CWDs 11. Update admission requirements for universities with teaching qualifications 12. Align higher education admission requirements with compulsive and optional subject curricula in senior secondary education 13. Scale up higher education qualification system in line with human resource demand and supply survey, and qualify and update classification criteria for higher education institutions
Program 5.1.2: University professor excellence	1. Develop University Professor Standards 2. Build rural university professor capacity and deliver trainings 3. Introduce open, online and distance training modalities into HE teaching staff continuous professional development and recognize and validate the outcomes
Objective 5.2 (Access): Increase higher education opportunities through the promotion of flexible, open education system	
Program 5.2.1: Improve HE infrastructure and environment	1. Update standards for university learning environment ensuring green evaluation and smart technology 2. Implement a building project for university campuses in regional centers and locals in phases (Dornod, Khovd, Darkhan and Baganuur)[146] 3. Improve learning environment in higher education institutions to enable CWDs to access the services 4. Introduce work incentive policy for university students studying teaching during teaching practicum 5. Implement national scholarship program for supporting students 6. Implement a coordination policy to dispatch/appoint graduates who earned qualifications from national and international higher education institutions with support of government scholarship in line with labor market demands

[145] ADB TA: Project 52013-001.
[146] The project has been designed and all related costs have been estimated.

Program 5.2.2: Open education	1. Upgrade and establish university-based open education centers in urban and rural areas 2. Deliver capacity building trainings to education and industry leaders, experts, teachers, entrepreneurs and trainers focusing on development of open, online and distance learning resources such as Massive, Online Open Courses (MOOC) 3. Establish recognition, validation and accreditation of prior learning (RPL) system at the open education centers 4. Establish a credit transfer system among high schools, universities and technical colleges
Objective 5.3 Strengthen higher education governance and management	
Program 5.3.1: Autonomy of higher education governance	1. Ensure autonomy and independence of higher education institutions
Program 5.3.2: Develop HEMIS	1. Upgrade existing Higher Education Information Management system /HEMIS/ developing more modules such as HE research, innovation, employment of graduates, student tracking, etc. 2. Improve the accessibility of HEMIS data and information developing its platform, server and software
Program 5.3.3: Development of HE quality assurance	1. Develop and verify outcome-based quality standards and requirements for quality assurance system 2. Deliver capacity building trainings on HE internal quality assurance to university leaders, managers and responsible staffs as well as industry representatives

CHAPTER FIVE. IMPLEMENTATION PLAN FOR 2021–2025

- **Plan to implement objectives and activities**

CHAPTER FIVE. IMPLEMENTATION PLAN FOR 2021–2025

5.1 PLAN TO IMPLEMENT OBJECTIVES AND ACTIVITIES

Code	Activities	2021	2022	2023	2024	2025	Responsible body
1. CROSS SECTORAL							
1.1.1	1. Strengthen integration of curriculum content and relevance of evaluation at all levels	☑	☑	☑	☑		Policy Planning Department, Higher Education Department, Pre-primary Education Department, Primary and Secondary Education Department in MES, MIER, EEC,
	2. Implement Mongolian language policy and program for ethnic minorities	☑	☑	☑	☑		EDU EEC, National Council on Language Policy
	3. Implement Mongolian language proficiency evaluation and to introduce to all levels of education	☑	☑	☑	☑		Primary and Secondary Education Department in MES, MIER
	4. Expand the career guidance services to all education levels	☑	☑	☑	☑	☑	PSED, HED MES, VET Policy Implementation Coordination Department, MOLSP
1.1.2	1. Approve NQF, to register and verify the qualifications in education sector and update the job descriptions and requirements and implement career promotion policy, promote awareness of gender-based human resource policy	☑	☑	☑	☑	☑	Policy Planning Department, MES, Policy and Planning Department, MOLSP
	2. Promote professionalism and merit-based selection and appointment that is independent and free from political influence		☑	☑	☑	☑	Policy Planning Department, MES, Policy and Planning Department, MOLSP,
	3. Evaluate teacher labor productivity realistically, implement outcome-based, performance oriented teacher incentive policy, and increase teacher real salary above the national average	☑	☑	☑	☑		Policy Planning Department, MES, Policy and Planning Department, MOLSP,
	4. Improve teacher living conditions and provide an opportunity to be in accommodation program	☑	☑	☑	☑		Policy Planning Department, Higher Education Department, Pre-primary Education Department, Primary and Secondary Education Department in MES, Ministry of Health
	5. Investigate demand and supply characteristics of education sector human resources; conduct surveillance study on explicit and implicit shortage of teachers	☑	☑	☑	☑		Policy Planning Department, Higher Education Department, Pre-primary Education Department, Primary and Secondary Education Department in MES,

Code	Activities	2021	2022	2023	2024	2025	Responsible body
	6. Create education sector human resource database modules within the current structure of EMIS, and apply the data in policy and financial planning	☑	☑	☑	☑		Policy Planning Department, MES, Policy and Planning Department, MOLSP
	7. Disseminate flexible, blended learning pathways in human resource professional development system using open education and digital learning technology	☑			☑		Policy Planning Department, MES, ITSD
	8. Establish university-based continuous professional development training system for school leaders and managers				☑	☑	Teacher Development and Teaching Technology Department, Training Institution Management Unit ITPD, HDRU, MIER, Universities
1.1.3	1. Build the capacity of rural kindergarten, school, VET and HE institution managers and teachers	☑	☑	☑	☑	☑	Teacher Development and Teaching Technology Department, ITPD, Local education departments
	2. Improve the learning environment of rural kindergarten, school, VET and HE institutions			☑			Policy Planning Department, MES, IPD, VET Policy Implementation Coordination Department, MES
1.2.1	1. Administer nationwide survey to identify citizen`s needs of lifelong learning; and identify the content, modalities, alternatives of lifelong learning at all education levels aligning with National Qualification Framework	☑	☑	☑			HDRU, MIER, LLL CENTERS
	2. Implement cross-sector financing mechanism for lifelong learning		☑	☑	☑		
	3. Re-structure national centers of life long education and scale up lifelong learning policy in consultation and collaboration with government, NGOs, professional and training organizations and private entities.				☑	☑	Policy Planning Department, Finance and Economy Department MES, VET Policy Implementation Coordination Department, MES, NGOs
	4. Strengthen human resources capacity to facilitate lifelong learning of citizens				☑	☑	Teacher Development and Teaching Technology Department, ITPD, LLL CENTERS, Open Education Center MUST, VET Competency Centers, NGOs
	5. Provide professional support and methodology to Mongolian language and culture centers in overseas for delivering language, history and culture trainings; and encourage overseas lifelong education centers	☑	☑	☑	☑	☑	Policy Planning Department, MES, MIER, NCLLE

Code	Activities	2021	2022	2023	2024	2025	Responsible body
	6. Establish a system to recognize, verify and accredit outcomes of lifelong learning of citizens		☑	☑	☑	☑	Policy Planning Department, MES, VET Policy Implementation Coordination Department, MES, БҮТ, МБСҮТ, Secretariat of MNCEA
	7. Develop a database module to register and verify lifelong learning at the EMIS		☑	☑	☑	☑	ITSD MES, LLE CENTERS
1.2.2	1. Enable all sectors to exchange data and information through dissemination of innovations in education sector information and scale up of the integrated	☑	☑	☑	☑		Policy Planning Department, MES, EMIS
	2. Implement IT education policy in line with international level, establish outsourcing centers and strengthen the capacity	☑	☑	☑	☑		Policy Planning Department, MES, EMIS
	3. Prepare human resource for artificial intelligence, Big Data, information security	☑	☑	☑	☑		Policy Planning Department, MES, EMIS
	4. Develop computational linguistics in phases, produce online content and training resources and utilize in life long education context	☑	☑	☑	☑		Policy Planning Department, MES, EMIS
	5. Provide computers to all teachers and establish smart school, smart class project	☑	☑	☑	☑		Policy Planning Department, MES, EMIS
	6. To register and verify the quality of open, online and distance learning content, resources and tools	☑	☑				PPED, MES, Schools
1.3.1	1. Strengthen shared responsibility of education institutions and promote shared responsibilities of all related stakeholders, and transfer delivery of some selected education services to accredited non-government or private entities	☑	☑				Policy Planning Department, MES, VET Policy Implementation Coordination Department, MES, Professional Associations, MONEF
1.3.2	1. Implement data-driven and evidence-based planning in policy and investment	☑	☑	☑	☑	☑	Policy Planning Department, MES, ITSD MES, Higher and Vocational Education Research Unit MIER
	2. Promote investment planning based on population growth and geographical database system; Establish quality assurance system and integrate the internal quality assurance with external mechanisms	☑	☑	☑	☑	☑	

Code	Activities	2021	2022	2023	2024	2025	Responsible body
	3. Integrate VET information system with sector management and information system, and add up related indicators in the system	☑	☑				
1.3.3	1. Assess legal functions of the institutions in conformity with human and physical capacity of MIER, IPTD, EEC, NCEA, TVET Assessment, Methodology and Information Center and education and culture departments at local level; and update the management and inter-institutional linkages	☑	☑				Policy Planning Department, Investment and Production Department MES, Teacher Development and Teaching Technology Department, ITPD, Universities
	2. Optimize functions of research and training institutions	☑	☑				
	3. Establish university – based professional development system for personals of above organizations	☑	☑	☑	☑		
	4. Establish open, online and distance advising environment at the professional institutions			☑	☑	☑	
	5. Improve infrastructure, environment and equipment of professional institutions for enabling their sustainable, quality and effective operation			☑	☑	☑	
	6. Improve infrastructure, IT environment of local lifelong education centers			☑	☑	☑	Policy Planning Department, MES, EMIS, Universities
2. PRE-PRIMARY EDUCATION							
2.1.1	1. Enrich pre-primary education content with Mongolian language, history, culture and tradition respect to discipline of Mongolian child and implement	☑	☑	☑	☑		Pre-primary Education Department, MES, MASM, Teacher Development and Teaching Technology Department, ITPD, Universities preparing PPE teachers
	2. Modify pre-primary curriculum, syllabus, assessment in conformity with development features of children with disabilities and learning ability	☑	☑	☑	☑		
2.1.2	1. Develop and verify preschool teacher standards including skills to work with children with special needs	☑	☑	☑	☑		
	2. Align with the above standards, provide environment and opportunities for continuous professional skill development of pre-primary teachers		☑	☑	☑	☑	
	3. Provide special education teachers and shift to all kindergartens		☑	☑	☑	☑	Teacher Development and Teaching Technology Department, ITPD, Universities preparing PPE teachers

Code	Activities	2021	2022	2023	2024	2025	Responsible body
	4. Prepare pre-primary assistant teachers in related universities		☑	☑	☑	☑	Universities preparing PPE teachers
2.1.3	1. Conduct a baseline survey to assess parental skills	☑			☑		HDRU, MIER
	2. Develop parents' training package[147] on their skills to support child development		☑			☑	HDRU MIER, LLL Centers, School of PPE, Education University
	3. Deliver the above trainings based on local education departments and lifelong education centers		☑	☑	☑	☑	Local education departments, LLL Centers, Universities preparing PPE teachers
2.1.4	1. Conduct comprehensive developmental research for children aged 0-5 years every 3 years and set up a national benchmark for child development,	☑			☑		Human Development Research Unit, MIER
	2. Incorporate research results into preschool curricula, methodologies, learning materials and teacher training		☑			☑	Education Program Research Unit, MIER, Teacher Development and Teaching Technology Department, ITPD, Pre-primary Education School, University of Education, Other universities
	3. Administer national evaluation of school preparedness of 5-year-old children, annually	☑	☑	☑	☑	☑	EDD of EEC, Local education departments, Kindergartens
2.2.1	1. Optimally identify kindergarten capacity, structure, building age, and location	☑	☑	☑	☑		MES IPD, Local education departments, Local authorities
	2. In relation to growth of kindergarten children, improve the capacity (construct kindergartens)	☑	☑	☑	☑		
	3. Construct standard, modern toilets in kindergartens with outside toilets annually	☑	☑	☑	☑		
	4. Provide toys and learning materials in line with learning objectives	☑	☑	☑	☑		
2.2.2	1. Improve nutritional value of food in line with the norms	☑	☑	☑	☑		Policy Planning Department, Pre-Primary Education Department, MES, Ministry of Finance
	2. Qualify food staff skills	☑	☑	☑	☑		
	3. Increase kindergarten food expenses and share the expenses with parents/guardians	☑	☑	☑	☑		
2.2.3	1. Integrate EMIS data on vulnerable children with MoLSP database on vulnerable households	☑					MES ITSD

[147] This package takes into account of socio-economic background of parents and their literacy level

Code	Activities	2021	2022	2023	2024	2025	Responsible body
	2. Update a list for kindergarten and provide necessary material support to children from poor households[148]		☑	☑	☑	☑	MES Finance and Economy Department, Local education departments
	3. Integrate EMIS data on vulnerable children with MoLSP database on vulnerable households		☑	☑	☑	☑	
2.2.4	1. Establish a condition for CWD to access pre-primary education within the residential area	☑					MES IPD, PPE Department, Local education departments
	2. Expand the special kindergartens, renovate items including furniture and equipment	☑					Policy Planning Department, Pre-Primary Education Department, MES, Ministry of Finance, MIER
	3. Develop teacher training modules focusing on specific disability features of children		☑	☑	☑	☑	Teacher Development and Teaching Technology Department, ITPD, Local education departments, Pre-primary Education School, University of Education, Other universities
	4. Re-train pre-primary teachers focusing on specific skills related to children disability type in distance, online and face-to-face training		☑	☑	☑	☑	
2.2.5	1. Develop open, online and distance learning content and resources for children and their parents in cooperation with related professional organizations, universities and civil society organizations, companies	☑	☑	☑	☑		HDRU MIER, Pre-primary Education School, University of Education, Open Education Center of MUST, Private Sector
	2. Develop open, online and distance teacher training content and resources in cooperation with related professional organizations, universities and civil society organizations, companies	☑	☑	☑	☑		Policy Planning Department, Pre-Primary Education Department, MES, Ministry of Finance, MIER
	3. Support MNCEA to verify the quality of the above open, online and distance content and resources	☑					
2.3.1	1. Develop standardized evaluation tools[149] for internal quality evaluation of kindergartens	☑	☑	☑	☑		Pre-primary Education Department, ITPD, ITSD, Textbook and Learning Environment Research Unit, MIER

[148] БСШУС-ын сайдын тушаал №292

[149] Includes indicators, guides, approaches, etc.

Code	Activities	2021	2022	2023	2024	2025	Responsible body
	2. Deliver local trainings on internal quality evaluation to kindergarten leaders and methodologists as well as local education department staffs	☑	☑	☑	☑		
	3. Update the annual planning of local education departments reflecting results of the internal quality evaluation of kindergartens	☑	☑	☑	☑		
3. PRIMARY AND SECONDARY EDUCATION							
3.1.1	1. Enrich pre-primary education content with Mongolian language, history, culture and tradition and embed internationally recognized content respect to discipline of Mongolian child	☑	☑	☑	☑		PSED MES, MASM, Education Program Research Unit, MIER, Higher and Vocational Education Research Unit, Teacher Development and Teaching Technology Department, ITPD, Teacher School, University of Education, Universities preparing teachers
	2. Implement the enriched curriculum	☑	☑	☑	☑		
	3. Update requirements for primary and secondary student learning tools and materials and develop open, optional and online resources	☑	☑	☑	☑		
	4. Modify primary and secondary education curriculum, syllabus, assessment based on development features of children and their learning ability	☑	☑	☑	☑		
	5. Conduct Child Comprehensive Development research and identify child development benchmarks every three years	☑		☑		☑	
	6. Scale up secondary school student career guidance activities	☑	☑	☑			
3.1.2	1. Develop Professional Standards[150] for primary and secondary education teacher	☑					Policy Planning Department, PSED MES, Teacher Development and Teaching Technology Department, ITPD
	2. Amend teacher pre-service training program in line with Professional Standards	☑					
	3. Update the current Minister Order #287 to make the primary and secondary school teachers' professional development system more flexible	☑	☑	☑	☑	☑	PSED MES, Teacher Development and Teaching Technology Department, ITPD

[150] These standards should be aligned with National Qualification Framework of Mongolia

Code	Activities	2021	2022	2023	2024	2025	Responsible body
	4. Establish environment and condition for continuous professional development	☑	☑	☑	☑		PSED MES, Teacher Development and Teaching Technology Department, ITPD
	5. Re-train special education teachers and supply schools with psychologists	☑	☑	☑	☑		Teacher Development and Teaching Technology Department, ITPD, Teacher School, University of Education, Universities preparing teachers, Private sector, NGOs
	6. Implement school-based mentor-teacher activities for newly recruited teachers at each school			☑	☑	☑	Local education departments, Schools
3.1.3	1. Administer Quality Evaluation annually and improve the quality based on results and feedback	☑	☑	☑	☑	☑	ERU EEC, selected Schools
	2. Participate in PISA assessment in 2022		☑				
	3. Based on PISA 2022 results, reform assessment policy			☑	☑	☑	
	4. Build capacity of teachers and assessment experts who administer assessments			☑	☑	☑	PSED MES, ERU EEC
	5. Update EEC Item bank reflecting the above skills in mathematics and science subject items			☑	☑	☑	ERU EEC, Student Development Unit ITPD, Teacher Development and Teaching Technology Unit ITPD
	6. Align national school leaving and graduation exams with the learning objectives stated in the curricula		☑	☑	☑	☑	ERU EEC
	7. Initiate improvisation of relevance and integration of school leaving and grade promoting assessment	☑	☑	☑	☑	☑	ERU EEC
3.1.4	1. Conduct teacher development needs assessment by local Education Departments and report assessment results to ITPD and MIER, annually	☑	☑	☑	☑		PSED MES, Education Program Research Unit MIER, HDRU MIER, Evaluation and Development Unit EEC
	2. Disseminate advisory-activities to rural schools	☑	☑	☑	☑	☑	
	3. Implement teacher exchange program between aimag and soum school leaders and teachers	☑	☑	☑	☑	☑	
	4. Deliver capacity building trainings to rural school teachers focusing on IT skills		☑	☑	☑	☑	Teacher Development and Teaching Technology Department, ITPD, Local education departments

Code	Activities	2021	2022	2023	2024	2025	Responsible body
	5. Implement dormitory-based after-school learning activities engaging teachers whose teaching hour do not meet the specified norm[151]	☑	☑	☑	☑	☑	HDRU, MIER
3.2.1	1. Optimally identify school capacity, infrastructure, building age and location	☑	☑	☑	☑		Policy Planning Department, PSED MES
	2. Increase school capacity based on school-aged population growth	☑	☑	☑	☑		
	3. Improve schools' toilet and water and sanitation condition with standard facilities	☑	☑	☑	☑		
	4. Ensure the implementation of school dormitory standards	☑	☑	☑	☑		Policy Planning Department, Primary and Secondary Education Department MES
	5. Align school, dormitory food production and service expenses with the standards and provide nutritious and healthy food to students	☑	☑	☑	☑		Policy Planning Department, Primary and Secondary Education Department MES
	6. Produce school soft items and furniture at local facilities and ensuring the standards	☑	☑	☑	☑		Student Food Production Division, Finance and Economy Department, MES, Schools
3.2.2	1. Establish condition for CWD to access primary and secondary education within the residential area,	☑	☑	☑	☑		Policy Planning Department, Primary and Secondary Education Department, Finance and Economy Department MES
	2. Expand the special schools, renovate soft items including furniture and equipment	☑	☑	☑	☑		Policy Planning Department, Primary and Secondary Education Department MES
	3. Develop teacher training modules focusing on specific disability features of children	☑	☑	☑	☑		Policy Planning Department, Primary and Secondary Education Department MES, Teacher Development and Teaching Technology Department, ITPD,
3.2.3	1. Establish school-based open, online, distance learning centers in locals	☑	☑	☑	☑	☑	HDRU, MIER, Secretariat of MNCEA, Teacher School, University of Education, Open Education Center of MUST, Private sector

[151] By the regulation, 19 teaching hours per week

Code	Activities	2021	2022	2023	2024	2025	Responsible body
	2. Develop open, distance and online learning resources for students and parents to access primary and secondary education, self-development and career guidance services regardless of learners' development feature, location and time	☑	☑	☑	☑	☑	Teacher Development and Teaching Technology Department, ITPD, Teacher School, University of Education, Open Education Center MUST, Other universities, Private Sector
	3. Develop open, distance and online training resources for teachers regardless of teaching experience, location and time	☑	☑				
	4. Deliver capacity building trainings to school leaders and teachers to develop open, distance and online learning resources and to utilize these resources in teaching			☑	☑	☑	PSED MES, EDU EEC
	5. Establish a mechanism for recognizing, validating, and accrediting the results of formal, informal and non-formal learning			☑	☑	☑	Teacher Development and Teaching Technology Department, Training institution Management Unit ITPD
3.2.4	1. Plan development, publishing, distribution, use, and revision of paper-based and e-textbook timely manner using a fund that is accumulated from the textbook renting	☑	☑	☑	☑	☑	PSED, Finance and Economy Department MES, Ministry of Finance
	2. Plan development, publishing, distribution, use, and revision of paper-based and e-textbook timely manner using a fund that is accumulated from the textbook renting	☑		☑		☑	Textbook and Learning Environment Research Unit, MIER
3.3.1	1. Conduct needs assessment of specialized high schools; and optimize the specialization	☑					Education Program Research Unit, Textbook and Learning Environment Research Unit MIER
	2. Estimate required financial and human resources for establishing specialized high schools and approve the in-phase investment plan for school construction, facilities and teaching and learning materials		☑	☑	☑	☑	Policy Planning Department, PSED MES
	3. Establish specialized high schools in districts of Ulaanbaatar and some aimags and soums		☑	☑	☑	☑	Policy Planning Department, PSED, Finance and Economy Department, MES, ITPD
	4. Re-train high school teachers		☑	☑	☑	☑	
	5. Establish international curriculum schools in aimags and Ulaanbaatar in phases						Policy Planning Department, PSED, Finance and Economy Department, MES, Local Education Departments

Code	Activities	2021	2022	2023	2024	2025	Responsible body
3.3.2	1. Conduct mapping exercise of schools in terms of location, structure (primary, junior secondary, high school structure) and type of schools and provide recommendation on school efficiency				☑		Education Program Research Unit, MIER, Textbook and Learning Environment Research Unit MIER
	2. Re-plan schools as of type, location and structure taking into account of existing physical and human resources				☑		PSED, Policy Planning Department MES, Local education departments
	3. Based on the above plan, re-structure schools in phases (at least 3 areas)					☑	
	4. Scale up development of EMIS data indicators related to education policy planning					☑	
	5. Train professional institution and local education department staffs and school leaders to use EMIS data for the effective planning	☑	☑				ITSD Policy Planning Department, MES
3.3.3	1. Develop standardized evaluation tools[152] for internal quality assurance of schools						PSED MES, Secretariat of MNCEA, MASM, Training institution Management Unit ITPD, Secretariat of MNCEA, Local education departments
	2. Deliver local trainings on internal quality evaluation to school leaders and managers as well as local education department staffs						
4. VOCATIONAL EDUCATION AND TRAINING							
4.1.1	1. Develop and approve occupational references, TVET standards, and CBT programs in cooperation with employers and professional associations	☑	☑	☑			TVET Assessment, Information and Methodology Centre
	2. Ensure the continuity of the content of technical education, vocational education and vocational training in accordance with the requirements of the Labor market, when developing and updating TVET standards and programs	☑	☑	☑			TVET Assessment, Information and Methodology Centre
	3. Correspond the technical education curricula with the university curricula in accordance with NQF			☑	☑	☑	Department of TVET Policy Implementation and Coordination, MOLSP
	4. Incorporate and implement professional and personal development skills in the curriculum	☑	☑	☑			TVET Assessment, Information and Methodology Centre

[152] Includes indicators, guides, approaches, etc.

Code	Activities	2021	2022	2023	2024	2025	Responsible body
	5. Improve provision and access to CBT environment, necessities, training materials, and resources	☑	☑	☑	☑	☑	Department of TVET Policy Implementation and Coordination, MOLSP
	6. Organize trainings for directors, managers, methodologists, teachers and industry trainers to support the training institutions and the implementation of the TVET programs	☑	☑				TVET Assessment, Information and Methodology Centre
	7. Involve teachers in methodological trainings of curriculum evaluation and improve the curriculum in accordance with the results of external evaluation	☑	☑				TVET Assessment, Information and Methodology Centre
	8. Create a database of formal and informal training content and materials	☑	☑	☑	☑	☑	Department of TVET Policy Implementation and Coordination, MOLSP, TVET Assessment, Information and Methodology Centre, Professional Associations, TVET Schools
4.1.2	1. Establish a system for training new teachers and for continuously improving teachers' skills	☑	☑	☑			Department of TVET Policy Implementation and Coordination, MOLSP, TVET Assessment, Information and Methodology Centre
	2. Develop and implement a training program for preparing new teachers and for continuous professional development of teachers	☑	☑	☑			
	3. Implement programs of open, online and distance training for TVET teachers in cooperation with professional organizations, competency centers, universities and employers	☑	☑	☑			Department of TVET Policy Implementation and Coordination, MOLSP, TVET Assessment, Information and Methodology Centre Professional Associations, TVET Schools, Universities, Employers, Competency Center
	4. Recognize and validate open and distance learning outcomes, knowledge and skills		☑	☑	☑	☑	Department of TVET Policy Implementation and Coordination, MOLSP, TVET Assessment, Information and Methodology Centre
	5. Implement TVET teacher development program in cooperation with professional universities, employers, professional associations and competency centers	☑	☑	☑	☑		Department of TVET Policy Implementation and Coordination, MOLSP, TVET Assessment, Information and Methodology Centre

Code	Activities	2021	2022	2023	2024	2025	Responsible body
	6. Develop and implement professional development programs for teachers in the production and in the workplace in line with new technical and technological changes		☑	☑	☑		Department of TVET Policy Implementation and Coordination, MOLSP, TVET Assessment, Information and Methodology Centre, Professional Associations, TVET Schools, Competency Center
	7. Train the TVET teachers in research methodology and prepare teachers for research			☑	☑	☑	Department of TVET Policy Implementation and Coordination, MOLSP, Universities, Competency Center
4.2.1	1. Improve the awareness and positive image of TVET in society	☑	☑	☑	☑	☑	Department of TVET Policy Implementation and Coordination, MOLSP, TVET Assessment, Information and Methodology Centre
	2. Conduct formal and informal trainings in form of open, online and distance learning			☑	☑	☑	TVET Schools, Competency Center
	3. Organize open, online and distance learning TVET trainings for implementers and stakeholders	☑	☑				Department of TVET Policy Implementation and Coordination, MOLSP, TVET Assessment, Information and Methodology Centre
	4. Improve the environment, type and quality of student support services		☑	☑	☑		TVET Schools
	5. Develop alternative training programs for people with special needs		☑				TVET Assessment, Information and Methodology Centre, TVET Center for Disabled Citizens
	6. Conduct training of teachers and human resources for people with special needs and target groups in phases		☑	☑			TVET Assessment, Information and Methodology Centre, TVET Center for Disabled Citizens, Association of Disabled Citizens
	7. Analyze the gender situation in the TVET sector	☑					TVET Assessment, Information and Methodology Centre,
	8. Develop and implement a gender policy based on research findings		☑				

Code	Activities	2021	2022	2023	2024	2025	Responsible body
	9. To train counselors for career guidance and choice of profession	☑	☑				TVET Assessment, Information and Methodology Centre, TVET Center for Disabled Citizens, Professional Associations, School of Social Sciences, NUM
	10. Support and develop various forms that support career guidance and choice of profession		☑	☑	☑		TVET Schools
4.2.2	1. Increase the supply of training equipment, technology and simulation equipment of training institutions		☑	☑	☑		Department of TVET Policy Implementation and Coordination, MOLSP
	2. Conduct research and develop a plan to build an inter-school and inter-sectorial internship base	☑	☑				Department of TVET Policy Implementation and Coordination, MOLSP
	3. Establish an interdisciplinary training base			☑	☑	☑	
	4. Create an adjustable environment with professional features for TVET students with special needs		☑	☑			Department of TVET Policy Implementation and Coordination, MOLSP Department of TVET policy implementation and coordination, MOLSP
	5. Renew the required equipment, facilities, furniture, belongings, textbooks, and training materials		☑	☑	☑	☑	Department of TVET Policy Implementation and Coordination, MOLSP
4.2.3	1. Implement open, online and distance trainings for citizens, that provides with possibilities to access TVET and opportunities of self-development, and assure its quality in cooperation with relevant organizations	☑	☑	☑			Department of TVET Policy Implementation and Coordination, MOLSP, TVET Assessment, Information and Methodology Centre
	2. Strengthen the system for RPL		☑	☑			Department of TVET Policy Implementation and Coordination, MOLSP, TVET Assessment, Information and Methodology Centre
	3. Recognize, validate, and certify prior knowledge and skills	☑	☑	☑	☑	☑	TVET Assessment, Information and Methodology Centre
	4. Organize continuous activities for citizens to acquire employment skills and improve their professional skills, and validate the results	☑	☑	☑	☑	☑	Department of TVET Policy Implementation and Coordination, MOLSP, TVET Schools, Competency Center
4.3.1	1. Establish an independent management system with an inter-sectorial coordination based on public-private partnerships	☑					GOM, Department of TVET Policy Implementation and Coordination, MOLSP

Code	Activities	2021	2022	2023	2024	2025	Responsible body
	2. Develop and implement a policy to specialize TVET and develop it as a campus	☑	☑	☑	☑	☑	GOM, Department of TVET Policy Implementation and Coordination, MOLSP
	3. Update the financing mechanism of the sector	☑	☑				GOM, Department of TVET Policy Implementation and Coordination, MOLSP
	4. Develop and improve the TVET management information system	☑	☑	☑			TVET Assessment, Information and Methodology Centre
	5. Improve the coherence and use of the IMIS-Integrated Vocational Education and Training Information System and the labor market information system	☑	☑	☑			TVET Assessment, Information and Methodology Centre
	6. Organize trainings to stakeholders on improving the use of labor market information and the use of information systems and statistics	☑	☑	☑			TVET Assessment, Information and Methodology Centre
4.3.2	1. Improve the quality management, TVET evaluation and certification system of the TVET sector	☑					Department of TVET Policy Implementation and Coordination, MOLSP, TVET Assessment, Information and Methodology Centre
	2. Develop internal and external quality assurance of the training institution	☑	☑				Department of TVET Policy Implementation and Coordination, MOLSP, TVET Assessment, Information and Methodology Centre, TVET Schools, Competency Center
	3. Organize trainings on internal quality assurance for TVET management, teachers and staff	☑	☑				TVET Assessment, Information and Methodology Centre, Competency Center
	4. Develop and disseminate quality standards, related methodologies and digital tools for TVET internal quality assurance	☑	☑	☑			TVET Assessment, Information and Methodology Centre, Competency Center
	5. Integrate the report of the TVET external quality assurance into the TVET information system		☑	☑	☑	☑	TVET Assessment, Information and Methodology Centre
5. HIGHER EDUCATION							
5.1.1	1. Update university programs for developing Mongolian citizens who are competitive at international level, regional economic priorities	☑	☑	☑	☑		Policy Planning Department, HED, Science and Technology Department MES
	2. Align advanced training and research with international standards/levels	☑	☑	☑	☑		

Code	Activities	2021	2022	2023	2024	2025	Responsible body
	3. Establish support system for internationally recognized research articles, innovations, patents	☑	☑	☑	☑		Policy Planning Department, HED, Finance and Economy Department MES
	4. Disseminate new knowledge and patent in economic development	☑	☑	☑	☑		Policy Planning Department, HED, Science and Technology Department MES, Universities, Private Sector
	5. Comprehend monitoring, evaluating and recognition mechanism for research; and establish an flexible, competitive funding system for new projects based on criteria referenced from monitoring and evaluation results	☑	☑	☑	☑		Universities
	6. Increase research funding and introduce Endowment Funding system[153]	☑	☑	☑	☑		Universities, Private Sector
	7. Develop an industry-partnership research university policy reflecting Industry Revolution 4.0 features	☑	☑	☑	☑		Universities
	8. Upgrade current industry-training system in credit-based universities; make it integrated, pilot and disseminate nationwide	☑	☑	☑	☑		PPD, HED MES, Universities
	9. Amend qualification programs of universities in line with NQF and market requirements	☑	☑	☑	☑		Universities
	10. Revise pre-primary, primary and secondary education teacher qualification programs aligning with Teacher Professional Standards and enabling prospective teachers to learn knowledge and skills to work with CWDs	☑	☑	☑	☑		Special Education Unit MES, Universities preparing Pre-primary teachers
	11. Update admission requirements for universities with teaching qualifications	☑	☑	☑	☑		Universities preparing teachers
	12. Align higher education admission requirements with compulsive and optional subject curricula in senior secondary education	☑	☑	☑	☑		HED MES, Consortium of Higher Educational Institutions
	13. Scale up higher education qualification system in line with human resource demand and supply survey, and qualify and update classification criteria for higher education institutions	☑	☑	☑	☑		HED MES, Secretariat of MNCEA
5.1.2	1. Develop University Professor Standards	☑					HED MES, MASM, Consortium of Higher Educational Institutions,

[153] ADB TA: 52013-001 Project

Code	Activities	2021	2022	2023	2024	2025	Responsible body
	2. Build rural university professor capacity and deliver trainings		☑	☑	☑	☑	HED MES, Universities
	3. To introduce open, online and distance training modalities into HE teaching staff continuous professional development and recognize and validate the outcomes		☑	☑	☑	☑	HED MES, Secretariat of MNCEA, Universities
5.2.1	1. Update standards for university learning environment ensuring green evaluation and smart technology	☑	☑				PPD,HED, MES, MASM, Consortium of Higher Educational Institutions
	2. Implement an building project for university campuses in regional centers and locals in phases (Dornod, Khovd, Darkhan and Baganuur)[154]	☑	☑	☑	☑	☑	PPD,HED, MES
	3. Ameliorate learning environment in higher education institutions for enabling CWDs to access the services	☑	☑	☑			PPD,HED, MES, MASM, Consortium of Higher Educational Institutions
	4. Introduce work incentive policy to teacher university students during teaching practicum		☑	☑	☑	☑	PPD,HED, MES,
	5. Implement national scholarship Program for supporting students	☑	☑	☑	☑	☑	
	6. Implement a coordination policy to dispatch/appoint graduates who earned qualifications from national and international higher education institutions with support of government scholarship in line with labor market demands	☑	☑	☑	☑	☑	HED MES, Campus project
5.2.2	1. Upgrade and establish university-based open education centers in urban and rural areas		☑	☑	☑	☑	Policy Planning Department, HED, IPD MES, LLL CENTERS, Universities
	2. Deliver capacity building trainings to education and industry leaders, experts, teachers, entrepreneurs and trainers focusing on development of open, online and distance learning resources such as Massive, Online Open Courses (MOOC)			☑	☑	☑	Universities, Private Sector
	3. Establish recognition, validation and accreditation of prior learning (RPL) system at the open education centers			☑			HED MES, Secretariat of MNCEA, Universities
	4. Establish a credit transfer system among high schools, universities and technical colleges		☑				HED MES, Universities
5.3.1	1. Ensure autonomy and independence of higher education institutions	☑	☑	☑	☑		Policy Planning Department, MES

[154] The project has designed and estimated all related costs.

Code	Activities	2021	2022	2023	2024	2025	Responsible body
5.3.2	1. Upgrade existing Higher Education Information Management system /HEMIS/ developing more modules such as HE research, innovation, employment of graduates, student tracking etc.	☑	☑				HED, ITSD MES
	2. Improve the accessibility of HEMIS data and information developing its platform, server and software		☑	☑			ITSD MES
5.3.3	1. Develop and verify outcome-based quality standards and requirements for quality assurance system	☑					HED MES, Secretariat of MNCEA
	2. Deliver capacity building trainings on HE internal quality assurance to university leaders, managers and responsible staffs as well as industry representatives	☑	☑	☑			HED MES, Secretariat of MNCEA
	3. Dispatch MNCEA experts overseas for capacity building trainings on international accreditation						Secretariat of MNCEA

CHAPTER SIX. EDUCATION SECTOR NEEDS AND COST PROJECTIONS

- **Projections of Education Needs**
- **Education Sector Cost Projections**
- **Government Consolidated Budget and Education Sector Budget (MTEF), and Financing Gap Calculation**
- **Financing Strategy**

CHAPTER SIX. EDUCATION SECTOR NEEDS AND COST PROJECTIONS

Funding for the education sector is organized through fiscal relations based on policy documents such as the Constitution, the relevant provisions of the Education Laws, the Budget Law, the Mongolian Sustainable Development Vision based on other laws, and the Government Action Plan.

Based on the relevant budget and financial provisions of the Law on Education, educational institutions are funded at fixed and normative costs. These costs are identified by program, purpose, and economic classifications. The economic classification is divided into variable costs, fixed costs, tuition loans, one-time allowances, incentives, and investment costs.

The Budget Law came into force in 2013, and the budgets of local education institutions are approved by local self-governing bodies as part of the aimag and capital city local budgets in the form of special transfers through the General Budget Governor. In making these transfers, the General Budget Governor enters into agreements with aimag and capital city governors to implement some government functions on behalf of the Ministry of Education in local areas.

In the case of higher education, funding and investment are based on the Law on Education, the Law on Financing Higher Education and Social Security for Students. The main funding is cited as "Student loans, grants, tuition loans for undergraduate and graduate students, and tuition loans for students in the top 100 universities in the world."

At present, the main investment policy of the sector is to increase pre-primary enrollment and eliminate the three shifts of secondary schools. The required budget for construction, overhaul and equipment has been approved and implemented.

According to the relevant provisions[155] of the Law on Education, both state and non-governmental educational institutions are funded at regular and normative levels. The Government approved Resolution No. 242,[156] "Approval of average normative of variable cost and financing methodology," in 2016. This norm based funding is providedto public and private children's kindergartens, schools and vocational schools.

The Resolution provides an opportunity to allocate variable cost expenditures separately, as a methodology to finance the average normative variable cost per student for pre-primary, primary and secondary schools, and the average normative variable cost expenditure per pupil in non-state-owned schools.

[155] 40th, 41st clauses of Education Law.
[156] https://www.legalinfo.mn/law/details/11937?lawid=11937.

Table 6.1. Variable cost components

№	INDICATORS	
1	Teacher salary and additional salary, kindergarten and dormitory teachers and staff salary and some additional benefits /Some additional benefits include salary, rural employment, skills, class teacher, and teaching methodology supplementary	
2	Social insurance premium payable by the employer for basic and additional salary of the teacher	
3	Other variable costs of goods and services	1. Class and manufacturing practice
		2. Stationary
		3. Books and publications
		4. Mailing and internet fee
		5. Domestic work trip
		6. Cheap, quick wearing household items
		7. Clothes and soft items
		8. Medications
		9. Waste disposal, disposal of rodents and disinfectants
		10. Fee for outsourcing of common work and service
		11. Other expenses of goods and services

Source: MES.

Under the Education Law, the following normative variable costs were spent on rural pre-primary preschools in the 2019 fiscal year:

Table 6.2. Normative variable costs, MNT, 2019

Expense type	Preschool	General education school	Resolution
Variable cost /per child per year thousand MNT/			Government Resolution No 242 of 2016
Center of the soum and province	905.3	437.9	
Capital	807.8	374.0	
Dormitory		387.5	
Meals /per day/	1.650		Government Resolution No 106 of 2012
Meal for children in dormitory /per day/		2.315	
Afternoon tea break /per day/ 1-5 years		0.600	
Special school lunch /per day/		2.400	Government Resolution No 162 of 2017

Source: MES.

6.1 PROJECTIONS OF EDUCATION NEEDS

6.1.1 Pre-primary

Table 6.3 shows the pre-primary age population in 2021-2030 based on official population projection data by NSO for 2015-2045.

Table 6.3. Pre-primary age population 2021-2030

Age	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
2	82,580	82,409	82,088	81,639	80,193	79,679	79,303	79,111	82,893	79,769
3	82,471	82,466	82,299	81,984	80,650	80,121	79,608	79,233	83,126	79,554
4	81,754	82,385	82,382	82,220	81,055	80,599	80,070	79,556	83,439	79,591
5	80,966	81,692	82,325	82,324	81,375	81,022	80,565	80,035	83,787	79,849
Total	327,771	328,952	329,094	328,167	323,273	321,421	319,546	317,935	333,245	318,763

Source: NSO.

At the end of 2018, the pre-primary age population was 318,422. This number is expected to grow by 3 percent in 2021 and 0.4 percent in 2022-2023. Beginning in 2024 (except 2029, for which data may not be correct), the pre-primary age population will decrease to the 2018 level by 2030.

The pre-primary enrollment rates by 2030 are projected to 70 percent for children aged 2, and 100 percent for children aged 5.

Table 6.4. Pre-primary enrollment rates

Age	Baseline 2019/2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
2	62.50	63.25%	64.00%	64.75%	65.50%	66.25%	67.00%	67.75%	68.50%	69.25%	70.00%
3	80.79	81.71%	82.63%	83.55%	84.47%	85.40%	86.32%	87.24%	88.16%	89.08%	90.00%
4	85.02	86.02%	87.02%	88.01%	89.01%	90.01%	91.01%	92.01%	93.00%	94.00%	95.00%
5	90.80	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Average	79.78%	82.74%	83.41%	84.08%	84.75%	85.41%	86.08%	86.75%	87.42%	88.08%	88.75%

Source: EPSSim.

Based on the projected enrollment rates, the following table illustrates the number of children who will receive pre-primary services.

Table 6.5. Pre-primary enrollees

Age	Baseline 2019/2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
2	57,766*	52,232	52,742	53,152	53,474	53,128	53,385	53,728	54,191	57,403	55,838
3	63,175	67,388	68,143	68,763	69,255	68,871	69,157	69,448	69,850	74,048	71,599
4	69,209	70,323	71,688	72,508	73,186	72,958	73,352	73,669	73,990	78,434	75,611
5	73,183**	80,966	81,692	82,325	82,324	81,375	81,022	80,565	80,035	83,787	79,849
Total	263,333	270,909	274,265	276,748	278,238	276,332	276,916	277,410	278,067	293,673	282,897
Annual increment	-	2.9%	1.2%	0.9%	0.5%	-0.7%	0.2%	0.2%	0.2%	5.6%	-3.7%

**, **-inclusive of children aged up to 2 and 6, respectively.*

Source: author's estimation.

The enrollees will increase by up to 3 percent in 2021-2023 and decrease for the remaining period. It is projected that 80 percent of the enrollees will receive public pre-primary services and 20 percent will receive private pre-primary services by 2030.

Table 6.6. Share of enrollees in public and private pre-primary servics

	Baseline 2019/2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Public	85.4%	84.9%	84.3%	83.8%	83.2%	82.7%	82.2%	81.6%	81.1%	80.5%	80.0%
Private	14.6%	15.1%	15.7%	16.2%	16.8%	17.3%	17.8%	18.4%	18.9%	19.5%	20.0%

Source: EPSSim.

For public pre-primary services, it is expected that 90 percent of the enrollees will attend regular kindergartens and 10 percent will receive alternative services by 2030.

Table 6.7. Share of enrollees in public pre-primary, by type of service

	Baseline 2019/2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Kindergarten	90.8%	90.7%	90.6%	90.6%	90.5%	90.4%	90.3%	90.2%	90.2%	90.1%	90.0%
Alternative services	9.2%	9.3%	9.4%	9.4%	9.5%	9.6%	9.7%	9.8%	9.8%	9.9%	10.0%

Source: EPSSim.

Based on these projections, the following table shows pre-primary enrollees by school ownership and type of services.

Table 6.8. Enrollees in pre-primary services

	Baseline 2019/2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Public kindergarten	204,265	208,559	209,614	209,972	209,557	206,588	205,491	204,323	203,271	213,061	203,686
Public alternative services	20,710	21,334	21,646	21,888	22,049	21,939	22,023	22,099	22,185	23,463	22,632
Private pre-primary services	38,358	41,016	43,005	44,889	46,633	47,805	49,402	50,988	52,610	57,149	56,579
Public pre-primary services	224,975	229,893	231,260	231,859	231,606	228,526	227,514	226,422	225,456	236,524	226,318
Additional enrollees (public pre-primary services)	-	4,918	1,367	599	(254)	(3,079)	(1,012)	(1,092)	(965)	11,068	(10,206)
Additional enrollees (public kindergarten)	-	4,294	1,055	357	(415)	(2,969)	(1,097)	(1,168)	(1,052)	9,789	(9,375)
New kindergarten needed (with 75 beds)	-	57	14	5	-	-	-	-	-	131	-

Source: author's estimation.

Enrollment in pre-primary services will reach its peak in 2023 and decrease afterwards. A total of 76 kindergartens with 75 beds will be needed to accommodate additional enrollees in public kindergartens. For this calculation, it is assumed that the current class size will remain unchanged.

Based on the number of enrollees, the number of staff who will deliver public pre-primary services is projected. The student-

teacher ratio (STR) is assumed to be 30:1 for class teachers and assistant teachers. The ratio of other teachers against class teachers and assistant teachers will be kept at the current level, and ratio of non-teaching staff against total teachers will drop from 92.4 percent (baseline 2019/2020) to 80 percent by 2030.

Table 6.9. Staff for public pre-primary services

	Baseline 2019/2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Total teachers	6,750	8,764	8,816	8,839	8,829	8,711	8,673	8,631	8,594	9,016	8,627
Class teachers	5,745	7,663	7,709	7,729	7,720	7,618	7,584	7,547	7,515	7,884	7,544
Other teachers	825	1,100	1,107	1,110	1,109	1,094	1,089	1,084	1,079	1,132	1,083
Assistant teachers	5,623	6,952	6,987	6,999	6,985	6,886	6,850	6,811	6,776	7,102	6,790
Non-teaching staff	11,269	14,326	14,210	14,045	13,828	13,445	13,188	12,928	12,677	13,095	12,333
Total staff	23,462	30,042	30,013	29,882	29,642	29,043	28,710	28,370	28,047	29,213	27,750

Source: author's estimation.

Depending on the enrollees, additional teachers will be needed in 2021-2023, while the number of non-teaching staff will tend to decline throughout the period.

6.1.2 Primary–Secondary Education

Table 6.10 shows primary-secondary age population in 2021-2030, based on official NSO projections for 2015-2045.

Table 6.10. Primary-secondary age population 2021-2030 (official projection of NSO 2015-2045)

Age	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
6	81,345	80,906	81,633	82,267	81,553	81,342	80,989	80,530	84,109	80,275
7	76,389	81,292	80,854	81,583	81,584	81,527	81,314	80,959	84,312	80,815
8	72,105	76,343	81,245	80,810	81,283	81,562	81,503	81,288	84,084	81,288
9	68,542	72,065	76,302	81,203	80,572	81,264	81,540	81,480	83,738	81,686
10	65,495	68,506	72,029	76,265	79,449	80,554	81,244	81,519	84,940	81,957
11	62,711	65,460	68,472	71,994	77,971	79,432	80,535	81,224	82,368	82,077
12	59,970	62,679	65,428	68,439	73,517	77,954	79,413	80,514	79,779	82,036
13	57,067	59,939	62,647	65,394	69,649	73,501	77,936	79,393	77,518	81,363
14	53,869	57,033	59,905	62,613	66,376	69,630	73,480	77,911	75,166	80,592
15	50,456	53,833	56,996	59,867	63,481	66,354	69,605	73,451	71,101	80,975
16	47,128	50,418	53,793	56,956	60,726	63,454	66,324	69,573	67,505	76,036
17	44,380	47,089	50,376	53,750	57,905	60,694	63,420	66,288	64,194	71,757
Total	739,457	775,563	809,680	841,141	874,066	897,268	917,303	934,130	938,814	960,857

Source: NSO.

At the end of 2018, there were 662,795 primary-secondary age children in Mongolia. This population is expected to grow by 12 percent in 2021 and 4 to 5 percent in 2022-2025. In 2026-2030 (except 2029, when data may not be correct), the primary-secondary age population will rise by 2 percent a year. Therefore, the primary-secondary sub-sector will see the greatest expansion in the coming years.

The primary-secondary enrollment rates are projected to be 100 percent for grades 1-9, and 85, 85 and 70 percent, respectively, for grades 10, 11 and 12. The baseline rates were 77.6, 80.9 and 62.8, respectively, in 2019-2020 academic year.

Table 6.11. Primary-secondary enrollment rates

Age	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
6	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
7	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
8	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
9	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
10	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
11	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
12	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
13	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
14	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
15	78.3%	79.1%	79.8%	80.6%	81.3%	82.0%	82.8%	83.5%	84.3%	85.0%
16	81.3%	81.7%	82.1%	82.5%	83.0%	83.4%	83.8%	84.2%	84.6%	85.0%
17	63.5%	64.2%	65.0%	65.7%	66.4%	67.1%	67.8%	68.6%	69.3%	70.0%
Average	94%	94%	94%	94%	94%	94%	95%	95%	95%	95%

Source: EPSSim.

Based on the projected enrollment rates, the following table illustrates the number of children who will enroll in primary-secondary schools.

Table 6.12. Enrollees in primary-secondary schools

Age	Baseline 2019/2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
6	77,101	81,345	80,906	81,633	82,267	81,553	81,342	80,989	80,530	84,109	80,275
7	72,347	76,389	81,292	80,854	81,583	81,584	81,527	81,314	80,959	84,312	80,815
8	67,633	72,105	76,343	81,245	80,810	81,283	81,562	81,503	81,288	84,084	81,288
9	61,202	68,542	72,065	76,302	81,203	80,572	81,264	81,540	81,480	83,738	81,686
10	64,351	65,495	68,506	72,029	76,265	79,449	80,554	81,244	81,519	84,940	81,957
11	60,291	62,711	65,460	68,472	71,994	77,971	79,432	80,535	81,224	82,368	82,077
12	53,188	59,970	62,679	65,428	68,439	73,517	77,954	79,413	80,514	79,779	82,036
13	44,764	57,067	59,939	62,647	65,394	69,649	73,501	77,936	79,393	77,518	81,363
14	42,563	53,869	57,033	59,905	62,613	66,376	69,630	73,480	77,911	75,166	80,592
15	33,291	39,527	42,571	45,494	48,229	51,610	54,437	57,619	61,346	59,910	68,829
16	35,151	38,320	41,202	44,180	47,011	50,372	52,895	55,560	58,567	57,102	64,631
17	28,567	28,190	30,250	32,724	35,303	38,449	40,738	43,024	45,447	44,474	50,230
Total	640,449	703,530	738,246	770,914	801,111	832,385	854,836	874,157	890,178	897,500	915,778
Annual increment	-	9.8%	4.9%	4.4%	3.9%	3.9%	2.7%	2.3%	1.8%	0.8%	2.0%

Source: author's estimation.

The enrollees will increase by up to 10 percent in 2021-2025 and 2 percent over the remaining period. It is projected that 90 percent of the enrollees will be in public primary-secondary schools and 10 percent will in private primary-secondary schools by 2030.

Table 6.13. Share of enrollees in public and private primary-secondary schools

Type	Baseline 2019/2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Public	92.7%	92.4%	92.2%	91.9%	91.6%	91.4%	91.1%	90.8%	90.5%	90.3%	90.0%
Private	7.3%	7.6%	7.8%	8.1%	8.4%	8.7%	8.9%	9.2%	9.5%	9.7%	10.0%

Source: EPSSim.

Based on the projections, the following table shows the enrollees in primary-secondary schools by school ownership.

Table 6. 14 Students of primary-secondary schools

	Baseline 2019/2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Public	593,438	650,273	680,367	708,393	733,978	760,384	778,585	793,822	805,967	810,173	824,200
Private	47,011	53,257	57,878	62,521	67,133	72,001	76,251	80,335	84,211	87,327	91,578
Additional students (public)	-	56,835	30,094	28,025	25,586	26,406	18,201	15,237	12,145	4,206	14,027
New schools needed (640 seats)	-	89	47	44	40	41	28	24	19	7	22

Source: author's estimation.

The number of primary-secondary students will increase significantly, by 4 to 5 percent a year until 2025 (in 2021, it will rise by 10 percent) and grow by 2 percent thereafter. Three hundred and sixty-one schools with 640 seats will be needed to accommodate these additional students. It is assumed that the current class size will remain the same.

Based on the enrollees, the STR is assumed to be 30:1 for primary class teachers. The ratios of other teachers and non-teaching staff against primary class teachers will be kept at the current level.

Table 6.15. Staff of public primary-secondary schools

	Baseline 2019/2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Primary class teachers	9,853	11,211	11,646	12,009	12,281	12,315	12,334	12,307	12,246	12,673	12,181
Lower secondary teachers	12,386	14,093	14,640	15,096	15,438	15,481	15,504	15,471	15,395	15,931	15,312
Upper secondary teachers	6,528	7,428	7,716	7,956	8,137	8,159	8,172	8,154	8,114	8,397	8,070
Non-teaching staff	17,521	19,936	20,710	21,355	21,839	21,899	21,932	21,886	21,777	22,536	21,660
Total staff	46,288	52,668	54,713	56,416	57,694	57,855	57,942	57,819	57,531	59,538	57,223

Source: author's estimation.

Depending on the number of students, additional staff will be needed in 2021-2026, then this number will start to decline slightly in 2027.

6.1.3 Vocational Education and Training

Table 6.16 shows the TVET enrollee-age population in 2021-2030, based on NSO's official population projection data for 2015-2045.

Table 6.16. TVET enrollee age population, 2021-2030

Age	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
15	50,456	53,833	56,996	59,867	63,481	66,354	69,605	73,451	71,101	80,975
16	47,128	50,418	53,793	56,956	60,726	63,454	66,324	69,573	67,505	76,036
17	44,380	47,089	50,376	53,750	57,905	60,694	63,420	66,288	64,194	71,757
18	42,785	44,337	47,044	50,331	54,856	57,870	60,657	63,380	60,987	68,187
Total	184,749	195,677	208,209	220,904	236,968	248,372	260,006	272,692	263,787	296,955

Source: NSO.

At the end of 2018, the population of 15-18 year olds was 180,086. This number is expected to grow by 3 percent in 2021 and 6-7 percent in 2022-2025. In 2026-2030 (except 2029, for which data may not be correct), this population will increase by 4 percent per annum.

The TVET enrollment rate is projected to be as follows. For the age 15 population, those who are not enrolled in Grade 10 will attend TVET schools. For other age groups, the enrollment rate is assumed to reach 15 percent for age groups 16, 17 and 18, up from 12.8, 11.2, and 8 percent, respectively. For adults, the ratio against the principal TVET age group enrollees is projected to be 1 (currently, it is 0.963).

Table 6.17. TVET enrollment rate

Age	Baseline 2018/19	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
15	11.5%	21.7%	20.9%	20.2%	19.4%	18.7%	18.0%	17.2%	16.5%	15.7%	15.0%
16	12.8%	13.0%	13.2%	13.5%	13.7%	13.9%	14.1%	14.3%	14.6%	14.8%	15.0%
17	11.2%	11.6%	12.0%	12.3%	12.7%	13.1%	13.5%	13.9%	14.2%	14.6%	15.0%
18	8%	8.7%	9.4%	10.1%	10.8%	11.5%	12.2%	12.9%	13.6%	14.3%	15.0%
Adults	96.3%	96.4%	96.8%	97.2%	97.6%	98.0%	98.4%	98.8%	99.2%	99.6%	100.0%

Source: EPSSim.

Based on the projected enrollment rates, the following table illustrates the number of enrollees in TVET schools.

Table 6.18. Enrollees in TVET schools

Age	Baseline 2018/19	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
15	4,932	10,929	11,262	11,502	11,638	11,871	11,917	11,986	12,105	11,191	12,146
16	5,578	6,136	6,675	7,241	7,792	8,441	8,960	9,511	10,130	9,977	11,405
17	5,115	5,139	5,632	6,216	6,837	7,586	8,182	8,790	9,439	9,385	10,764
18	4,004	3,722	4,168	4,751	5,436	6,308	7,060	7,825	8,620	8,721	10,228
Adults	18,897	24,993	26,849	28,878	30,942	33,522	35,541	37,654	39,971	39,118	44,543
Total	38,526	50,919	54,586	58,588	62,644	67,728	71,659	75,766	80,265	78,393	89,087

Source: author's estimation.

The enrollees will increase dramatically in 2021 and by 6-8 percent for the remaining period. It is projected that by 2030, 65 percent of the enrollees will be enrolled in public TVET schools and 35 percent will be enrolled in private TVET schools.

Table 6.19. Students in TVET schools, by type of school

	Baseline 2018/19	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Public	71.9%	71.2%	70.5%	69.8%	69.1%	68.5%	67.8%	67.1%	66.4%	65.7%	65.0%
Private	28.1%	28.8%	29.5%	30.2%	30.9%	31.6%	32.2%	32.9%	33.6%	34.3%	35.0%

Source: EPSSim.

Based on the projections, the following table shows the number of students in TVET schools by ownership.

Table 6.20 Students in TVET schools

	Baseline 2018/19	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Public	27,712	36,260	38,494	40,912	43,312	46,360	48,556	50,816	53,280	51,496	57,906
Private	10,814	14,660	16,092	17,676	19,332	21,368	23,103	24,950	26,985	26,896	31,180
Additional students (public)	-	8,548	2,234	2,418	2,400	3,047	2,197	2,260	2,464	(1,784)	6,410
Annual increment	-	30.8%	6.2%	6.3%	5.9%	7.0%	4.7%	4.7%	4.8%	-3.3%	12.4%

Source: author's estimation.

The TVET students will significantly increase by 6-7 percent per annum until 2025 (in 2021, their numbers will rise by 30.8 percent compared to 2018) and grow at 4 percent afterwards. In the 2011-2012 academic year, there were 37,227 students in public TVET schools. Since the capacity of TVET schools tends to be underutilized, it is assumed for this calculation that the current system will absorb additional students for upcoming years. Moreover, the projection is based on a deliberate increase in TVET enrollees to change the current situation of the Mongolian labor market where skilled vocational and technical workers are lacking. However, the number of TVET enrollees could be less than projected, depending on the career choices of adolescents.

6.1.4 Higher Education

Table 6.21 shows the principal HE enrollee-age population in 2021-2030, based on official population projection data for 2015-2045.

Table 6.21. HE enrollee age population, 2021-2030

Age	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
18	42,785	44,337	47,044	50,331	54,856	57,870	60,657	63,380	60,987	68,187
19	42,686	42,740	44,291	46,996	51,558	54,818	57,829	60,611	57,805	65,125
20	43,727	42,635	42,692	44,242	48,201	51,517	54,774	57,781	54,683	62,322
21	45,301	43,672	42,584	42,642	45,182	48,159	51,473	54,726	51,782	59,560
Total	174,499	173,384	176,611	184,211	199,797	212,364	224,733	236,498	225,257	255,194

Source: NSO.

At the end of 2018, there were 190,539 citizens aged 18-21; this number will not be reached again until 2025. The population will start growing in 2026 at 5-6 percent per annum (except 2029, for which the data may not be correct).

The enrollment rate is assumed to be 45 percent for the 18-21 age group. Currently, it is projected to decline from its current level of 63 percent due to the amalgamation of HEIs and strict admission policies. The ratio of graduate students against undergraduate students will be kept at the current level.

Table 6. 22 Higher education enrollment rate

Age	Baseline 2019/2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
18-21	63%	61%	59%	58%	56%	54%	52%	50%	49%	47%	45%

Source: EPSSim

Based on the projected enrollment rates, the following table illustrates the number of students in HEIs.

Table 6.23. Students in higher education institutions

Age	Baseline 2019/20	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Undergraduate	119,301	106,793	102,990	101,728	102,790	107,890	110,854	113,265	114,938	105,420	114,837
Graduate	29,145	26,089	25,160	24,852	25,111	26,357	27,081	27,671	28,079	25,754	28,055
Total	148,446	132,883	128,150	126,580	127,901	134,248	137,935	140,936	143,017	131,174	142,892

Source: author's estimation.

According to the projection, the number of students of HEIs will be lower than the current level in 2021-2030. It is projected that 70 percent of the enrollees will be enrolled in public HEIs and 30 percent will be enrolled in private HEIs by 2030.

Table 6.24. Students in HEIs by type of HEI

	Baseline 2019/2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Public	55.8%	57.2%	58.6%	60.1%	61.5%	62.9%	64.3%	65.7%	67.2%	68.6%	70.0%
Private	44.2%	42.8%	41.4%	39.9%	38.5%	37.1%	35.7%	34.3%	32.8%	31.4%	30.0%

Source: EPSSim.

Based on the projections, the following table shows the number of students in HEIs by ownership.

Table 6.25. Students in HEIs

	Baseline 2019/2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Public HEIs	87,992	76,036	75,147	76,024	78,634	84,442	88,720	92,651	96,050	89,959	100,024
Private HEIs	69,633	56,847	53,003	50,556	49,267	49,806	49,215	48,285	46,967	41,215	42,868
Additional students (public HEIs)	-	(11,956)	(888)	876	2,610	5,808	4,278	3,931	3,399	(6,091)	10,065

Source: author's estimation.

The number of HE enrollees will not be more than the 2019 baseline level until 2026. Therefore for this calculation, it is assumed that the current system will absorb additional students for upcoming years. Moreover, the projection is based on the deliberate decrease of HE enrollees to change the current situation of the Mongolian labor market where the surplus of HE graduates exists. However, the number of HE enrollees could be more than projected, as it is mostly determined by the career choice of adolescents.

6.1.5 Lifelong Learning

According to the latest available data, literacy rates were 95.2 and 97.5 percent, respectively, for 15-24 aged males and females. The enrollees in literacy training will be as follows to increase the rate to 99 percent in 2021-2025.

Table 6.26. Enrollees in literacy training, ages 15-24

	Baseline 2018/2019	2021	2022	2023	2024	2025
Male	-	10,290	9,492	8,758	8,064	7,580
Female	-	5,365	5,061	4,797	4,562	4,347
Total	2,855	15,655	14,554	13,556	12,627	11,927

Source: author's estimation.

The enrollees in equivalency programs have been constantly decreasing due to the higher educational attainment of population. In the 2018-2019 academic year, there were 7,296 students in equivalency programs. This number decreases by 8 percent each year. Therefore, the enrollees in equivalency programs will be as follows in 2021-2025.

Table 6.27. Enrollees in equivalency programs

	Baseline 2018/2019	2021	2022	2023	2024	2025
Total	7,296	6,712	6,175	5,681	5,227	4,809

Source: author's estimation.

If the student-teacher ratio of literacy training is 30:1, 522 teachers will be needed at most. Hence, the current system consisted of 630 teachers and staff will be sufficient for upcoming years unless the lifelong learning concept is changed.

However, due to better educational attainment of population, the current LLL system does not meet the LLL demand of population and needs to be conceptually changed to provide lifelong learning opportunities to all citizens.

6.2 EDUCATION SECTOR COST PROJECTIONS

Based on education sector needs, the required funding is estimated for 2021-2025, as the costing for the ESMTDP also covers the same period.

Table 6.28. Pre-primary cost projections (billion MNT)

Cost categories	2021	2022	2023	2024	2025
Wages and bonuses of teachers	129.45	140.43	153.34	163.75	173.51
Wages and bonuses of assistant teachers	80.37	87.11	95.03	101.40	107.34
Wages and bonuses of non-teaching staff	184.34	197.18	212.24	223.41	233.27
Social security contributions by employers	53.21	57.34	62.18	65.95	69.41
Meals	98.61	107.82	117.50	127.58	136.84
Teaching and learning materials	1.66	1.80	1.95	2.10	2.24
Other variable costs	8.98	9.75	10.55	11.37	12.10
Fixed costs	35.53	38.94	42.27	45.65	49.30
Subsidy to private kindergartens	36.30	41.10	46.34	51.99	57.56
Current transfers	16.54	17.89	19.42	20.71	21.90
Total recurrent costs	645.00	699.36	760.80	813.90	863.47
Construction	61.84	16.41	6.00	-	-
Overhaul maintenance	15.40	16.88	18.32	19.79	21.37
Equipment	11.32	7.27	6.71	6.60	7.12
Total capital costs	88.56	40.56	31.03	26.38	28.50
Total costs	733.55	739.93	791.84	840.28	891.96
Share of recurrent costs	87.93%	94.52%	96.08%	96.86%	96.81%
Share of capital costs	12.07%	5.48%	3.92%	3.14%	3.19%

Source: author's estimation.

- The calculation of wages and bonuses of staff is based on UNESCO EPSSim model approach. The base salary of staff is increased by 30 percent to capture various bonuses. Per capita GDP multiple for class teachers and assistant teachers is estimated at 1.18 and 0.93, respectively. For non-teaching staff, it is estimated to be 1.03.
- Social security contributions by employers equal 13.5 percent of wages and bonuses of all staff, as per the current legislation.
- Costs for meals, teacher/learning materials (TLM) and other variable costs are calculated based on per student unit cost and adjusted for inflation, projected at 8 percent per annum.
- Fixed costs are calculated based on public kindergarten unit cost and adjusted for inflation, projected at 8 percent per annum.
- The subsidy to private kindergartens is calculated based on private kindergarten student unit cost and adjusted for inflation, projected at 8 percent per annum.
- The amount of current transfer is calculated based on the assumption that the share of current transfer in goods and service costs will be kept at the 2020 level (2.79 percent) for 2021-2025.
- Construction of a new kindergarten with 75 beds (1 billion MNT) is adjusted for inflation rate, projected at 8 percent per annum.
- For overhaul maintenance, 5 percent of existing kindergartens will be renovated each year, at a cost of 0.3 billion MNT each.

- All new kindergartens and 5 percent of existing kindergartens will be provided with equipment at a cost of 0.1 billion MNT each year.

Table 6 29. Primary-secondary cost projections (bilion MNT)

Cost categories	2021	2022	2023	2024	2025
Wages and bonuses of teachers	483.50	541.66	608.26	665.03	716.14
Wages and bonuses of non-teaching staff	256.52	287.38	322.71	352.83	379.94
Social security contributions by employers	99.90	111.92	125.68	137.41	147.97
Meals	34.36	38.67	43.19	47.84	51.96
Teaching and learning materials	4.66	5.27	5.92	6.63	7.42
Other variable costs	32.79	37.05	41.66	46.62	52.16
Fixed costs	127.56	146.40	166.79	188.69	213.32
Subsidy to private schools	25.58	30.03	35.03	40.62	47.05
Current transfers	105.84	118.98	133.83	147.16	159.77
Total recurrent costs	1,170.72	1,317.34	1,483.08	1,632.82	1,775.73
Construction	498.73	285.20	286.84	282.82	315.24
Overhaul maintenance	20.27	23.26	26.50	29.98	33.90
Equipment	136.45	101.38	108.17	114.36	128.42
Total capital costs	655.45	409.84	421.52	427.17	477.56
Total costs	1,826.17	1,727.19	1,904.60	2,059.99	2,253.29
Share of recurrent costs	64.11%	76.27%	77.87%	79.26%	78.81%
Share of capital costs	35.89%	23.73%	22.13%	20.74%	21.19%

Source: author's estimation.

- The calculation of wages and bonuses of staff is based on the UNESCO EPSSim model approach. The base salary of staff is increased by 30 percent to capture various bonuses. Per capital GDP multiple for teachers is estimated at 1.18 and for non-teaching staff, it is estimated to be 1.03.
- Social security contributions by employers equal 13.5 percent of wages and bonuses of all staff, as per the current legislation.
- Costs for meals, TLM and other variable costs are calculated based on per student unit cost and adjusted for annual, projected at 8 percent per annum.
- Fixed costs are calculated based on per public school unit cost and adjusted for inflation, projected at 8 percent per annum.
- The subsidy to private schools is calculated based on private school student unit cost and adjusted for inflation, projected at 8 percent per annum.
- The amount of current transfer is calculated based on the assumption that the share of current transfer in goods and service costs will be kept at the level of 2020 (10.18 percent) for 2021-2025.
- Construction of a new school with 640 seats (5.2 billion MNT) is adjusted for annual inflation, projected at 8 percent per annum.
- For overhaul maintenance, 5 percent of existing schools will be renovated each year, in the amount of 0.5 billion MNT each.
- All new schools and 5 percent of existing schools will be provided with equipment amounting to 1 billion MNT each year.

Table 6.30. TVET cost projections (billion MNT)

Cost categories	2021	2022	2023	2024	2025
Wages and bonuses of teachers	31.03	33.46	36.44	38.96	41.83
Wages and bonuses of administrative staff	7.04	7.60	8.27	8.84	9.50
Wages and bonuses of support staff	17.72	19.11	20.81	22.25	23.89
Social security contributions by employers	7.53	8.12	8.85	9.46	10.15
Teaching and learning materials	18.59	21.38	24.47	27.96	32.34
Other variable costs	8.88	10.21	11.68	13.35	15.45
Fixed costs	11.18	12.11	13.04	14.08	15.22
Subsidy to private TVET schools	0.86	1.03	1.22	1.44	1.72
Current transfers	5.20	5.71	6.30	6.88	7.57
Student stipend	101.84	109.17	117.18	125.29	135.46
Total recurrent costs	209.86	227.89	248.25	268.49	293.12
Total capital costs (20% of total recurrent costs)	41.97	45.58	49.65	53.70	58.62
Total costs	251.84	273.47	297.90	322.19	351.74
Share of recurrent costs	83.33%	83.33%	83.33%	83.33%	83.33%
Share of capital costs	16.67%	16.67%	16.67%	16.67%	16.67%

Source: author's estimation.

- The calculation of wages and bonuses of staff is based on the UNESCO EPSSim model approach. The base salary of staff is increased by 30 percent to capture various bonuses. Per capital GDP multiple for teachers is estimated at 1.24 and for non-teaching administrative and support staff, it is estimated to be 1.43 and 1.03, respectively.
- Social security contributions by employers equal 13.5 percent of wages and bonuses of all staff, as per the current legislation.
- TLM and other variable costs are calculated based on per student unit cost and adjusted for inflation, projected at 8 percent per annum.
- Fixed costs are adjusted for annual inflation, projected at 8 percent per annum.
- The subsidy to private TVET schools is calculated based on private TVET school student unit cost and adjusted for annual inflation, projected at 8 percent per annum.
- The amount of current transfer is calculated based on the assumption that the share of current transfer in goods and service costs will be kept at the level of 2020 (5.1 percent) for 2021-2025.
- The amount of student stipend is assumed to be at the same level as 2020.
- Since no new construction is planned, total capital costs are projected to be equal to 20 percent of total recurrent costs to cover required overhaul maintenance and equipment purchase.

Table 6.31. Higher Education cost projections (billion MNT)

Cost categories	2021	2022	2023	2024	2025
Scholarships and tuition fees waiver programs	21.11	21.98	23.30	25.33	28.63
Education loans	50.96	55.43	61.29	69.38	81.59
Other current transfers	9.54	10.25	11.20	12.54	14.59
Total recurrent costs	81.61	87.66	95.79	107.24	124.82
Total capital costs (20% of total recurrent costs)	16.32	17.53	19.16	21.45	24.96
Total costs	97.93	105.19	114.94	128.69	149.78
Share of recurrent costs	83.33%	83.33%	83.33%	83.33%	83.33%
Share of capital costs	16.67%	16.67%	16.67%	16.67%	16.67%

Source: author's estimation.

- For HE costs, scholarships and tuition fees waiver programs and education loans constitute the majority of total recurrent costs.
- It is assumed that 4.07-4.13 percent of total undergraduate students will benefit from scholarships and tuition fee waiver programs in 2021-2025 (it was 4.14 percent in the 2018-2019 academic year). This is projected to go down to 4 percent by 2030. Using per undergraduate student unit cost, the total amount of scholarships and tuition fee waiver programs is calculated and adjusted for inflation projected at 8 percent per annum.
- It is projected that 3.7-4.3 percent of total undergraduate students will receive education loans in 2021-2025 (it was 3.5 percent in 2018-2019 academic year). This is assumed to rise to 5 percent by 2030. Using per undergraduate student unit cost, the total amount of education loans is calculated and adjusted for annual inflation projected at 8 percent per annum.
- For other current transfers, its share in costs of scholarships and tuition fee waiver programs and education loans is projected to be at the current level, 13.2 percent.
- Since no new construction is planned, total capital costs are projected to be equal to 20 percent of total recurrent costs.

Table 6.32. Lifelong Learning cost projection (billions MNT)

Cost categories	2021	2022	2023	2024	2025
Wages and bonuses of teachers	7.71	7.73	7.84	7.81	7.92
Social security contributions by employers	1.04	1.04	1.06	1.05	1.07
Teaching and learning materials	0.28	0.29	0.29	0.29	0.29
Other variable costs	0.31	0.31	0.31	0.31	0.32
Total recurrent costs	9.34	9.37	9.49	9.46	9.59
Total capital costs (20% of total recurrent costs)	1.87	1.87	1.90	1.89	1.92
Total costs	11.21	11.24	11.39	11.35	11.51
Share of recurrent costs	83.33%	83.33%	83.33%	83.33%	83.33%
Share of capital costs	16.67%	16.67%	16.67%	16.67%	16.67%

Source: author's estimation.

- The calculation of wages and bonuses of staff is based on the UNESCO EPSSim model approach. The base salary of staff is increased by 30 percent to capture various bonuses. Per capital GDP multiple for teachers is estimated at 1.18.
- Social security contributions by employers equal 13.5 percent of wages and bonuses

of all staff, as per the current legislation.
- TLM and other variable costs are calculated based on per student unit cost and adjusted for inflation, projected at 8 percent per annum.
- Since no new construction is planned, total capital costs are projected to be equal to 20 percent of total recurrent costs to cover required overhaul maintenance and equipment purchase.

Table 6.33. Education and science poligy and administration projections (billion MNT)

Cost categories	2021	2022	2023	2024	2025
Total recurrent costs	18.84	20.41	21.98	23.73	25.65
Total capital costs (20% of total recurrent costs)	3.77	4.08	4.40	4.75	5.13
Total costs	22.61	24.50	26.38	28.47	30.78
Share of recurrent costs	83.33%	83.33%	83.33%	83.33%	83.33%
Share of capital costs	16.67%	16.67%	16.67%	16.67%	16.67%

Source: author's estimation.

- Total recurrent costs are 17.45 billion MNT in 2020 and adjusted for inflation, projected at 8 percent per annum in 2021-2025.
- Total capital costs are projected to be equal to 20 percent of total recurrent costs.

Table 6.34. Education sector cost projections

Sub-sector	2021	2022	2023	2024	2025
Pre-primary	733.55	739.93	791.84	840.28	891.96
Recurrent costs	645.00	699.36	760.80	813.90	863.47
Capital costs	88.56	40.56	31.03	26.38	28.50
Primary-secondary	1,826.17	1,727.19	1,904.60	2,059.99	2,253.29
Recurrent costs	1,170.72	1,317.34	1,483.08	1,632.82	1,775.73
Capital costs	655.45	409.84	421.52	427.17	477.56
TVET	251.84	273.47	297.90	322.19	351.74
Recurrent costs	209.86	227.89	248.25	268.49	293.12
Capital costs	41.97	45.58	49.65	53.70	58.62
Higher education	97.93	105.19	114.94	128.69	149.78
Recurrent costs	81.61	87.66	95.79	107.24	124.82
Capital costs	16.32	17.53	19.16	21.45	24.96
LLL	11.21	11.24	11.39	11.35	11.51
Recurrent costs	9.34	9.37	9.49	9.46	9.59
Capital costs	1.87	1.87	1.90	1.89	1.92
Education and science policy and administration	22.61	24.50	26.38	28.47	30.78
Recurrent costs	18.84	20.41	21.98	23.73	25.65
Capital costs	3.77	4.08	4.40	4.75	5.13
TOTAL	2,943.32	2,881.51	3,147.06	3,390.98	3,689.07
Recurrent costs	2,135.38	2,362.04	2,619.40	2,855.64	3,092.38
Capital costs	807.94	519.47	527.66	535.34	596.69
Share of recurrent costs	72.55%	81.97%	83.23%	84.21%	83.83%
Share of capital costs	27.45%	18.03%	16.77%	15.79%	16.17%

Source: author's estimation.

6.3 GOVERNMENT CONSOLIDATED BUDGET AND EDUCATION SECTOR BUDGET (MTEF), AND FINANCING GAP CALCULATION

The MTEF is based on the projection of GDP, the share of government budget in GDP and education expenditure in government budget produced by the National Development Agency (NDA). Table 6.35 summarizes the data.

Table 6.35. Projection of GDP, the share of government budget in GDP and education expenditure in government budget produced by the NDA

Indicator	2021	2022	2023	2024	2025
GDP*, billion MNT	42660.9	46851.9	51931.3	56472	61647.1
Share of government budget in GDP	30.6%	30.9%	31.1%	31.2%	31.4%
Government consolidated budget, billion MNT	13,054.24	14,477.24	16,150.63	17,619.26	19,357.19
Education expenditure in government budget**	15.44%	15.89%	16.35%	16.83%	17.32%
Education sector expenditure, billion MNT	2,015.29	2,300.20	2,640.96	2,965.20	3,352.76
Education sector expenditure in GDP	4.7	4.9	5.1	5.3	5.4

Source: Author's estimation based on MTEF IV Report, NDA.

*Note: *The NDA forecast GDP based on 3 scenarios: low, medium and high. The medium-level projection is used in the MTEF.*

*** The share will reach 20 percent by 2030 (annual increment of 2.9 percent), following WB recommendation.*

When comparing the education sector cost projections and MTEF, there are significant gaps which which require considerable additional financing.

Table 6.36. Financing gap by share and amounts

Indicator	2021	2022	2023	2024	2025
Share of education budget in education sector cost projections	68.5%	79.8%	83.9%	87.4%	90.9%
Financing gap, percent	31.5%	20.2%	16.1%	12.6%	9.1%
Financing gap, billion MNT	928.04	581.31	506.09	425.78	336.30
Of which: Recurrent	432.74	430.43	415.04	395.61	327.62
Capital	495.29	150.88	91.06	30.17	8.69

Source: author's estimation.

Due to the increased number of enrollees, mostly in primary-secondary schools, and related infrastructure development, and recurrent costs such as wages for teachers, there will be substantial financing gaps throughout the first phase of the ESMTDP (2021-2025).

6.4 FINANCING STRATEGY

Public funding is not sufficient to increase teacher salary 7-9 percent annually aligning with GDP growth.

The subsidies to private sector and TVET student stipends may be ceased to cut recurrent costs.

The share of enrollees in public education institutions shall be gradually reduced to lessen the burden on the government budget.

In that case, the recurrent expenditures of the education sector will have to be financed from the state budget, and investments in the sector in 2021-2025 will be financed mainly from external sources.

Development partners are making a significant contribution to education sector development in Mongolia through loans and grants. The following table shows the nature and distribution of funds from development partners through existing and proposed projects.[157]

Table 6.37. Investment from development partners

DP	Project name	Duration	Investment in USD	
			Grant (TA)	Loan
ADB	Research University Sector Development Program	2018-2022	800,000	
				(Proposed) 30,000,000
	Strengthening Systems for Promoting Science, Technology, and Innovation	2017-2020	600,000	
	Supporting the Development of an Education Sector Master Plan	2017-2020	600,000	
	Sustaining Access to and Quality of Education During Economic Difficulties Project	2018-2021		50,000,000
	Skills for Employment Project	2015-2021		25,000,000
	Higher Education Reform Project	2012-2020		20,000,000
	Support for Inclusive Education (Proposed)		2,000,000	
WB	Entrepreneurship-focused socio-emotional skills for the most vulnerable youth in rural Mongolia (implemented by Save the Children)	2019-2023	2,750,000	
	Education Quality Reform Project	2014-2020		30,000,000
UNFPA	Adolescents and Youth	2017-2021	9,300,000	
UNICEF	Child survival and development	2017-2021	8,702,000	
	Inclusive, healthy and quality learning environments	2017-2021	9,720,000	
GIZ (BMZ)	Cooperative Technical and Vocational Education and Training (cTVET) Co-Financed: BMZ: 6 mil USD; KOICA: 3.78 mil USD; DFAT: 905K USD	2019-2022	6,000,000	
	Strategic Alliance to establish an internationally recognized Vocational Education Programs in Welding in Mongolia (MoLSP): BMZ: 600k USD; Private: 600K USD	2019-2021	1,200,000	
	Strategic Alliance for Capacity Development through TVET in the construction sector in Mongolia (MoLSP; MoCUD): BMZ: 980k USD; Private: 1.2 mil USD	2019-2022	2,180,000	

[157] Data from direct consultation with respective development partner missions in Mongolia.

	Build4Skills (B4S) global project (TVET infrastructure)	2018-2020	4,350,000	
EU	Multi-annual indicative Program: Support for better employment opportunities	2014-2020	33,215,482	
JICA	Higher Engineering Education Development Project	2018-2020		69.370,000
	Improvement of primary and secondary education in Ulaanbaatar		Grant	
	Education in Rural Mongolia through Development of STEM Teacher Training Materials		Partnership Program	
SDC	Education for Sustainable Development Phase 2	2019-2022	1,055,525	
	Vocational Education and Training Phase III (VET III) "Youth Employment Promotion"	2019-2020	2,052,000	
KOICA	CPS: Education (KOICA will no longer invest in the education sector from 2020)	2016-2020	3,780,000	
DFAT	(cTVET) – co-financing	2019-2022	905,000	
UNESCO				
	Estimated Total in USD		89,210,007	224,370,000

Where possible, activities under ESMTDP priorities and programs will be funded from the state budget. Due to the pressure on the state budget, it may be appropriate to organize some activities in the form of projects funded by international organizations.

The following table summarizes the costing of ESMTDP for each sub-sector and by year.

Table 6.38. Costing of ESMTPD (million MNT)

№	Sub-sector	2021	2022	2023	2024	2025	Total
1	Cross sector	9,929.29	12,045.23	13,160.85	13,344.09	13,052.37	61,531.82
1.1	Recurrent costs	4,154.29	6,270.23	6,835.85	6,457.89	6,744.24	30,462.49
1.2	Capital costs	5,775.00	5,775.00	6,325.00	6,886.20	6,308.13	31,069.33
2	Pre-primary	12,453.56	12,454.73	11,919.27	11,826.27	11,800.12	60,453.95
2.1	Recurrent costs	2,453.56	2,454.73	1,919.27	1,826.27	1,800.12	10,453.95
2.2	Capital costs	10,000.00	10,000.00	10,000.00	10,000.00	10,000.00	50,000.00
3	Primary-secondary	22,810.36	22,401.19	25,947.51	32,017.42	40,701.05	143,877.53
3.1	Recurrent costs	2,810.36	2,401.19	5,947.51	12,017.42	20,701.05	43,877.53
3.2	Capital costs	20,000.00	20,000.00	20,000.00	20,000.00	20,000.00	100,000.00
4	TVET	6,033	8,384	8,709	8,761	11,978	43,865
4.1	Recurrent costs	3,283	2,718	2,810	3,011	3,228	15,050
4.2	Capital costs	2,750	5,666	5,899	5,750	8,750	28,815
5	Higher education	3,320	4,063	11,381	12,150	13,099	44,013
5.1	Recurrent costs	3,320	4,063	3,067	3,171	3,401	17,022
5.2	Capital costs	0	0	8,314	8,979	9,698	26,991
Total		54,545.9	59,348.0	71,118.4	78,099.2	90,630.4	353,741.9
Recurrent costs		16,020.85	17,907.03	20,580.02	26,483.79	35,874.67	116,866.4
Capital costs		38,525.00	41,441.00	50,538.38	51,615.43	54,755.70	236,875.5

Source: author's estimation.

The costs for ESMTDP implementation will be 353.7 billion MNT in 2021-2025. This amount will be added to the education sector cost projections. Therefore, the education sector cost projections will be as follows.

Table 6.39. Education sector cost projections including ESMTDP (billion MNT)

Costs	2021	2022	2023	2024	2025
Education sector cost projections	2,943.32	2,881.51	3,147.06	3,390.98	3,689.07
Recurrent costs	2,135.38	2,362.04	2,619.40	2,855.64	3,092.38
Capital costs	807.94	519.47	527.66	535.34	596.69
Share of recurrent costs	72.55%	81.97%	83.23%	84.21%	83.83%
Share of capital costs	27.45%	18.03%	16.77%	15.79%	16.17%
ESMTDP costs	54.6	59.4	71.2	78.1	90.6
Recurrent costs	16.0	17.9	20.6	26.5	35.9
Capital costs	38.6	41.5	50.6	51.6	54.7
Share of recurrent costs	29.4%	30.2%	28.9%	33.9%	39.6%
Share of capital costs	70.6%	69.8%	71.1%	66.1%	60.4%
TOTAL COSTS (Education + ESMTDP)	2,997.92	2,940.91	3,218.26	3,469.08	3,779.67
Recurrent costs	2,151.38	2,379.94	2,640.00	2,882.14	3,128.28
Capital costs	846.54	560.97	578.26	586.94	651.39
Share of recurrent costs	71.8%	80.9%	82.0%	83.1%	82.8%
Share of capital costs	28.2%	19.1%	18.0%	16.9%	17.2%

Source: author's estimation.

In this case, the following tables estimate the lack of resources in the education sector.

Table 6 40. Education sector budget (billion MNT) and financing gaps by share and amount

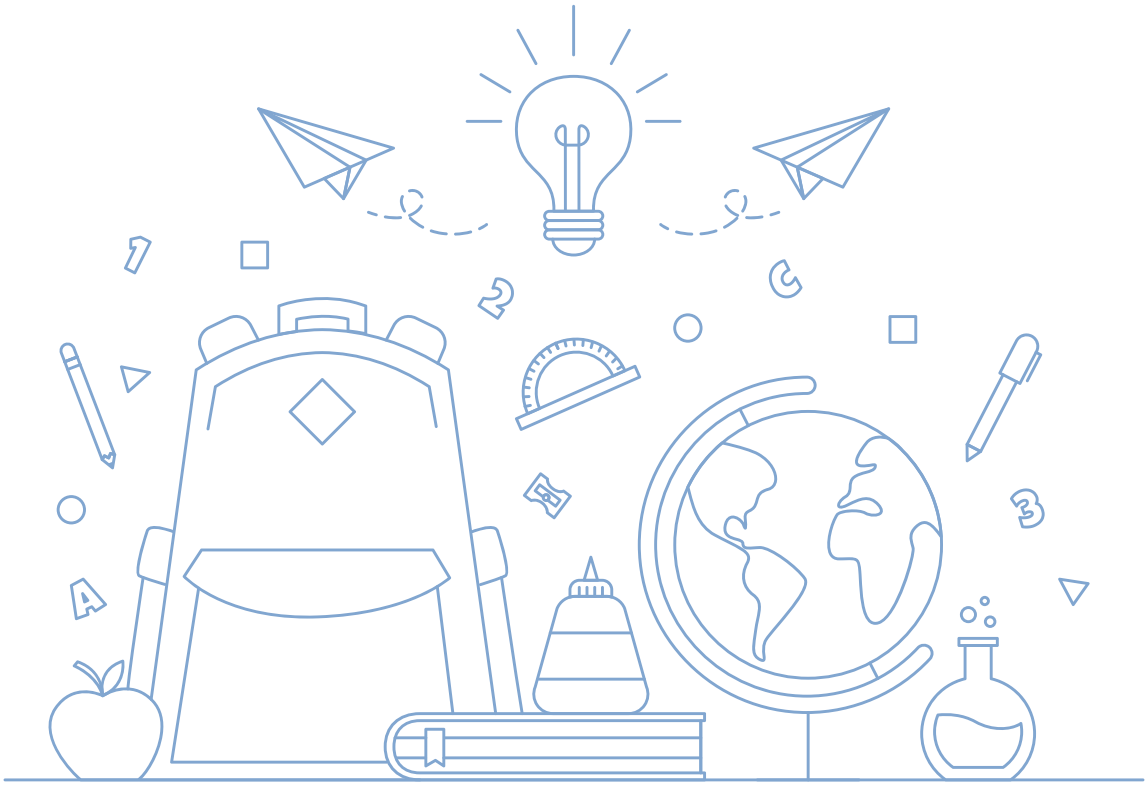
	2021	2022	2023	2024	2025
Education sector budget, billion MNT	2,015.29	2,300.20	2,640.96	2,965.20	3,352.76
Education sector costs, billion MNT	2,997.92	2,940.91	3,218.26	3,469.08	3,779.67
Share of education budget in education sector cost projections	67.22	78.21	82.06	85.48	88.71
Financing gap, percent	32.78	21.79	17.94	14.52	11.29
Financing gap, billion MNT	982.63	640.71	577.3	503.88	426.91

Source: author's estimation.

Given the additional costs of implementing the ESMTDP, there will be a deficit of 11.29-32.78 percent in the education sector of Mongolia. This shortcoming has to be financed with funding from development partners.

The following programs and activities outlined in the ESMTDP can be more effective if supported by international organizations due to the insufficient existing expertise in Mongolia and the scope and financial burden of the activities:

1. A project to strengthen staff capacity and improve learning environment (infrastructure) of local educational institutions at all education levels;
2. A project to develop and deliver flexible, online, distance and blended training contents for staff and students of all education levels (especially in disaster and emergency situations);
3. A project to support LLL of citizens (including required infrastructure for LLL).



CHAPTER SEVEN: MONITORING AND EVALUATION FRAMEWORK

- **M&E arrangements**
- **Possible Risks and Mitigation Measures**
- **Indicators and targets**

CHAPTER SEVEN: MONITORING AND EVALUATION FRAMEWORK

7.1. M&E ARRANGEMENTS

7.1.1. M&E legal environment

The M&E framework of the ESMTDP 2030 shall be framed in conformity with Clause 21 of Development Policy Planning and Management Law of Mongolia; and have the following phases:

1. Collect, classify and integrate information
2. Evaluate performance of objectives
3. Evaluate impact of the performance
4. Evaluate internal and external factors
5. Correlation of planning and implementation
6. Evaluate performance levels
7. Feedback and recommendations to improve the policy documents

In the M&E framework, tools and methodology shall be as indicated in the Clause 6 of the common regulation for M&E of government institutions.

By regulation, MES has a dedicated division for M&E and internal auditing. The division has seven staff. According to the current MES structure,[158] two staff are responsible specifically for M&E in the education sector, as shown in Table 1.

Table 7.1. Positions and responsibilities within the M&E division

	Position	No staff	Responsibility
1	Head of the division	1	Overall management and supervision of the M&E and auditing
2	Senior specialist	1	M&E of primary and secondary education
3	Specialist	1	M&E of pre-primary education
4	Specialist	1	M&E of higher education, culture, science and technology, innovation sub-sectors
5	Internal auditor	1	Expenditure of sector budget, investment, donor projects
6	Internal auditor	1	Sector financing and investment

This division has responsibilities[159] related to monitoring and auditing the implementation of sector policies, programs, projects and strategic operations of the Ministry; evaluating of outputs and outcomes; and providing recommendations regarding the attainment of objectives and actions to be taken to improve policy implementation. It also proposes actions to mitigate risks.

The main users of reports prepared by the M&E division are the Minister, Vice-Minister, State Secretary, MES departments and their staff, professional organizations, universities, schools, kindergartens and related stakeholders. There are also indirect users such as other ministries, public agencies, local administrative organizations and other bodies. Partners of the M&E division are Government Cabinet Secretariat, ministries, government and non-government organizations and citizens associated with M&E.

Regarding the TVET sub-sector, the VETPIC under MoLSP has its own division responsible for M&E of VET policy, programs and projects. The staff reports to the M&E division of MoLSP, which has the same functions and procedures as the MES M&E division. VETNC has a responsibility to oversee the implementation of the policies and programs and provide feedback.

[158] As of 14 May 2020.
[159] Government Resolution No.91 approved in 2016.

M&E and auditing of the MES and MoLSP are reported to the Government Cabinet Secretariat; and based on the attained outcomes, the performance of the sector is appraised.

Table 7. 2 Capacity of M&E responsible unit or staff at each organizations under MES

Organization	Unit	Staff	Responsibilities
MES	MEIAD	2 M&E staff In education sector	• M&E of pre-primary, primary and secondary education sub-sectors • M&E higher education, culture, science and technology, innovation subsectors and national programs
MIER	Administrative unit	1 staff	• Administrative tasks • M&E of the organization operations
ITPD	Registration, planning and information unit (RPIU)	2 staff	• Registration of the trainings • Planning of the training • Information sharing • M&E of the organization operations
EEC	Exam and research unit (ERU)	1 staff	• School exam development and research • HE exam development and research • Quality assurance and M&E
(MNCEA	NA	NA	
Local Education Department (LED)	Administrative unit	1 staff	• Internal operations and administrative tasks • M&E of the organization operations
HE institution	M&E unit	2-3 staff	• M&E of the programs and training • M&E of the operations
Primary and Secondary school	NA	NA	
Kindergarten	NA	NA	

TVET is under the responsibility of MoLSP. It has a separate M&E organizational structure, as shown in Table 3.

Table 7.3. Capacity of M&E responsible unit or staff at each organizations under MoLSP

Organization	Unit	Staff	Responsibilities
MoLSP	MEIAD	1 M&E staff	• M&E of labor relation and VET policy implementation
VETAMC	Administrative unit	1 staff	• M&E of the organization operations
VET provider – Polytechnic College and VETPC	Training unit	1 staff	• M&E of the organization operations

In spite of existing regulations and organizational setup, the M&E structure in the past has not always been fully effective in performing its functions with regard to ESMTDP implementation monitoring and evaluation. Therefore, it is proposed that for ESMTDP 2021-2030, a joint committee for M&E be appointed with membership to include local education organizations, donors, civil society organizations, and other line ministries; professional organizations and representatives of schools, universities, VET providers and experts. These would function as an external M&E body.

7.1.2. M&E activities

Periodic reviews will be conducted by the M&E and Internal Audit Divisions of MES and MoLSP. The reviews shall be based on the information provided by the officials directly in charge of specific programs and activities such as the Pre-primary Education Department, General Secondary Education Department, Higher Education Department and TVET Policy Implementation and Coordination Department of MoLSP. The reviews will be conducted on a quarterly basis. Results will be for internal ministry use. Based on the findings of periodic quarterly reviews, the departments will plan and coordinate their activities for the next quarter to achieve expected annual results and targets.

Annual reviews will be conducted to systematically assess the progress made towards achieving the objectives of the Education Sector Plan and identify implementation challenges encountered during the year. The achievements of each program will be compared systematically with the annual and medium-term expected results and targets. The Policy Planning Department of MES shall be responsible for the annual reviews.

A mid-term review will be conducted in 2025 to carefully examine the results obtained and problems encountered to support decisionmaking and possible revision of the targets and programs foreseen for the second term of the Plan (2026-2030). The review and report will be prepared by the MES and MoLSP. It will be complemented by evaluation studies carried out by external evaluators, or by a team of MOE staff and external evaluation specialists.

The final review and evaluation will be conducted after 2030. It will evaluate final results and impact, their relevance, effectiveness, efficiency and sustainability; analyze why certain results were achieved and others not; and derive lessons for possible policy revision and for preparing the next planning cycle. The final review and evaluation shall be conducted by external experts in order to increase the objectivity of the evaluation with the involvement of internal and external stakeholders, such as donors and civil society organizations (CSOs).

For pre-primary education, the following surveys and evaluative studies shall be conducted to provide M&E information:

Table 7.4. Surveys and evaluative studies, pre-primary education

#	Name of survey	When	By whom
1	5-year-old child`s school preparedness survey	Annual	EDU, EEC
2	Baseline survey to assess parental skills	2020	HDRS, MIER
3	Evaluative study on children's progress in their development whose parents attended parent education program	Annual	HDRS, MIER
4	Comprehensive development research for children aged 0-5 years	Every 3 years	HDRS, MIER
5	Survey on herder children accessing alternative services	2020	ECRS, MIER

For Primary and secondary education, the following surveys and evaluative studies shall be conducted to provide M&E information:

Table 7.5. Surveys and evaluative studies, primary and secondary education

#	Name of survey	When	By whom
1	Comprehensive development research for children aged 6-18 years	Every 3 years	HDRS, MIER
2	Teacher training needs assessment	Annual	LED
3	Survey on parents who are engaged in food safety program at school level	Annual	Schools

4	Textbook use survey	Every two years	TLERS, MIER
5	Needs assessment of specialized high schools	2020	ECRS & TLERS, MIER
6	Mapping exercise of schools in terms of location, structure and type of schools	2020	SPPD & GED of MES, ECRS & TLERS, MIER

For TVET, the following surveys and evaluative studies shall be conducted to provide M&E information:

Table 7.6. Surveys and evaluative studies, technical and vocational education

#	Name of survey	When	By whom
1	Graduates Tracer Study	Annual	EPRU, RILSP
2	Skills for Employment Survey	Every 2 years	EPRU, RILSP
3	Labor market barometer study	Annual	EPRU, RILSP

For higher education, no additional surveys and evaluative studies shall be conducted to provide M&E information.

Table 7.7. Recap of M&E activities

	When	Purpose	Content	By whom	For whom
Periodic progress report/periodic internal review on activity programs	Every quarter	To support the routine supervision of plan implementation within the different departments	Inputs and outputs	MEIAD MES and MOLSP	PrePED, GED, HED, MES and VETPICD, MoLSP
Annual performance report/annual reviews	Annual	To systematically assess the progress made towards achieving the education sector plan objectives and the implementation challenges encountered during the year	Annual outputs and targets	SPPD, MES	Minister, Vice-minister, State Secretary, DPs and CSOs
Midterm review/ evaluation reports	2025	To examine of results obtained and problems encountered to support decision making and possible revision of the targets and programs foreseen for the second term of the plan	Outcomes and targets	MES, MOLSP, external evaluators	Minister, Vice-minister, State Secretary, DPs and CSOs
Final review and evaluation reports	After 2030	To evaluate final results and impact, their relevance, effectiveness, efficiency, and sustainability; but also to analyze the reasons why certain results have been achieved and not others, and to derive lessons for possible policy revision and for preparing the next planning cycle	Outcomes, impacts and KPIs	External experts, MES, MOLSP, DPs and CSOs	Minister, Vice-minister, State Secretary, LEG

7.2. POSSIBLE RISKS AND MITIGATION MEASURES

A number of possible risks have been identified that may occur during the implementation of the Plan. They are listed below together with proposed mitigation measures and actions. The risks include:

1. Unstable and weak economic performance, leading to insufficient budget resources with implications for resource allocation and investments in the education sector;
2. The percentage share of education budget in total government budget may not reach 20 percent, as assumed in the macro-economic framework;
3. Frequent changes in the government and unstable political and governance environment may affect plan implementation;
4. Natural disaster – harsh winters, floods, and droughts, among others – may render conditions for plan implementation more difficult than anticipated;
5. Delays in the implementation of priority goals, strategy and programs due to uncertain, unstable political condition and a shortage of financial resources;
6. Social emergency, disaster, pandemic such as COVID-19.

Any of these factors, isolated or in combination, may lead to delays in the implementation of the Plan and programs and pose a risk for reaching policy goals and priority objectives.

Table 7.8. Possible risks during plan implementation and mitigation measures

Risk	Mitigation	Responsible body
1. Due to unstable and weak economic performance, insufficient budget and investment allocation for education sector	- To apply needs-based rigorous fiscal discipline and mechanism - Strengthen the partnership between donor organizations, to reduce non-budgetary expenses, to increase financial support by donor organizations - In order to increase fiscal discipline, to apply strengthen governance and responsibility · - To implement needs-based investment planning	PPD & FED, MES VETPICD, MoLSP
2. The percentage share of education budget in government budget may not reach up to 20 percent	- To increase the share of financial and investment support by donor organizations for the plan implementation - To reduce the investment in the sector budget	PPD & FED, MES
3. Frequent change in the government and unstable political and governance environment	- To implement relevant laws	PPD, MES VETPICD, MoLSP
4. Natural Disaster	- To develop and implement emergency policy and mitigation measures of education sector - To conduct risk and disaster mapping of professional and training organizations of education sector - To strengthen the capacity of teachers and managers of education institutions in the field of risk assessment, disaster prevention and responsiveness and preparedness - To establish open, online training sources	GoM; PPD, MES; VETPICD, MoLSP ITPD,
5. Delay in the implementation of priority goals, strategy and programs due to uncertain, unstable political condition and shortage of financial resources	- To consider or prioritize the plan goals when conducting sector wide reforms, - To allocate necessary budget for implementing sector wide communication strategy	PPD & FED MES; VETPICD, MoLSP;
6. Social disaster, pandemic such as COVID-19	- To update to address the implications of further security and sanitary risks on the plan - To prepare Open, distance and online education resources	PPD & FED MES; VETPICD, MoLSP;

7.3 INDICATORS AND TARGETS

The list of Key Performance Indicators (KPI) is presented below. The KPI will be an instrument to monitor progress towards achieving education policy goals and sub-sector objectives (related to quality, access and management) for education sector development. A synthesis of the ESMTDP objectives, programs and activities with monitoring indicators and targets for 2025 and 2030 is presented in the Results Matrix in Annex 2.

Table 7. 9 Sector key performance indicators

Areas	Indicators	Baseline value	Target value (2025)	Target value (2030)	Source of verification	Frequency	Responsible body
1.1. Quality	Percentage of 5-year old children who meet health, learning, psychology, social wellbeing, by sex	NA	80%, by sex and location	100%, by sex and location	Child Development Study Report	Every 3 year	CDSS, MIER
	Share of children and youth with basic reading and numeracy skills, by sex	TBD	80%, by sex and location	100%, by sex and location	Grade 5 Student Reading and Numeracy Evaluation Report	Annual	EEC
	Share of children and youth with basic reading and numeracy skills, by sex	TBD	80%, by sex and location	100%, by sex and location	Grade 9 Student Reading and Numeracy Evaluation Report	Annual	EEC
	Share of VET graduates who meet employer requirements	TBD	50%	80%	Employer Satisfaction Survey Report	Every 3 year	RILSP, MoLSP
	Share of HE graduates who meet employer requirements	TBD	50%	80%	Employer Satisfaction Survey Report	Every 3 year	RILSP, MoLSP
	Percentage of school leaders who successfully completed capacity building trainings on education management and leadership, by sex and location	NA	80%	100%	Annual Reports of ITPD and Universities	Annual	ME Staffs, ITPD
	Retention rate of school leaders, by sex and location	NA	80%	100%	Annual Reports of ITPD and Universities	Annual	ME Staffs, ITPD

1.2 Access	Access rate in formal and informal education (offline, only, open, distance)	NA	65%	100%	EMIS Report	Annual	MEIAD, MES
	Class size, by levels	Kindergarten – 33 School in Ulaanbaatar – 35 School in locals - 28	25-30	20-25	EMIS Report	Annual	MEIAD, MES
	Gender disparity index,by sex and level	NA	TDB	TDB	EMIS Report	Annual	MEIAD, MES
	GER, by level, sex and location	NA	100%	100%	EMIS Report	Annual	MEIAD, MES
	Transition rate, by sex, level	NA	100%	100%	EMIS Report	Annual	MEIAD, MES
	Transition rate, by sex and level	NA	100%	100%	EMIS Report	Annual	MEIAD, MES
1.3 Governance, management and administration	Re-structuring of professional institutes	NA	Approved regulation	-	MES Report	Annual	MEIAD, MES
	Percentage of professional institution staffs who successfully completed capacity building trainings	13%	60%	100%	MES Report	Annual	MEIAD, MES

Table 7. 10. Pre-primary education key performance indicators

Areas	Indicators	Baseline value	Target value (2025)	Target value (2030)	Source of verification	Frequency	Responsible body
2.1 Quality	% of 5-year old children ready for primary school, by gender and by location	TBD, by gender and by location	80%, by gender and by location	100%, by gender and by location	Survey/PPE Providers	Annual	EDU, EEC
2.2 Access	NER, by sex and location	81.5	89.4		Survey/PPE Providers	Annual	PPED and ITSD, MES
	Access rate of 5-year old children in pre-primary education, by sex, location	90.1	100	100	Survey/PPE Providers		
	A number of children for one teacher	34.1	25	20	Survey/PPE Providers		
	Vulnerable household children GER, by gender	34%, by gender	50%, by gender	60%, by gender	EMIS, Household socio-economic survey		
	Children with special needs GER, by gender	NA	TBD, by gender	TBD, by gender	EMIS, Household socio-economic survey		
2.3 Management	Policy research database in place	NA	Database in place		MES Report	Once	PPED and ITSD, MES
	% of internally evaluated kindergartens	NA	50%	100%	Kindergarten Reports	Annual	

Table 7. 11 Primary and secondary education key performance indicators

Sector/areas	Indicators	Baseline value	Target value (2025)	Target value (2030)	Source of verification	Frequency	Responsible body
3.1 Quality	Achievement rank of the PISA, by gender, location and school type	NA, PISA 2021	To improve ranking by 5 in 2024		PISA 2021, 2024 reports	Every 3 years	ERU, EEC
	7-14 aged children reading and numeracy skills	61.6 51.5	70	80	Literacy and numeracy evaluation report	Every 5 year	ERU, EEC
	National average of Kazakh and Tuva children performance in Mongolian Language evaluation at grade 12, by location, by gender	TBD, by gender	National average is no lower than 70%	National average is no lower than 80%	EEC Annual Mongolia language proficiency test	Annual	ERU, EEC
	Gap in urban and rural school children performance in grade 6, 9 and 12 exams in math, by location, by gender	TBD, by gender	Gap U/R Grade 6, less than 15%	Gap U/R Grade 6, less than 15%	EEC Annual School leaving exam at grade 6	Annual	ERU, EEC
		TBD, by gender	Gap U/R Grade 9, less than 10%	Gap U/R Grade 9, less than 5%	EEC Annual School leaving exam at grade 9	Annual	ERU, EEC
		TBD, by gender	Gap U/R Grade 12, less than 15%	Gap U/R Grade 12, less than 10%	EEC Annual School leaving exam at grade 12	Annual	ERU, EEC
3.2 Access	NER of primary and secondary education by gender	TBD, by gender	TBD, by gender	TBD, by gender	EMIS report	Annual	MEIAD, MES
	Junior secondary education NER, by sex, location	94.9	95.9	100%	EMIS report	Annual	MEIAD, MES
	Primary student/teacher ratio	31.1 34.4 – Urban 28.5 - Rural	25 Urban – 30 Rural - 25	20 Urban – 25 Rural - 20	EMIS report	Annual	MEIAD, MES
	NER secondary education by gender	TBD, by gender	TBD, by gender	TBD, by gender	EMIS report	Annual	MEIAD, MES

	GER of students with special need enrolled in primary school by gender, location	TBD, by gender and location	TBD, by gender and location	TBD, by gender and location	EMIS report	Annual	MEIAD, MES
	GER of students with special need enrolled in secondary school by gender, location	TBD, by gender and location	TBD, by gender and location	TBD, by gender and location	EMIS report	Annual	MEIAD, MES
	% of textbooks re-printed from the fund from renting fee	0%	60%	100%	MES report	Annual	MEIAD, MES
3.3 Management	Primary education internal efficiency coefficient	TBD	TBD	TBD	EMIS report	Annual	MEIAD, MES
	Secondary education internal efficiency coefficient	TBD	TBD	TBD	EMIS report	Annual	MEIAD, MES
	Number of specialized high schools set up	NA	3 in UB and 2 in regions	9 in UB and 10 in regions	MES Report/LED report	Annual	MEIAD, MES

Table 7. 12. TVET key performance indicators

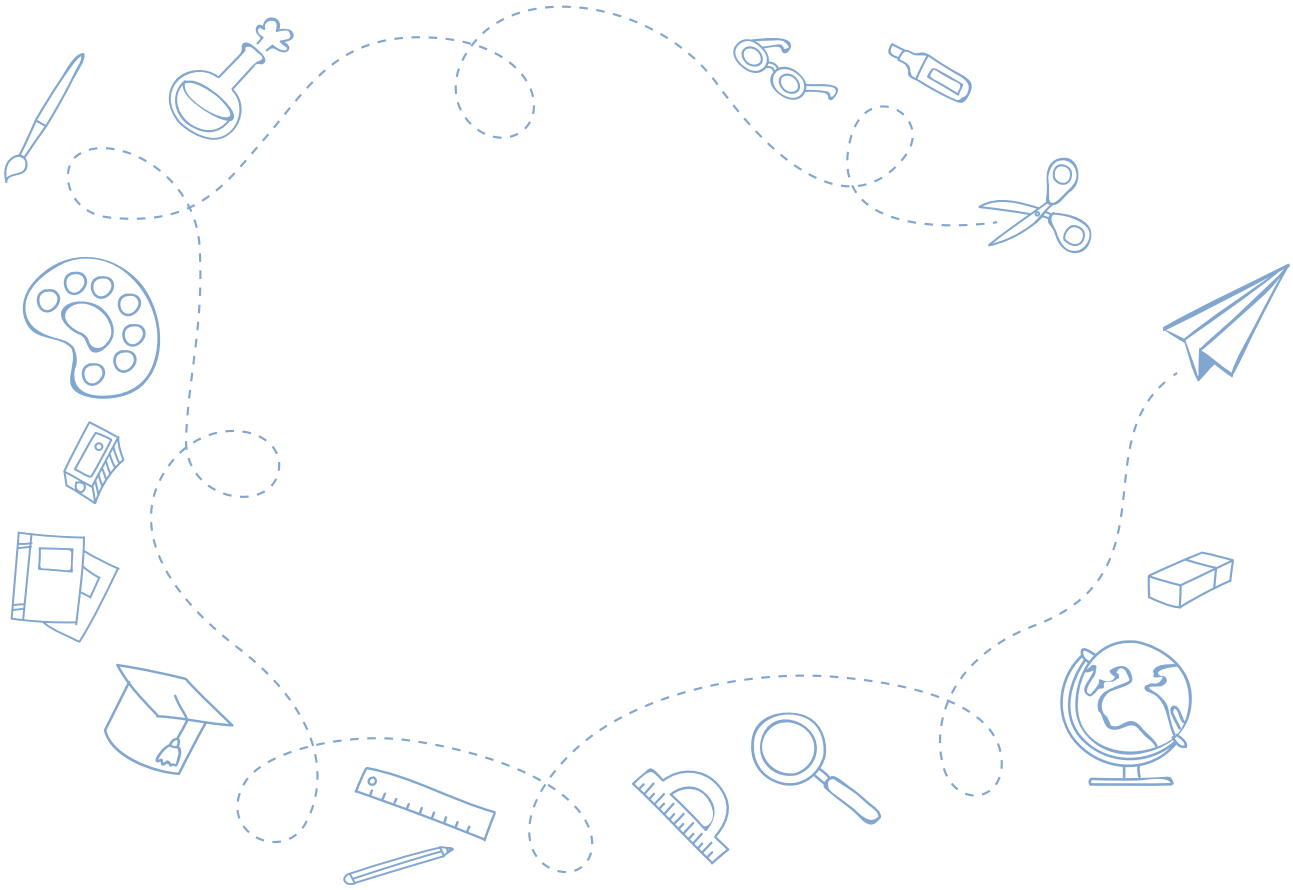
Sector/areas	Indicators	Baseline value	Target value (2025)	Target value (2030)	Source of verification	Frequency	Responsible body
4.1 Quality	The percentage of basic education graduates enrolled in the TVET program (CBC) has increased	20% of basic education graduates	25%	30%	Statistics	Annual	Statistics of MES, Department of TVET policy implementation and coordination
	Employment rate of 25-64 years old people, who have completed 5-6 level of TVET (ISCED 4 and 5 levels) has increased	Professional employment of all TVET graduates is 44%	50%	70%	Alumni Employment Survey, Research institute of Labor and Social protection	Annual	ERU, EEC
	Unemployment rate of people over 15 years old, who have acquired professional skills and are developed professionally through short-term trainings has decreased	Unemployment rate of people over 15 years old is 10% (at national level)	9%	8%	NSO information for 2020	Annual	NSO

	Number of newly trained teachers	Number of new teachers required 194	1082	2352	TVET statistics	Annual	Statistics of Department of TVET policy implementation and coordination
	Percentage of teachers, who were involved in re-training and in service trainings, out of total number of teachers	66%	80%	90%	Teacher development department of TVET Assessment, Information and Methodology Centre	Annual	TVET Assessment, Information and Methodology Centre
4.2 Access	The percentage of people, studied TVET program has increased (per 100,000 people)	About 1.2%	2.20%	2.40%	Department of TVET policy implementation and coordination	Annual	Statistics of Department of TVET policy implementation and coordination
	Number of competency certificates issued as a result of prior knowledge and skills assessment	3200	6000	9000	Evaluation and certification unit of Department of TVET policy implementation and coordination	Annual	TVET Assessment, Information and Methodology Centre
	The percentage of people with special needs studying in an adjustable environment through adaptive curriculum has increased, out of all students	About 2% out of all students	3%	4%	Department of TVET policy implementation and coordination	Annual	Statistics of Department of TVET policy implementation and coordination
	An interdisciplinary internship department is established	NA	3 in priority areas of economy	6 in priority areas of economy	Department of TVET policy implementation and coordination	Annual	Statistics of Department of TVET policy implementation and coordination
	Number of training institutions that have strengthened their training equipment and base in accordance with the requirements of the labor market and employers	6 benchmark schools, 7 competency centers	10 competency centers (+ ADB certification center 3)	The operation of 10 competency centers is stabilized	Department of TVET policy implementation and coordination	Annual	Statistics of Department of TVET policy implementation and coordination
	Percentage of professional employment rate of TVET campus graduates	NA		50%	Department of TVET policy implementation and coordination	Annual	Statistics of Department of TVET policy implementation and coordination
	Percentage of students aged 24-64, who are learning through open and distance learning programs	NA	5%	10%	Department of TVET policy implementation and coordination	Annual	Statistics of Department of TVET policy implementation and coordination

4.3 Management	Inter-sectorial TVET agency	NA	Consists of 20 persons	The operation is stabilized and the capacity is strengthened	MOLSP	Annual	MOLSP
	Number of professional specialists in the TVET sector/ organizations	NA	70 persons	The operation is stabilized and the capacity is strengthened	MOLSP	Annual	MOLSP
	The coherence between EMIS-TVET Integrated database and labor market is established	NA	Mechanism is established	The continuous flow and use of information is improved	MOLSP	Annual	Statistics of Department of TVET policy implementation and coordination
	Number of accredited educational institutions	8	15	30	Department of TVET policy implementation and coordination	Annual	Statistics of Department of TVET policy implementation and coordination

Table 7. 13. Higher education key performance indicators

Sector/areas	Indicators	Baseline value	Target value (2025)	Target value (2030)	Source of verification	Frequency	Responsible body
5.1 Quality	Share of PhD teachers in HE teachers	30.5	45	40	HEMIS Report	Annual	MEIAD, MES
	% of students who have successfully completed 1, 2 and 3rd years in universities, by sex	NA	80%	100%	HEMIS report	Annual	MEIAD, MES
	Teacher-to-Student Ratio	1:23	1:19	1:15	HEMIS report	Annual	MEIAD, MES
	Graduate employment level, by sex, by HE specialization	TBD (M/F)	TBD (M/F)	TBD (M/F)	HEMIS report	Annual	MEIAD, MES
5.2 Access	Number of students for 10,000 population, by sex	TBD (M/F)	TBD (M/F)	TBD (M/F)	HEMIS report	Annual	MEIAD, MES
	% of rural students in total HE students, by sex	NA	TBD	TBD	HEMIS report	Annual	MEIAD, MES
	% of students in open, online and distance programs, by sex	NA	TBD	TBD	HEMIS report	Annual	MEIAD, MES
5.3 Management	% of HEI accredited by HENUMBER	NA	50%	95%	HEMIS report	Annual	MEIAD, MES



APPENDICIES

APPENDIX 1 – THE LIST OF PARTICIPANTS INVOLVED IN PREPARATION OF THE ESMTDP

High level political officers

1.	Yo. Baatarbileg	Minister of Education, Culture, Science and Sports
2.	Ts. Munkh-orgil	MP, Head of the Parliament WG on revising education sector laws

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Representatives of public organizations		
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	D.Tsetsegee	Director, Mongolian Teacher`s Association
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12.	D.Suvdaa	National expert on Education Financing and Investment

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22	B.Batmunkh	National Development Agency
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24	D.Naranzul	TVET Assessment center
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26	D.Surenchimeg	Institute of Teacher`s Professional Development, Acting Director
27	O.Oyuntungalag	Institute of Teacher`s Professional Development
28	D.Sarantuya	MIER, advisor
29	H.Begz	MIER advisor

30	N.Nergui	MIER advisor
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36	J.Ariunaa	State Conservatoire University
37	A.Tsanjid	Etugen university
38	B.Tamir	"Lorinet" Education foundation
39	Ch.Undrakhbayar	"Tugeemel khugjil" independent life support center
40	Ya.Avirmed	"Tugeemel khugjil" independent life support center
41	N.Tamirkhuu	"Tugeemel khugjil" independent life support center
42	U.Batbayar	"West nudge bat" private school teacher
43	B.Doloojin	National Institute of Ethics
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46	J.Byambatsogt	WB, GPE study on primary education sub-sector
47	M.Batbaatar	National University of Mongolia, Department of Sociology

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APPENDIX 2 – RESULTS FRAMEWORKS

PRE-PRIMARY EDUCATION

Pre-primary sub-sector goal : Develop accessible, standard-based, high quality pre-primary education for all children with safe, healthy and green environment which encourages parents' participation and supports to children's school preparation								
Program/sub-Program	Objective/expected results	Indicators	Baseline value	Target value (2025)	Target value (2030)	Source of verification	Frequency	Responsible body
2.1 Quality	Outcome 2.1: Strengthen pre-primary education services to address children's holistic development needs and integrated with the next level of education	% of 5-year old children ready for primary school, by gender (M/F) and by location (U/R)	TBD, by gender (M/F) and by location (U/R)	80%, by gender (M/F) and by location (U/R)	100%, by gender (100%/100%) and by location (100%/100%)	Survey/PPE Providers	Annual	Evaluation and Development Division, Education Evaluation Center
Program 2.1.1								
Strengthen professional capacity of pre-primary teachers and non-teaching staff	Output 2.1.1.1: Develop and verify preschool teacher standards including skills to work with children with special needs	PPE teacher standard approved (Professional, ICT, and foreign language).	NA	Standards available	-	MES report	Once in 2021	Pre-primary Education Department, MES
	Output 2.1.1.2: Develop and implement sample/ reference program for preschool teacher in-service training in accordance with the above-mentioned standards	% of teachers covered under trainings for capacity strengthening	NA	TBD	TBD	Administrative data	Annual	Teacher Development and Teaching Technology Department, ITPD
	Output 2.1.1.3: Develop flexible (as of type and time) types of professional development training for preschool teachers regardless of location and time focusing on skills to work with children with special needs	% of PPE teachers undertaking open, online and distance-training	TBD	TBD	TBD	Administrative data	Annual	
	Output 2.1.1.4: Prepare preschool assistant teachers in related universities	% of assistant teachers prepared at higher education Institutions	NA	30%	80%	EMIS, Administrative data	Annual	Information Technology and Statistics Division, MES

	Output 2.1.1.5: Deliver needs-based capacity building trainings for rural preschool teachers taking into account of local features in cooperation with local education departments	% of local teachers covered under trainings for capacity strengthening	NA	TBD	TBD	Administrative data	Annual	Teacher Development and Teaching Technology Department, ITPD and Local Education Departments
Program 2.1.2								
Parental education Program	Output 2.1.2.1: Conduct a baseline survey to assess parental skills	Baseline survey conducted	NA	Survey results are available	-	Baseline survey report		Human Development Research Unit, MIER
	Output 2.1.2.2: Develop parents' training package on their skills to support child development	Number of developed training package	NA	4	8	Annual Report	Annual	Education Program Research Unit, MIER
	Output 2.1.2.3: Deliver the above trainings based on local education departments and lifelong education centers	Number of parents attended training	NA	2000	5000	MIER Annual Survey	Annual	Local Education Department and LLE Centers
		Number and % of households with 0-5 years old children benefiting from the parental education Program	NA	TBD	TBD		Annual	Human Development Research Unit, MIER
	Output 2.1.2.4: Evaluate children's progress in their development based on identified national benchmarks for child development	Score of children holistic development	TBD	TBD	TBD	MIER Annual Survey	Annual	Human Development Research Unit, MIER
Program 2.1.3								
Increase the quality and relevance of childhood development research and evaluation to facilitate policy development	Output 2.1.3.1: Conduct comprehensive developmental research for children aged 0-5 years every 3 years and set up a national benchmark for child development	Benchmark for holistic development of 0-5 years children approved (Cognitive, physical and emotional benchmark)	NA	Benchmark approved	-	Annual report	2021	Human Development Research Unit, MIER

		Research conducted every 3 years	NA	Yes	Yes	Research report	Every 3 years	
	Output 2.1.3.2: Incorporate research results into preschool curricula, methodologies, learning materials and teacher training	Number and % of updated preschool curricula, methodologies, learning materials and teacher training programs	NA	TBD	TBD	Report	Annual	Education Program Research Unit & Teacher Development and Teaching Technology Department, ITPD
	Output 2.1.3.3: Administer national evaluation of school preparedness of 5 year-old children, annually	5 years old school preparedness survey conducted	NA	Yes	Yes	Survey	Annual	Evaluation and Development Division, Education Evaluation Center
2.2 Access	Outcome 2.2: Increase all children's opportunities to access pre-primary education services regardless of their development features, geographical location and socio-economic status of their parents	Herder household children gross enrollment rate, by gender	45.2%, by gender (M/F)	60%, by gender	70%, by gender	EMIS	Annual	Information Technology and Statistics Division, MES
		Vulnerable household children gross enrollment rate, by gender	34%, by gender	50%, by gender	60%, by gender	EMIS, Household socio-economic survey	Annual	
		Children with special needs gross enrollment rate, by gender	NA	TBD, by gender	TBD, by gender	EMIS, Household socio-economic survey	Annual	
Program 2.2.1								
Improve kindergarten infrastructure and environment	Output 2.2.1.1: Increase a number of kindergarten buildings/beds in line with a number of kindergarten-aged population	Number of additional beds	TBD	TBD	TBD	EMIS	Annual	Information Technology and Statistics Division, MES

	Output 2.2.1.2: Improve water and sanitation facilities in local kindergartens based on needs	% of kindergartens with improved water and sanitation facilities in rural areas	TBD	20%	50%	EMIS	Annual	
	Output 2.2.1.3: Supply toys and learning materials that are relevant to learning objectives of the curriculum to kindergartens	% of kindergartens with supplied toys and learning materials	TBD	50%	100%	EMIS	Annual	
Program 2.2.2								
Increase equitable access to pre-primary education, in particular for children from herder families	Output 2.2.2.1: Conduct a survey on what extent herder children are able to access the existing alternative services of preprimary education and identify more effective alternatives	Survey conducted	NA	Survey results are available		Survey report	Once in 2021	Education Program Research Unit, MIER
	Output 2.2.2.2: Pilot and implement the identified alternative services in phases	Number of alternative services developed	3	TBD	TBD	MIER report	2021-2022	
		Number of children attending the pilot program	NA	30000		MES report	2022-2023	Information Technology and Statistics Division, MES
	Output 2.2.2.3: Disseminate the alternatives to nationwide setting up the needed financial and human resources and engagement of local authorities	Budget for the alternatives	NA	TBD	TBD	MES report	Annual	Finance and Economic Department, MES
	Output 2.2.2.4: Implement the program	% of herder children benefiting from the Program	NA	50%	100%	EMIS report	Annual	Information Technology and Statistics Division, MES
Program 2.2.3								
Provision of supplies for children from poorest families, both urban and rural	Output 2.2.3.1: Integrate poor household database in the MoLSP with EMIS	Integrated database in place	NA	Database in place		Report	2021	Information Technology and Statistics Division, MES & MOLSP

	Output 2.2.3.2: Based on EMIS data, provide transportation pass to parents of poorest families for sending their children to kindergartens or child care services	% of parents provided with transportation pass	NA	50%	100%	Integrated database	Annual	
	Output 2.2.3.3: Update the list up the necessary learning and hygiene materials for children from poorest families and provide funding of these materials to kindergartens and child care service centers	% of poor children receiving the necessary learning and hygiene materials	NA	50%	100%	Integrated database	Annual	
Program 2.2.4								
Facilitate access of children with disabilities in ECE	Output 2.2.3.1: Improve the kindergarten environment for children with disabilities in conformity with "the enabling environment" regulation No.....	% of kindergarten with facilities for children of disabilities	TBD	20%	50%	EMIS	Annual	Investment and Production Department, MES
	Output 2.2.3.2: Develop teacher training modules focusing on specific disability features of children	Number of developed modules	NA	5	10	Report	Annual	Teacher Development and Teaching Technology Department, ITPD
	Output 2.2.3.3: Train pre-primary teachers focusing on specific skills related to children disability type in distance, online and face-to-face training	% of teachers covered under trainings for capacity strengthening	NA	50%	100%	Report	Annual	
Program 2.2.5								
Open education program	Output 2.2.5.1: Develop open, online and distance learning content and resources for children and their parents in cooperation with related professional organizations, universities and civil society organizations, companies	Number of developed open, online and distance learning content and resources for children	NA	5	10	Report	Annual	Education Program Research Unit, MIER

		Number of developed open, online and distance learning content and resources for parents	NA	5	10	Report	Annual	
	Output 2.2.5.2: Develop open, online and distance teacher training content and resources in cooperation with related professional organizations, universities and civil society organizations, companies	Number of open, online and distance teacher training content and resources	NA	5	10	Report	Annual	Teacher Development and Teaching Technology Department, ITPD
	Output 2.2.5.3: Support MNCEA to verify the quality of the above open, online and distance content and resources	Number of verified open, online and distance content and resources	NA	15	30	Report		Secretariat of MNCEA
2.3 Management	Outcome 2.3: Improve the efficiency of pre-primary education providers' management and arrangements for service delivery	Policy research database in place	NA	Database in place		Report	Annual	Information Technology and Statistics Division, MES
		% of internally evaluated kindergartens	NA	50%	100%	Report	Annual	Pre-primary Education Department, Information Technology and Statistics Division, MES
Program 2.3.1								
Policy research and baseline studies to provide orientation about options for implementation of Programs under 2.2 (access)	Output 2.3.1.1: Conduct needs assessment for the construction of new kindergartens	Annual needs assessment conducted	TBD	Yes	Yes	Report	Annual	Pre-primary Education Department, Investment and Production Department, MES
	Output 2.3.1.2: Carry out needs assessment water and sanitation facilities in kindergartens	Annual needs assessment conducted	TBD	Yes	Yes	Report	Annual	

	Output 2.3.1.3: Review of the existing toys and learning materials matching with learning objectives in the curriculum and identify needs	Existing toys and learning materials matched	NA	Toys and learning materials matched		Report	Annual	Textbook and Learning Environment Research Unit, MIER
	Output 2.3.1.4: Develop policy research database at EMIS	Policy research database updated annually	NA	Yes	Yes	Report	Annual	Pre-primary Education Department, MES Secretariat of MIER
Program 2.3.2								
Set up the quality assurance mechanisms to guide implementation of Programs under 2.1 (quality) education, in particular for children from herder families	Output 2.3.2.1: Update a job description for a staff with responsibility of internal quality evaluation	Job description updated	NA	JD updated	-	Report	2021	Pre-primary Education Department, MES
	Output 2.3.2.2: Develop standardized evaluation tools for internal quality evaluation of kindergartens	Number of standardized evaluation tools for internal quality evaluation of kindergartens	NA	TBD	TBD	Report	Annual	Secretariat of MNCEA
	Output 2.3.2.3: Deliver local trainings on internal quality evaluation to kindergarten leaders and methodologists as well as local education department staffs	% of kindergarten staff attended trainings	NA	50%	100%	Report from Kindergartens	Annual	Local education departments
		% of local education department staff attended trainings	NA	50%	100%	Report	Annual	
	Output 2.3.2.4: Update the annual planning of local education departments reflecting results of the internal quality evaluation of kindergartens	% of local education departments updated annual planning	NA	50%	100%	Report	Annual	Local education departments

Primary and secondary sub-sector goal : Build the foundation for a knowledge-based society applying life-long education and a research-oriented mindset for socio-economic development								
Program/sub-Program	Objective/expected results	Indicators	Baseline value	Target value (2025)	Target value (2030)	Source of verification	Frequency	Responsible body
3.1 Quality	Outcome 3.1: Improve the quality and relevance of primary and secondary education aligning with student holistic development needs	Achievement rank of the PISA, by location (U/R), by gender (M/F), and school type	TBD, PISA 2021, by location (U/R), by gender (M/F), and school type	To improve ranking by 5 in 2024, by location (U/R), by gender (M/F), and school type	TBD	PISA survey	Every 3 years	ERU, EEC
		National average of Kazakh and Tuva children performance in Mongolian Language evaluation at grade 12, by location, by gender	TBD, by location, by gender	National average is no lower than 70%, by location, by gender	National average is no lower than 80%, by location, by gender	EEC Annual Mongolia language proficiency test	Annual	ERU, EEC
		Gap in urban and rural school children performance in grade 6, 9 and 12 exams in math, by location, by gender	TBD, by location, by gender	Gap U/R Grade 6, less than 15%; by location, by gender	Gap U/R Grade 6, less than 15%, by location, by gender	EEC Annual School leaving exam at grade 6	Annual	ERU, EEC
			TBD, by location, by gender	Gap U/R Grade 9, less than 10%, by location, by gender	Gap U/R Grade 9, less than 5%, by location, by gender	EEC Annual School leaving exam at grade 9	Annual	ERU, EEC
			TBD, by location, by gender	Gap U/R Grade 12, less than 15%, by location, by gender	Gap U/R Grade 12, less than 10%, by location, by gender	EEC Annual School leaving exam at grade 12	Annual	ERU, EEC

Program 3.1.1								
Revision of teacher pre- and in-service training program to ensure common quality standards for teachers	Output 3.1.1.1: Review the teacher pre- and in-service training programs of all the teacher training universities and in-service programs	Number of standard-based programs and curricula in pre- and in-service trainings reviewed	NA	15	25	University annual reports and ITPD report	Annual	NSMO, Validated standard bank
	Output 3.1.1.2: Develop Professional Standards for a Primary and Secondary Education Teacher	P&S Teacher Standards approved	NA	Approved standard		NSMO report	Annual	Teacher pre-service universities
	Output 3.1.1.3: Re-introduce a teaching license mechanism Flexible (in terms of timing)Teaching certificate	% of novice teachers who are licensed as school teachers, by location, gender	NA	60%	100%	ITPD report	Annual	RPIU, ITPD
	Output 3.1.1.4: Update the current Minister Order #287 to make the primary and secondary school teachers' professional development system more flexible	Minister Order #287 updated	NA	Order updated		MES report	Annual	MEIAD, MES
	Output 3.1.1.5: Engage teacher universities, professional organizations, civil society organizations and companies in needs-based teacher continuous professional development activities	% of in-service trainings delivered by teacher universities	NA	30%	60%			RPIU, ITPD
		% of in-service trainings delivered by private entities	NA	18%	34%			RPIU, ITPD
	Output 3.1.1.6: Implement school-based mentor-teacher activities for newly recruited teachers at each school	% of schools with mentor-teacher support policy	NA	40%	60%	School annual reports	Annual	Statistics Unit, LED

Program 3.1.2								
Revision of primary and secondary student learning assessment	Output 3.1.2.1: Improve PISA assessment ranks by 5 in 2024 compared to 2021	Achievement rank of the PISA, by location, gender, school type	TBD, 2021 PISA report	5 ranks ahead than 2021 results		PISA 2021, 2024 Reports	Every 3 years	ERU, EEC
	Output 3.1.2.2: Update student learning assessment policy based on PISA 2021 results and reflect student creative thinking, ICT skills and mathematical literacy in the assessment, and engage more rural school teachers	Student assessment policy amended	Policy approved in 2019	Amended policy	Policy reviewed	Report	Annual	MEIAD, MES
	Output 3.1.2.3: Deliver teacher trainings and assessment experts to develop items focusing on student creative thinking, ICT skills and mathematical literacy; and engage more rural school teachers	% of Mathematics teachers trained, by location	NA	100%		ITPD report	Annual	M&E staff, ITPD
		% of Science teachers trained, by location	NA	100%		ITPD report	Annual	RPIU, ITPD
	Output 3.1.2.4: Update EEC Item bank reflecting the above skills in mathematics and science subject items	Number of new items in math test bank reflecting creative thinking, ICT skills and mathematical literacy	NA	400	700	EEC report	Annual	ERU, EEC
		Number of new items in science test bank reflecting creative thinking, ICT skills and mathematical literacy	NA	600	900	EEC report	Annual	ERU, EEC

	Output 3.1.2.5: Align national school leaving and grade-end point exams with the learning objectives stated in the curricula	Content validity of school leaving exams verified	Not verified	Verified	Verified	School leaving exam technical report	Annual	ERU, EEC
		Content validity of grade-end point exams verified	Not verified	Verified	Verified		Annual	ERU, EEC
	Output 3.1.2.6: Align the validity of national, local and school-based exams focusing on item development	Gap in achievement averages of national, local and school level exams, by gender	NA	Gap is less than 12 marks, by gender	Gap is less than 5 marks, by gender	Exam reports	Annual	ERU, EEC
Program 3.1.3								
Curriculum policy review and reform program	Output 3.1.3.1: Update primary and secondary curriculum focusing on student creative thinking, ICT skills and mathematical literacy and on the results and recommendations of national education quality evaluation, related policies and Child Comprehensive Development research	Curriculum Management Cycle Procedure approved	NA	Procedures approved	Minister decree on CMC Procedures	MES report MIER Curriculum Implementation Report	Annual	MEIAD, MECCS
		Core curriculum updated	Existing curriculum	Updated core curriculum		MES report MIER Curriculum Implementation Report	Annual	MEIAD, MECCS
	Output 3.1.3.2: Deliver trainings to school teachers, leaders and staffs of local education departments, experts for implementing the updated curriculum	% of school teachers trained	NA	60%	100%	ITPD report	Annual	RPIU, ITPD
		% of school leaders trained	NA	60%	100%	ITPD report	Annual	RPIU, ITPD

		% of school local education department staffs trained	NA	60%	100%	ITPD report	Annual	RPIU, ITPD
	Output 3.1.3.3: Conduct Child Comprehensive Development research and identify child development benchmarks every three years	Benchmark for 6-18 aged children development updated	NA	Benchmark approved	Benchmark modified	Child Development Research Report	every 3 years	M&E unit, MIER
	Output 3.1.3.4: Scale up secondary school student career guidance activities	% of grades 10-12 students visited to Career Guidance Centers by location, gender and age	NA	60%	100%	Center report	Annual	MEIAD, MECCS
		Number of individuals accessed Online career guidance	NA	800	2000	Center report	Annual	MEIAD, MECCS
Program 3.1.4								
Improving rural education quality	Output 3.1.4.1: Conduct teacher training needs assessment by local Education Departments and report assessment results to ITPD and MIER	Teacher training need identified	NA	Needs of all subject teachers identified	Needs of all subject teachers identified	TNA reports	Annual	RPIU, ITPD
	Output 3.1.4.2: Deliver teacher in-service trainings and activities responding to needs of teachers through blended-learning approaches	% of teachers trained on identified subjects, as needed, by gender, subject	NA	60%	100%	Training reports	Annual	M&E staff, ITPD
	Output 3.1.4.3: Develop an local education department-based open platform for rural teachers for providing daily support	% of rural teacher accessed support platform	NA	50%	80%	LED report	Annual	M&E staff, LED
	Output 3.1.4.4: Deliver capacity building trainings to rural school leaders focusing on quality management skills	% of teachers from rural schools trained	NA	50%	100%	LED report;	Annual	M&E staff, LED

	Output 3.1.4.5: Implement dormitory-based after-school learning activities engaging teachers whose teaching hour do not meet the specified norm	Number of teachers delivered additional lessons to dormitory children, by gender, and subject	NA	TBD	TBD	Survey report	Annual	M&E staff, LED
	Output 3.1.4.6: Deliver Mongolian language training to teachers who teach to ethnic minority children	% of Kazakh and Tuva teachers attended in Mongolian language training by gender and subject	NA	80%	100%	ITDP Report	Annual	RPIU, ITPD
	Output 3.1.4.7: Decrease a number of hidden teachers in rural schools	% of hidden teachers in soum schools by gender, and subject	NA	10%	0%	EMIS report	Annual	MEIAD, MECCS
3.2 Access	Outcome 3.2: Increase the opportunities for all children to access primary and secondary education regardless of their development features and geographical location, in an equitable and inclusive manner	NER of primary education, by gender	TBD, by gender	TBD, by gender	TBD, by gender	EMIS report	Annual	MEIAD, MES
		NER secondary education, by gender	TBD, by gender	TBD, by gender	TBD, by gender	EMIS report	Annual	MEIAD, MES
		GER of students with special need enrolled in primary school by gender, by location	TBD, by gender and location	TBD, by gender and location	TBD, by gender and location	EMIS report	Annual	MEIAD, MES
		GER of students with special need enrolled in secondary school by gender, by location	TBD, by gender and location	TBD, by gender and location	TBD, by gender and location	EMIS report	Annual	MEIAD, MES

		% of textbooks re-printed from the fund from renting fee	0%	60%	100%	EMIS report	Annual	MEIAD, MES
Program 3.2.1								
Classroom construction and infrastructure Program	Output 3.2.1.1: Increase the number of school buildings, facilities, dormitories and seats in accordance with growth of school-aged population year by year	Number of added seats	TBD	125327	19312	MES Financial report	Annual	MEIAD, MES
	Output 3.2.1.2: Improve water, sanitation facilities and equipment of schools and dormitories based on needs by gender	% of schools with inside toilets for boys	TBD	TBD	100%	School reports	Annual	MEIAD, MES
		% of schools with inside toilets for girls			100%	School reports	Annual	MEIAD, MES
	Output 3.2.1.3: Engage parents in school food safety and security in cooperation with school nutritionist	% of parents of primary school students who are engaged in food safety program at school level, by location	NA	40%	100%	School reports	Annual	M&E staff, LED
	Output 3.2.1.4: Introduce lunch service in all schools	% of primary school providing lunch	NA	45%	90%	School report	Annual	M&E staff, LED
	Output 3.2.1.5: Allocate school nutritionists to all schools	% of schools with nutritionists	NA	100%	100%	EMIS report	Annual	M&E staff, LED
	Output 3.2.1.6: Produce school furniture, materials and soft goods based on local VETPC	Number of local production centers established	NA	3	6	Center report	Annual	MEIAD, MES

Program 3.2.2								
Pilot Program to integrate children with special needs into regular classes (infrastructure & teacher training)	Output 3.2.2.1: Improve the kindergarten environment for children with disabilities in conformity with "the enabling environment" regulation No..... in phases	% of schools meeting "the enabling environment" regulation	TBD	60%	100%	EMIS report	Annual	MEIAD, MES
	Output 3.2.2.2: Develop teacher training modules focusing on specific disability features of children	Number of approved training modules focusing on teaching to children with disabilities	NA	2 Modules for hearing and mobile disabilities	2 Modules for vision and intellectual disabilities	EMIS report	Annual	MEIAD, MES
	Output 3.2.2.3: Train primary and secondary teachers focusing on specific skills related to children disability type in distance, online and face-to-face training	Number and % of mainstreamed primary school teachers who teach to children with special needs by gender, location, subject	TBD	TBD	TBD	EMIS report	Annual	MEIAD, MES
		Number and % of mainstreamed secondary school teachers who teach to children with special needs by gender, location, subject	TBD	TBD	TBD	EMIS report	Annual	MEIAD, MES
	Output 3.2.2.4: Establish a center for producing teaching and learning materials for children with special needs based on VET provider for disabled learners	Number of local centers that produce learning materials for children with disabilities	NA	3	6	Center report	Annual	MEIAD, MES

Program 3.2.3								
Open education promotion Program	Output 3.2.3.1: Develop open, distance and online learning resources for students and parents to access primary and secondary education, self-development and career guidance services regardless of learners' development feature, location and time	% of 6-18 aged children who attended online courses in Mongolian language and math, by gender, age, location	NA	TBD, by gender, age, location	TBD, by gender, age, location	Open education center report	Annual	MEIAD, MES
	Output 3.2.3.2: Develop open, distance and online training resources for teachers regardless of teaching experience, location and time	% of school teachers who accessed online and distance training in innovative teaching and assessment methodology by gender, location, subject	NA	30%, by gender, location, subject	50%, by gender, location, subject	ITPD report	Annual	M&E staff, ITPD
	Output 3.2.3.3: Engage universities, professional organizations and the private sector in developing the open, distance and online resources	Number of Open Education Centers attached to universities	2:MUST & NUM	6	15	University report	Annual	MEIAD, MES
	Output 3.2.3.4: Establish a mechanism for recognizing, validating, and accrediting the results of formal, informal and non-formal learning	Number of children whose informal and non-formal learning is recognized by gender, age, location, subject	NA	100, by gender, age, location, subject	250, by gender, age, location, subject	EEC report	Annual	M&E staff, EEC
	Output 3.2.3.5: Deliver capacity building trainings to school leaders and teachers to develop open, distance and online learning resources and to utilize these resources in teaching	% of school leaders who attended online and distance courses in leadership and management by gender, location, subject	NA	40%, by gender, location, subject	70%, by gender, location, subject	ITPD report	Annual	RPIU, ITDP

		% of school leaders who attended capacity building training on developing open learning resources by gender, location	NA	50%, by gender, location	100%, by gender, location	ITPD report	Annual	RPIU, ITDP
		% of school teachers who attended capacity building training on developing open learning resources by gender, location, subject	NA	50%, by gender, location, subject	80%, by gender, location, subject	ITPD report	Annual	RPIU, ITDP
Program 3.2.4								
Textbook renting and reprinting program	Output 3.2.3.1: Develop and approve a mechanism to utilize the fund that is accumulated from the textbook renting for re-printing or newly printing textbooks in consultation with MoF	Textbook re-printing funding mechanism in place	NA	Mechanism established		MES report	Annual	MEIAD, MES
	Output 3.2.3.2: Conduct a textbook supply survey in every two	Supply rate of textbook	NA	100%	100%	MES report	Annual	MEIAD, MES
3.3 Management	Outcome 3.3: Strengthen primary and secondary education management and organization to enhance efficiency of schools	Primary education internal efficiency coefficient	TBD	TBD	TBD	EMIS report	Annual	MEIAD, MES
		Secondary education internal efficiency coefficient	TBD	TBD	TBD	EMIS report	Annual	MEIAD, MES
		Number of specialized high schools set up	NA	3 in UB and 2 in regions	9 in UB and 10 in regions	MES report	Annual	MEIAD, MES

		Primary and secondary education quality assurance management system in place	NA	QA policy available		School annual reports	Annual	M&E staff, LED
Program 3.3.1								
Specialized high schools in rural areas (pilot Program)	Output 3.3.1.1: Conduct needs assessment of specialized high schools and identify specializations	Needs assessment conducted	NA	Needs assessment conducted		Needs assessment report	Once	M&E unit, MIER
	Output 3.3.1.2: Based on the needs, conduct mapping exercise of establishing specialized high schools and approve the roadmap	Roadmap of establishing specialized high schools approved	NA	Approved roadmap		MES Report	Annual	MEIAD, MES
	Output 3.3.1.3: Estimate required financial and human resources for establishing specialized high schools and approve the in-phase investment plan for school construction, facilities and teaching and learning materials	Specialized high school investment plan approved	NA	Approved plan		MES Report	Annual	MEIAD, MES
	Output 3.3.1.4: Establish specialized high schools in districts of Ulaanbaatar and regions one by one	Number of specialized high schools setup	NA	3 in UB and 2 in regions	9 in UB and 10 in regions	MES report	Annual	MEIAD, MES
	Output 3.3.1.5: E5. Train established high school teachers in conformity with school	% of high school teachers who attended capacity building training	NA	40%	100%	ITPD Report	Annual	RPIU, ITDP
Program 3.3.2								
Education provision efficiency Program	Output 3.3.2.1: Conduct mapping exercise of schools in terms of location, structure (primary, junior secondary, high school structure) and type of schools and provide recommendation on school efficiency	Mapping exercise conducted	NA	Finalized exercise		Mapping exercise report	Once	MEIAD, MES

	Output 3.3.2.2: Re-plan schools as of type, location and structure taking into account of existing physical and human resources	% of re-structured schools	NA	50%	100%	LED report	Annual	M&E staff, LED
	Output 3.3.2.3: Based on the above plan, re-structure schools in phases (at least 3 areas)	Numbers of primary and secondary schools with less than 1 shift by location	50%	30%	10%	EMIS report	Annual	MEIAD, MES
	Output 3.3.2.4: Scale up development of EMIS data indicators related to education policy planning	EMIS data modules on policy planning available	NA	TBD	TBD	EMIS Report	Annual	MEIAD, MES
	Output 3.3.2.5: Train MES, MIER, ITPD and local education department staffs and school leaders to use EMIS data for the effective planning	% of MES staffs who attended capacity building trainings on EMIS use, by gender	NA	60%	100%	EMIS Report	Annual	MEIAD, MES
		% of local education department staffs who attended capacity building trainings on EMIS use, by gender, location	NA	40%	100%	EMIS Report	Annual	MEIAD, MES
Program 3.3.3								
School-internal quality assurance (pilot Program)	Output 3.3.3.1: Update a job description for a staff with responsibility of internal quality evaluation	JD validated	NA	JD validated		MES report	Annual	MEIAD, MES
	Output 3.3.3.2: Develop standardized evaluation tools for internal quality evaluation of schools	Quality evaluation tools including digital tools developed	NA	Tools for quality of core, support and management processes available		EMIS report	Annual	MEIAD, MES

	Output 3.3.3.3: Deliver local trainings on internal quality evaluation to school leaders and managers as well as local education department staffs	% of school leaders who attended capacity building training on QA by gender, location and school	NA	50%	100%	LED report	Annual	M&E staff, LED
		% of local education department staffs who attended capacity building training on QA by gender, location	NA	50%	100%	LED report	Annual	M&E staff, LED
		% of schools who reported internal quality assurance in place	NA	50%	100%	LED report	Annual	M&E staff, LED

TVET

TVET sub-sector goal: Establish a TVET system with a public-private partnerships and cross-sectorial coordination and promote the economic growth through training of skilled professional workers that meets the needs of labor market.								
Program/sub-Program	Objective/expected results	Indicators	Baseline value	Target value (2025)	Target value (2030)	Source of verification	Frequency	Responsible body
4.1 Quality	Outcome 4.1: Improve the quality of TVET in line with the needs of citizens' skills, labor market demand, employer requirements and international standards	The percentage of basic education graduates enrolled in the TVET program (CBC) has increased	20% of basic education graduates	25%	30%	Statistics	Annual	Statistics of MES, Department of TVET policy implementation and coordination
		Employment rate of 25-64 years old people, who have completed 5-6 level of TVET (ISCED 4 and 5 levels) has increased	Professional employment of all TVET graduates is 44%	50%	70%	Alumni Employment Survey, Research institute of Labor and Social protection	Annual	ERU, EEC
		Unemployment rate of people over 15 years old, who have acquired professional skills and are developed professionally through short-term trainings has decreased	Unemployment rate of people over 15 years old is 10% (at national level)	9%	8%	NSO information for 2020	Annual	NSO
		Number of newly trained teachers	Number of new teachers required 194	1082	2352	TVET statistics	Annual	Statistics of Department of TVET policy implementation and coordination
		Percentage of teachers, who were involved in re-training and in service trainings, out of total number of teachers	66%	80%	90%	Teacher development department of TVET Assessment, Information and Methodology Centre	Annual	TVET Assessment, Information and Methodology Centre

Program 4.1.1					
Improving the compliance between the quality of trainings and demand of training	Output 4.1.1.1: Develop and approve career directories, TVET standards, and CBT programs in cooperation with employers and professional associations	Number of certified career directories / standards	56	100	250
	Output 4.1.1.2: Ensure the continuity of the content of technical education, vocational education and vocational training in accordance with the requirements of the Labor market, when developing and updating TVET standards and programs	Skills research in the labor market	It was done once in 9 professions in 2017	Survey once in every 2 years	Survey once in every 2 years
	Output 4.1.1.3: Correspond the technical education curricula with the university curricula in accordance with NQF	Percentage of polytechnic college with the curricula, that corresponds to the university curricula, out of total number of polytechnic colleges	27%	40%	60%
	Output 4.1.1.4: Incorporate and implement professional and personal development skills in the curriculum				
	Output 4.1.1.5: Improve provision and access to CBT environment, necessities, training materials, resources				

	Output 4.1.1.6: Organize trainings for directors, managers, methodologists, teachers and industry trainers to support the training institutions and the implementation of the TVET programs	Number of principals, managers, methodologists, teachers and trainers involved in the training	NA	300	500			
	Output 4.1.1.7: Involve teachers in methodological trainings of curriculum evaluation and improve the curriculum in accordance with the results of external evaluation							
	Output 4.1.1.8: Create a database of formal and informal training content and materials							
Program 4.1.2								
Training and retraining of new teachers	Output 4.1.2.1: Establish a system for training new teachers and for continuously improving teachers' skills	Percentage of teachers of TVET schools who involved in trainings	66%	80%	90%	UMATZ, Teacher Development Department	Annual	Department of TVET policy implementation and coordination, TVET Assessment, Information and Methodology Centre
		Percentage of teachers trained through teacher development center of each school, nationwide	NA	30%	60%	TVET	Annual	Department of TVET policy implementation and coordination, TVET Assessment, Information and Methodology Centre

	Output 4.1.2.2: Develop and implement a training program for preparing new teachers and for continuous professional development of teachers	Number of newly trained teachers	1000 teachers involved in trainings to acquire teachers license	1082	2352	UMATZ, Teacher Development Department	Annual	Department of TVET policy implementation and coordination, TVET Assessment, Information and Methodology Centre
	Output 4.1.2.3: Implement programs of open, online and distance training for TVET teachers in cooperation with professional organizations, competency centers, universities and employers	Percentage of teachers involved in open, online and distance learning	NA	30%	40%	UMATZ, Teacher Development Department	Annual	Department of TVET policy implementation and coordination, TVET Assessment, Information and Methodology Centre
	Output 4.1.2.4: Recognize and validate open and distance learning outcomes and prior knowledge and skills	Number of teachers who participated in the RPL assessment and got their professional skills assessed	NA	30%	40%	UMATZ, Teacher Development Department	Annual	Department of TVET policy implementation and coordination, TVET Assessment, Information and Methodology Centre
	Output 4.1.2.5: Implement TVET teacher development program in cooperation with professional universities, employers, professional associations and competency centers	Percentage of implemented teacher development programs at the national level	NA	40%	80%	Department of TVET policy implementation and coordination	Annual	Department of TVET policy implementation and coordination, TVET Assessment, Information and Methodology Centre

	Output 4.1.2.6: Develop and implement professional development programs for teachers in the production and in the workplace in line with new technical and technological changes	Percentage of professional teachers trained at the factories and enterprises	NA	40%	80%	Department of TVET policy implementation and coordination	Annual	Department of TVET policy implementation and coordination, TVET Assessment, Information and Methodology Centre
	Output 4.1.2.7: Train the TVET teachers in research methodology and prepare teachers for research	Number of teachers involved in the training	NA	30%	50%	UMATZ, Teacher Development Department	Annual	Department of TVET policy implementation and coordination, TVET Assessment, Information and Methodology Centre
4.2 Access	Outcome 4.2: Increase the access and equitable enrollment of citizens to TVET by providing with possibilities of lifelong, flexible and open learning and to develop their skills and competencies	The percentage of people, studied TVET program has increased (per 100,000 people)	About 1.2%	2.20%	2.40%	Department of TVET policy implementation and coordination	Annual	Statistics of Department of TVET policy implementation and coordination
		Number of competency certificates issued as a result of prior knowledge and skills assessment	3200	6000	9000	Evaluation and certification unit of Department of TVET policy implementation and coordination	Annual	TVET Assessment, Information and Methodology Centre
		The percentage of people with special needs studied in an adjustable environment through adaptive curriculum has increased, out of all students	About 2% out of all students	3%	4%	Department of TVET policy implementation and coordination	Annual	Statistics of Department of TVET policy implementation and coordination

		An interdisciplinary internship department is established	NA	3 in priority areas of economy	6 in priority areas of economy	Department of TVET policy implementation and coordination	Annual	Statistics of Department of TVET policy implementation and coordination
		Number of training institutions that have strengthened their training equipment and base in accordance with the requirements of the labor market and employers	6 benchmark schools, 7 competency centers	10 competency centers (+ ADB certification center 3)	The operation of 10 competency centers is stabilized	Department of TVET policy implementation and coordination	Annual	Statistics of Department of TVET policy implementation and coordination
		Percentage of professional employment rate of TVET campus graduates	NA		50%	Department of TVET policy implementation and coordination		Statistics of Department of TVET policy implementation and coordination
		Percentage of students aged 24-64, who are learning through open and distance learning programs	NA	5%	10%	Department of TVET policy implementation and coordination	Annual	Statistics of Department of TVET policy implementation and coordination
Program 4.2.1								
Increase TVET equal enrollment	Output 4.2.1.1: Improve the awareness and positive image of TVET in society	Number of TVET students	38526	67728	89087	TVET statistics	Annual	MBSBHZG, statistics
	Output 4.2.1.2: Conduct formal and informal trainings in form of open, online and distance learning	Number of schools that have organized open online training	NA	10	25	Teacher development department of TVET Assessment, Information and Methodology Centre	Annual	Department of TVET policy implementation and coordination, TVET Assessment, Information and Methodology Centre

	Output 4.2.1.3: Organize open, online and distance learning TVET trainings for implementers and stakeholders	Number of people, who involved in trainings	NA	300	500	Teacher development department of TVET Assessment, Information and Methodology Centre	Annual	Department of TVET policy implementation and coordination, TVET Assessment, Information and Methodology Centre
	Output 4.2.1.4: Improve the environment, type and quality of services that support students						Annual	Department of TVET policy implementation and coordination, TVET Assessment, Information and Methodology Centre
	Output 4.2.1.5: Develop an optional training program for people with special needs	Percentage of special needs students in the TVET program	2%	3%	4%	TVET statistics	Annual	Statistics of TVET policy implementation and coordination, TVET Assessment, Information and Methodology Centre
	Output 4.2.1.6: Step-by-step training of teachers and human resources for people with special needs and target groups	Number of teachers and staff involved in the training	NA	200	400	Teacher development department of TVET Assessment, Information and Methodology Centre	Annual	Department of TVET policy implementation and coordination, TVET Assessment, Information and Methodology Centre
	Output 4.2.1.7: Analyze the gender situation in the TVET sector							
	Output 4.2.1.8: Develop and implement a gender policy based on research findings	Number of teachers and staff involved in gender training	NA	200	400	Teacher development department of TVET Assessment, Information and Methodology Centre	Annual	Department of TVET policy implementation and coordination, TVET Assessment, Information and Methodology Centre

		Number of students who benefited from the gender policy	NA	?	?	Teacher development department of TVET Assessment, Information and Methodology Centre	Annual	TVET
	Output 4.2.1.9: Training for consultant teachers for career guidance and choice of profession	Number of teachers and staff trained in the career guidance program	NA	200	400	Teacher development department of TVET Assessment, Information and Methodology Centre	Annual	TVET
	Output 4.2.1.10: Support and develop versatile forms that support career guidance and choice of profession	Percentage of students involved in career guidance programs	NA	50%	80%	Teacher development department of TVET Assessment, Information and Methodology Centre	Annual	TVET
Program 4.2.2								
Improve the TVET infrastructure and environment	Output 4.2.2.1: Increase the supply of training equipment, technology and simulation equipment of training institutions	Quantity of investments in equipment and tools	1 billion MNT	2.5 billion MNT	4 billion MNT	Investment specialist, Department of TVET policy implementation and coordination	Annual	Statistics of Department of TVET policy implementation and coordination
	Output 4.2.2.2: Renew the required equipment, facilities, furniture, belongings, textbooks, and training materials							

	Output 4.2.2.3: Conduct research and develop a plan to build an inter-school and inter-sectorial internship base	Number of new interdisciplinary internship bases	NA	3	6	Department of TVET policy implementation and coordination		Statistics of Department of TVET policy implementation and coordination
	Output 4.2.2.4 Establish an interdisciplinary training base							
	Output 4.2.2.5:Creating an adjustable environment with professional features for TVET students with special needs	The percentage of professionals, for which an environment tailored to the needs of special needs of the citizens is created	NA	10%				
Program 4.2.3								
Encourage lifelong learning	Output 4.2.3.1: Implement open, online and distance trainings for citizens, that provides with possibilities to access TVET and opportunities of self-development, and assure its quality in cooperation with relevant organizations	Number of people involved in open distance training	NA	1000	1500	Evaluation and certification unit of TVET Assessment, Information and Methodology Centre	Annual	TVET Assessment, Information and Methodology Centre
	Output 4.2.3.2: Strengthen the system for recognizing and validating prior knowledge and skills	Number of certificates of recognition of previous knowledge and skills	3200	6000	9000	Department of TVET policy implementation and coordination		Statistics of TVET Assessment, Information and Methodology Centre
	Output 4.2.3.3: Recognize, validate, and certify prior knowledge and skills							

	Output 4.2.3.4: Continuously organize activities for citizens to acquire employment skills and improve their professional skills, and validate the results	Number of people over the age of 15, who provide regular information on career guidance and employment skills (monthly)	NA	300	500	Evaluation and certification unit of TVET Assessment, Information and Methodology Centre	Annual	TVET Assessment, Information and Methodology Centre
4.3 Management	Outcome 4.3: Upgrade the independent governance and management of TVET with public-private partnerships and cross-sectorial coordination	TVET agency with inter-sectorial coordination	NA	Consists of 20 persons	The operation is stabilized and the capacity is strengthened	MOLSP	Annual	MOLSP
		Number of professional specialists in the TVET sector/ organizations	NA	70 persons	The operation is stabilized and the capacity is strengthened	MOLSP	Annual	MOLSP
		The coherence between EMIS-TVET Integrated database and Labor market is established	NA	Mechanism is established	The continuous flow and use of information is improved	MOLSP	Annual	Statistics of Department of TVET policy implementation and coordination
		Number of accredited educational institutions	8	15	30	Department of TVET policy implementation and coordination	Annual	Statistics of Department of TVET policy implementation and coordination
Program 4.3.1								
Upgrade the management and organization of TVET	Output 4.3.1.1: Establish an independent governance system with an inter-sectorial coordination based on public-private partnerships	An independent TVET agency is established	NA	Consists of 20 people	Operation is stabilized and capacity is strengthened	MOLSP	Annual	MOLSP

	Output 4.3.1.2: Develop and implement a policy to diversify TVET and to develop it as a campus	Percentage of trained staff of professional organizations (TVET agency, TVET evaluation and methodological center)	NA	70%	100% continuous development mechanism is created	MOLSP	Annual	MOLSP
	Output 4.3.1.3: Update the financing mechanism of the sector	Introduced a methodology for calculating professional costs at own costs				Investment specialist, Department of TVET policy implementation and coordination		
	Output 4.3.1.4: Develop and improve the TVET management information system	Increased use of the IMS-TVET database-mergejil.mn by TVET organizations and other stakeholders	NA	The mechanism is created	Stabilized	TVET statistics	Annual	Statistics of TVET policy implementation and coordination, TVET Assessment, Information and Methodology Centre
	Output 4.3.1.5: Improve the coherence and use of the IMIS-Integrated Vocational Education and Training Information System and the labor market information system							
	Output 4.3.1.6: Organize trainings to stakeholders on improving the use of labor market information and the use of information systems and statistics	Number of people involved in trainings	NA	200	400	Department of teacher development of the TVET Assessment, Information and Methodology Centre	Annual	TVET Assessment, Information and Methodology Centre

Program 4.3.2								
Strengthen TVET quality assurance	Output 4.3.2.1: Improve the quality management, TVET evaluation and certification system of the TVET sector	Number of specialists, who are specialized in the quality assurance of the sector	NA	100	150	Department of TVET policy implementation and coordination	Annual	TVET Assessment, Information and Methodology Centre
	Output 4.3.2.2: Develop internal and external quality assurance of the training institution	Number of staff trained in internal quality assurance trainings	NA	80		Department of TVET policy implementation and coordination	Annual	TVET Assessment, Information and Methodology Centre
	Output 4.3.2.3: Organized trainings on internal quality assurance for TVET management, teachers and staff					Department of TVET policy implementation and coordination	Annual	TVET Assessment, Information and Methodology Centre
	Output 4.3.2.4: Develop and disseminate quality standards, related methodologies and digital tools for TVET internal quality assurance		NA	TBD	TBD	Department of TVET policy implementation and coordination	Annual	TVET Assessment, Information and Methodology Centre
	Output 4.3.2.5: Integrate the report of the TVET external quality assurance into the TVET information system	Number of TVET institutions that are internally and externally accredited	8	15	20	Department of TVET policy implementation and coordination	Annual	TVET Assessment, Information and Methodology Centre

HIGHER EDUCATION

Higher Education sub-sector goal: Implement international standards for higher education to increase Mongolia's human capital								
Program/sub-Program	Objective/expected results	Indicators	Baseline value	Target value (2025)	Target value (2030)	Source of verification	Frequency	Responsible body
5.1 Quality	Outcome 5.1: Improve the quality of higher education aligning research innovation with international level and responding to needs of individuals and science and economic priorities	% of entrants enrolled in the fields of new qualifications, by sex	TBD (M/F)	TBD (M/F)	TBD	EMIS/HE, administrative data	Annual	MES
		% of students who have successfully completed 1, 2 and 3rd years in universities, by sex	NA	80%	100%	EMIS/HE, administrative data	Annual	MECCS
		Faculty-to-Student Ratio	1:23	1:19	1:15	EMIS/HE, administrative data	Annual	MECCS
		Youth unemployment, by sex, by HE specialization	TBD	TBD	TBD			
Program 5.1.1								
Improving the quality and relevance of HE programs and research program	Output 5.1.1.1: Develop and approve science and technology park development strategy and its planning	Science and technology park development strategy and its planning approved	NA	Strategy and its planning approved		HEI administrative data		MES
	Output 5.1.1.2: Develop and approve funding and governance mechanisms for research university conducting in-depth assessment of graduate programs and schools, university research	Number of research universities established	NA	1	4	HEI administrative data		MES

	Output 5.1.1.3: Develop and approve a policy for supporting the establishment of IR 4.0–oriented environment in universities partnering with industries	Number of IR 4.0–oriented environment in universities partnering with industries	NA	4	8	HEI administrative data		MES
	Output 5.1.1.4: Update public university programs aligning with economic priorities of regional development	% of accredited programs in public universities by HENUMBER	TBD	45%	90%	HEI administrative data	Annual	MECCS/ HENUMBER
	Output 5.1.1.5: Integrate and scale up the existing industry-based internship programs in universities with the credit system	Number of public-private partnership MOUs for internship programs signed between HEI and Industries	NA	30	200	HEI administrative data		MES
	Output 5.1.1.6: Update all university programs in line with NQF and labor market demands	Number of faculty staffs from HEI trained for internship partnership capacity building program in line with NQF	NA	100	300	HEI administrative data		MES
	Output 5.1.1.7: Update pre-primary teacher university program including specific skills for teaching to children with special needs	Pre-primary teacher university program including specific skills for teaching to children with special needs upgraded						
	Output 5.1.1.8: Update teacher education programs in universities aligning with Teacher Professional Standards	Teacher education programs in universities aligning with Teacher Professional Standards updated						
	Output 5.1.1.9: Link HE admission with high school mandatory and elective studies	% of students enrolled in HEI on the coherence of high school mandatory and elective studies	NA	TBD	TBD	HEMIS / HEI administrative data	Annual	MECCS
	Output 5.1.1.10: Rate HE institutions and disseminate the rating system national level	% of HEIs rated by HENUMBER	NA	50%	100%	HEI administrative data	Annual	MECCS/ HENUMBER

Program 5.1.2								
University professor excellence Program	Output 5.1.2.1: Develop and verify standards and requirements for HE teaching staffs	% of lecturers who have done research studies and analysis (Research articles and publication at Internationally accepted journal)	TBD	TBD	TBD	EMIS/HE, administrative data	Annual	MECCS
	Output 5.1.2.2: Deliver capacity building trainings to teaching staffs of rural HE institutions	% of lecturers in rural areas who have done research studies and analysis (Research articles and publication at Internationally accepted journal)	TBD	TBD	TBD	EMIS/HE, administrative data	Annual	MECCS
	Output 5.1.2.3: Develop open, online and distance training modalities into HE teaching staff continuous professional development and recognize and validate the learning	Number of lecturers taken open, online and distance learnings and got their obtained knowledge and skills verified	TBD	TBD	TBD	EMIS/HE, administrative data	Annual	MECCS
5.2 Access	Outcome 5.2: Increase higher education equitable access and inclusiveness through the promotion of flexible learning pathways and open education centers	Number of students for 10,000 population, by sex	TBD					MES
		% of students in non-capital city areas, by sex	NA	TBD	TBD	EMIS/HE, administrative data	Annual	MECCS
		% of students in new flexible programs, by sex	NA	TBD	TBD	EMIS/HE, administrative data	Annual	MECCS
		% of administrative spending per student	NA	TBD	RBD	EMIS/HE, administrative data	Annual	MECCS

Program 5.2.1								
Improving HE infrastructure and learning environment	Output 5.2.1.1: Upgrade and verify the standards for HE learning environment in line with green metrics and smart technology	Standards for HE learning environment in line with green metrics and smart technology verified and upgraded	TBD	TBD	TBD	HEI, administrative data	Annual	MECCS
	Output 5.2.1.2: Implement HE science and technology campus project in phases	% of HEIs with upgraded learning space with smart technologies	TBD	TBD	TBD	HEI, administrative data	Annual	MECCS
	Output 5.2.1.3: Upgrade HE learning environment for enabling students with special needs to access all the services in the institution	% of students with special needs enrolled in campus universities, by sex	TBD	TBD	TBD	HEI, administrative data	Annual	MECCS
	Output 5.2.1.4: Increase student support services responding to all student needs to transit to next level of education and labor market	% of administrative spending per student	NA	TBD	RBD	HEI, administrative data	Annual	MECCS
Program 5.2.2								
Open education center development program	Output 5.2.2.1: Upgrade and establish university-based open education centers in urban and rural areas	Number of Open education centers established	NA	6	New 6	HEI, administrative data	Annual	MES
	Output 5.2.2.2: Based on the centers, deliver capacity building trainings to education and industry leaders, experts, teachers, entrepreneurs and trainers focusing on development of open, online and distance learning resources such as Massive, Online Open Courses (MOOC)	Number of trained faculty staffs benefiting from the Open education capacity building program	NA	100	500	HEI, administrative data	Annual	MES
		Number of trainees received MOOC and certified	TBD	TBD	TBD	HEI, administrative data	Annual	MES

	Output 5.2.2.3: Establish recognition, validation and accreditation of prior learning (RPL) system at the open education centers	% of students covered with RPL system, by sex	NA	TBD (M/F)	TBD	HEI, administrative data	Annual	MES
	Output 5.2.2.4: Establish a credit transfer system among universities and technical colleges							
5.3 Management	Outcome 5.3: Strengthen higher education governance and management	HE National Board operational	NA					MES
		% of Graduates from Secondary education who received data service from HEMIS	NA	25%	75%	HE/EMIS data		MECCS
		% of HEI accredited by HENUMBER	NA	50%	95%	HEI administrative data	MECCS	
Program 5.3.1								
Higher Education National Board	Output 5.3.1.1: Regulate HE National Board in related laws and legislations and identify the board membership and duties	Existing relevant laws & policies updated and approved						
	Output 5.3.1.2: Develop Higher Education National Board's strategic plan and approve it by Cabinet	Higher Education National Board's strategic plan developed and approved by Cabinet						
	Output 5.3.1.3: Harmonize the functions Education Loan Fund with Higher Education National Board management							
	Output 5.3.1.4: Operate the board and monitor the performance of the Higher Education National Board							
	Output 5.3.1.5: Report the performance of the board to the Cabinet							

Program 5.3.2							
HEMIS development	Output 5.3.2.1: Upgrade the existing Higher Education Information Management system /HEMIS/ developing more modules such as HE research, innovation, employment of graduates, student tracking, etc.						
	Output 5.3.2.2: Improve the accessibility of HEMIS data and information developing its platform, server and software	% of Graduates from Secondary education who received data service from HEMIS	NA	25%	75%	HE/EMIS data	MECCS
Program 5.3.3							
HE internal quality assurance development	Output 5.3.3.1: Develop and verify outcome-based quality standards and requirements	Number of outcome-based quality standards and requirements developed and verified					
	Output 5.3.3.2: Deliver capacity building trainings on HE internal quality assurance to university leaders, managers and responsible staffs as well as industry representatives						
	Output 5.3.3.3: Administer the quality evaluation of HE institutions annually (by HENUMBER)	% of HEI accredited by HENUMBER	NA	50%	95%	HEI administrative data	MECCS
	Output 5.3.3.4: Dispatch MNCEA experts to overseas capacity building trainings on international accreditation						

APPENDIX 3 – GENERAL PROCEDURE TO FORMULATE DEVELOPMENT POLICY DOCUMENT – ESTIMATED CALCULATIONS

Estimated Calculation of Required Funding and Sources of Financing for the Implementation of Development Policy Document (Billion MNT)

№	Objectives and targets of policy	Start/ End date	Fiscal Year 1 (1)			Fiscal Year 2 (2)			Fiscal Year 3 (3)			Fiscal Year 4 (4)			Fiscal Year 5 (5)		
			Total required funding	Recurrent expenditure	Investment	Total required funding	Recurrent expenditure	Investment	Total required funding	Recurrent expenditure	Investment	Total required funding	Recurrent expenditure	Investment	Total required funding	Recurrent expenditure	Investment
1	Quality and relevance of education	2021-2025	5.1	5.1	-	4.1	4.1	-	7.92	7.9	-	14.5	14.5	-	23.5	23.5	-
1.1	Strengthen quality, integration and relevance of education services	2021-2025	-	-	-	-	-	-	-	-	-	0.4	0.4	-	0.4	0.4	-
2.1	Strengthen pre-primary education services to address children's holistic development needs and integrated with the next level of education	2021-2025	1.6	1.6	-	1.4	1.4	-	1.65	1.7	-	1.6	1.6	-	1.5	1.5	-
3.1	Improve the quality and relevance of primary and secondary education aligning with student holistic development needs	2021-2025	1.9	1.9	-	1.4	1.4	-	5.08	5.1	-	11.3	11.3	-	20.2	20.2	-
4.1	Improve the quality of TVET in line with the needs of citizens' skills, labor market demand, employer requirements and international standards	2021-2025	0.6	0.6	-	0.5	0.5	-	0.52	0.5	-	0.6	0.6	-	0.6	0.6	-
5.1	Improve the quality of higher education aligning research innovation with international level and responding to needs of individuals and science and economic priorities	2021-2025	1.0	1.0	-	0.9	0.9	-	0.67	0.7	-	0.7	0.7	-	0.8	0.8	-
2	Equitable access and inclusive education	2021-2025	40.2	2.0	38.3	46.1	5.0	41.2	54.05	4.3	49.7	53.2	3.0	50.2	56.7	2.8	53.9
1.2	Increase all citizens' opportunities to access equitable and inclusive education throughout their life	2021-2025	5.6	0.1	5.5	7.4	1.9	5.5	7.90	2.4	5.5	6.7	1.2	5.5	6.7	1.2	5.5

2.2	Increase all children's opportunities to access pre-primary education services regardless of their development features, geographical location and socio-economic status of their parents	2021-2025	10.3	0.3	10.0	11.0	1.0	10.0	10.27	0.3	10.0	10.3	0.3	10.0	10.3	0.3	10.0
3.2	Increase the opportunities for all children to access primary and secondary education regardless of their development features and geographical location, in an equitable and inclusive manner	2021-2025	20.4	0.4	20.0	21.0	1.0	20.0	20.87	0.9	20.0	20.7	0.7	20.0	20.5	0.5	20.0
4.2	Increase the access and equitable enrollment of citizens to TVET by providing with possibilities of lifelong, flexible and open learning and to develop their skills and competencies	2021-2025	3.4	0.7	2.8	6.1	0.4	5.7	6.30	0.4	5.9	6.2	0.4	5.8	9.2	0.4	8.8
5.2	Increase higher education equitable access and inclusiveness through the promotion of flexible learning pathways and open education centers	2021-2025	0.4	0.4	-	0.7	0.7	-	8.72	0.4	8.3	9.4	0.4	9.0	10.1	0.4	9.7
3	Efficient governance, management and coordination	2021-2025	9.3	9.0	0.3	9.1	8.8	0.3	9.25	8.4	0.8	10.4	9.0	1.4	10.5	9.7	0.8
1.3	Enhance efficiency of education governance, management and coordination	2021-2025	4.4	4.1	0.3	4.7	4.4	0.3	5.36	4.5	0.8	6.3	4.9	1.4	6.1	5.3	0.8
2.3	Improve the efficiency of pre-primary education providers' management and arrangements for service delivery	2021-2025	0.5	0.5	-	0.1	0.1	-	-	-	-	-	-	-	-	-	-
3.3	Strengthen primary and secondary education management and organization to enhance efficiency of schools	2021-2025	0.5	0.5	-	0.1	0.1	-	-	-	-	-	-	-	-	-	-
4.3	Upgrade the independent governance and management of TVET with public-private partnerships and cross-sectorial coordination	2021-2025	2.0	2.0	-	1.8	1.8	-	1.89	1.9	-	2.0	2.0	-	2.2	2.2	-
5.3	Strengthen higher education governance and management	2021-2025	1.9	1.9	-	2.4	2.4	-	2.00	2.0	-	2.0	2.0	-	2.2	2.2	-
Total required funding		2021-2025	54.6	16.11	38.53	59.3	17.91	41.44	71.22	20.68	50.54	78.1	26.48	51.62	90.8	36.00	54.76