Mongolia: Research University Sector Development Program

Project Name	Research University Sector Development Program
Project Number	52013-001
Country	Mongolia
Project Status	Proposed
Project Type / Modality of Assistance	Technical Assistance
Source of Funding / Amount	**TA: Research University Sector Development Program** Technical Assistance Special Fund — US$ 800,000.00
Strategic Agendas	Environmentally sustainable growth Inclusive economic growth
Drivers of Change	Governance and capacity development Knowledge solutions Partnerships Private sector development
Sector / Subsector	**Education** - Tertiary **Industry and trade** - Industry and trade sector development **Information and communication technology** - ICT infrastructure
Gender Equity and Mainstreaming	Effective gender mainstreaming
Description	The proposed program will support the Government of Mongolia's program of reforms to develop research universities and strengthen university research (National Program on Research Universities, 2018-2022). It aims to enhance research and development (R&D) capacity of clusters of research universities by (i) establishing governance and regulatory mechanisms for developing research universities and strengthening university research; (ii) setting up diversified funding mechanisms for research universities, university research, and graduate students; and (iii) upgrading clusters of research universities.

Project Rationale and Linkage to Country/Regional Strategy	Productivity and employment growth depends on the business sector's ability to innovate. The ability of the business sector to innovate, in turn, hinges on industrial research and development (R&D). R&D has seriously been neglected since Mongolia transitioned from a centrally-planned to a market-based economy, leading to a decline in gross domestic expenditure on R&D as a percentage of gross domestic product (from 1.0% in 1990 to 0.18% in 2016) and R&D personnel (from 3,102 in 1995 to 2,211 in 2016). Against this background, the government envisages increasing R&D human resources, financing, and infrastructure in the medium term. Historically, R&D in Mongolia has been predominated by the government in terms of performance (68.8% in 2016) and financing (86.3%). Major government R&D institutions have been the Academy of Sciences and its ten specialized research institutions which focus on basic research and employ about 60% of R&D personnel in the country, mostly trained abroad. The track record of commercialization of such publicly funded research, however, has been poor. By contrast, the business sector's role in R&D has been insignificant (performance: 3.8%, financing: 4.9%), and higher education has been playing a minor role in R&D (performance: 27.3%, financing: 3.7%), with only a handful of higher education institutions engaging in significant R&D. Subsequently, university-industry collaboration in R&D has been limited, which is reflected in Mongolia's ranking in the Global Competitiveness Index (127th out of 137 countries in 2018). The weak capacity of Mongolian universities to contribute to R&D stems from the higher education system inherited from the former Soviet Union where universities focused primarily on teaching, whereas the Academy of Sciences and its specialized research institutions, which were not part of the higher education system, conducted research. Consequently, research functions and graduate programs and schools have been underdeveloped at Mongolian universities. Even at key state universities, the number of graduate students is limited compared with those at top universities in other middle-income countries, and faculty members with doctoral degrees account for only about 40%. Unmeritocratic staffing practices exacerbate the lack of highly qualified faculty members. Due to heavy teaching responsibilities (teacher-student ratio is about 1:29), moreover, the proportion of faculty members engaged in research remains small. Thus, teaching at universities rarely incorporates latest developments in the field, and students are provided little opportunities to take part in research. Relatedly, the code of academic and research ethics is not well established, and the quality of graduate degrees awarded by different universities is uneven, lacking systems for evaluating research. Although many new technologies, systems, and problems have become increasingly complex, requiring multidisciplinary knowledge, Mongolian universities stay highly specialized than comprehensive. This organizational characteristic of Mongolian universities, inherited from the higher education system in the former Soviet Union, stifles interdisciplinary applied research, and university-industry and interuniversity research collaboration required to address the priority areas for science, technology and innovation (STI) identified by the government. It has also resulted in considerable overlap between specialized R&D facilities and equipment installed at key state universities and in underutilization, despite high costs of investment. The failure to foster collaborative research environments constrains the ability of Mongolian universities to attract highly qualified researchers and teaching staff domestically and internationally. International students rarely pursue degrees in Mongolia (the share of international to domestic students was 0.97% in 2016). International research collaboration has also been limited, which is a missed opportunity to enhance research outputs and quality, as well as teaching quality. The current funding mechanisms for universities, university research, researchers, and graduate students are inadequate to incentivize high quality research in the priority areas. Tuition fees have been the primary source of funding for universities since the early 1990s, which leaves universities severely underfunded. State universities are particularly constrained as they lack the autonomy to raise funds, generate and reinvest revenues, and set tuition fees. Due to lack of investment, research and information and communication technology (ICT) infrastructure at universities has become obsolete and inadequate for cutting-edge research. Moreover, apart from those available from national programs for STI and projects funded by development partners, no competitive grants for university research exist, which systematically support strategic research linked to the priority areas and are tied with systems for assessing the quality of research funded. Scholarships (Student Development Loan Fund) are provided to all graduate students without consideration for intellectual merit or those in poverty, and other disadvantaged conditions. The amount of the scholarship proves insufficient, and the objective is unclear. To enhance the role of universities in R&D and their contribution to a knowledge-based economy, the Ministry of Education, Culture, Science and Sports (MECSS) prepares a national program on research universities (2018 2022). It also drafts amendments to the package of education laws, the Innovation Law, and related laws to support the program. STI human resources development plan and STI investment plan are further being developed to accompany the renewed State Policy on Science and Technology approved in 2017. The Asian Development Bank (ADB) has provided support to all the subsectors of education in Mongolia since the country's transition from a centrally-planned to a market-based economy in the early 1990s. In the higher education subsector, ADB's assistance has contributed to improved research infrastructure of key state universities and competitive research grants, and the preparation of the national program on research universities and STI investment plan. Other development partners also support the subsector, including the Japan International Cooperation Agency, and other bilateral donors. ADB's engagement in the subsector is fully in line with the country partnership strategy for Mongolia, 2017 2020, and the Strategy 2030.
Impact	
Outcome	
Outputs	

Geographical Location

Summary of Environmental and Social Aspects
Environmental Aspects
Involuntary Resettlement
Indigenous Peoples

Stakeholder Communication, Participation, and Consultation	
During Project Design	Relevant government agencies, universities, research institutions, the business sector, and other relevant stakeholders will be consulted during program preparation.
During Project Implementation	Relevant government agencies, universities, research institutions, the business sector, and other relevant stakeholders will be involved in program implementation.

Business Opportunities	
Consulting Services	ADB will engage consultants following the ADB Procurement Policy (2017, as amended from time to time) and its associated project administration instructions and/or staff instructions. ADB will recruit one international consulting firm for sector assessments, project design, and due diligence to provide 39.0 person-months of consulting services (international, 16.0 person-months; national, 23.0 person-months) in the areas of graduate school governance and management, graduate education, university research, R&D management, fund governance and management, financial management, procurement, economics, climate change, and social development and gender using the quality- and cost-based selection method with a quality cost ratio of 90:10 and simplified technical proposal. ADB will also recruit seven individual consultants (international, 7 person-months; national, 9 person-months) to prepare a science and technology park development strategy, conduct environmental and social impact assessments, and prepare safeguards planning documents. Lump sum payments and/or output-based contracts will be considered for consulting services under the TA.
Procurement	N/A

Responsible ADB Officer	Maruyama, Asako
Responsible ADB Department	East Asia Department
Responsible ADB Division	Urban and Social Sectors Division, EARD
Executing Agencies	*Ministry of Education, Culture, Science & Sports* *Government Building-III, Suite # 514, Baga toiruu-44, Sukhbaatar district* *Ulaanbaatar, Mongolia*

Timetable	
Concept Clearance	-
Fact Finding	-
MRM	-
Approval	-
Last Review Mission	-
Last PDS Update	23 Sep 2018

Project Page	https://www.adb.org/projects/52013-001/main
Request for Information	http://www.adb.org/forms/request-information-form?subject=52013-001
Date Generated	09 November 2018