



Mongolia: Strengthening Systems for Promoting Science, Technology, and Innovation

Project Name	Strengthening Systems for Promoting Science, Technology, and Innovation	
Project Number	51123-001	
Country	Mongolia	
Project Status	Approved	
Project Type / Modality of Assistance	Technical Assistance	
Source of Funding / Amount	TA 9375-MON: Strengthening Systems for Promoting Science, Technology, and Innovation	
	Technical Assistance Special Fund	US\$ 600,000.00
Strategic Agendas	Inclusive economic growth	
Drivers of Change	Governance and capacity development Knowledge solutions Private sector development	
Sector / Subsector	Education - Tertiary Industry and trade - Industry and trade sector development Information and communication technology - ICT industries and ICT-enabled services Public sector management - Economic affairs management	
Gender Equity and Mainstreaming	No gender elements	
Description	The proposed knowledge and support technical assistance (KSTA) will support improvements in legal and policy frameworks, and data infrastructures for promoting knowledge and technology transfer and commercialization of research and development (R&D) in Mongolia through research and development, policy advice, and capacity development in order to strengthen the planning and management of the science, technology, and innovation (STI) system in Mongolia. The Government of Mongolia has requested the technical assistance (TA) from the Asian Development Bank (ADB) to enhance effectiveness and efficiency of STI activities in accordance with the Government Action Plan, 2016 2020. During the missions conducted in February and June 2017, ADB and the government reached agreement on the objectives, scope, implementation arrangements, costs, and consulting service requirements. The TA is included in ADB's country operations business plan, 2017 2019 for Mongolia.	

Project Rationale and Linkage to Country/Regional Strategy

The growth of Mongolia's STI sector has been stagnant since the early 1990s due to chronic underinvestment after the country underwent transition from a centrally planned to a market-based economy. In 2015, gross domestic expenditures on R&D as a percentage of the gross domestic product were 0.16%, lower than that in 1990 (1.0%) and of the Organization for Economic Co-operation and Development countries (ranging from 1.0% to 4.2%). The number of R&D personnel, 2,515 in 2015, has gradually been declining since the mid-1990s (3,102 in 1995). The main cause of the stagnation is that the STI sector in Mongolia has not well been integrated with other sectors and its contribution to the economy, in particular, the diversification of the economy, and improved quality of life, through knowledge and technology transfer and commercialization of R&D, has been insignificant, which has led to years of neglect. In 2015, only 34 patents were granted (33 in Mongolia and 1 abroad), 29 prototype and 45 copyright certificates were issued. The State Policy on Science and Technology, approved in 1998, has already become too outdated. Against the background, the Government Action Plan, 2016 2020 specifies actions to revitalize the STI sector by improving legal and policy frameworks, financing mechanisms, and research and data infrastructures.

Weak knowledge and technology transfer and commercialization of R&D in Mongolia stem from various factors. First, the STI system in Mongolia is fragmented. Although the Ministry of Education, Culture, Science and Sports (MECSS) is responsible for formulating and implementing STI policies and directly supervising some of 59 research institutions and 21 research-based universities, about one-third (20) of public and private research institutions are supervised by the other ministries, while 10 are under the Academy of Science. The responsibility for funding R&D is divided between MECSS and the Science and Technology Foundation. Second, related to the fragmented institutional arrangements, data, information, and knowledge generated by R&D are not readily available and there is at present no comprehensive repository, database, and platform through which quality information on R&D projects and researchers can be accessed. Third, incentives of institutions and professionals involved in R&D are not well aligned, especially with those of firms which have weak demand for R&D. Fourth, funds for R&D, in particular for developing prototypes and demonstration projects, have been insufficient to leverage private investment in the commercialization of R&D.

Moreover, the intellectual property-based channel of knowledge and technology transfer (patents and licenses) has not adequately been functioning in Mongolia. The number of patents sold in the market has been limited due in part to the uncertainty of the value of patents. The underlying issue is that the method and standards for intellectual property rights (IPR) valuation have not been well established, and that quality assurance mechanisms in the process of granting IPR are not in place to ensure the quality and validity of IPR. In the case of public R&D which accounts for more than 90% of the total R&D in Mongolia, the ownership of IPR is not always clear, which poses challenge to forming joint ventures in commercializing public R&D. Similarly, the other channels of knowledge and technology transfer, such as technology transfer and/or technology licensing offices, are still in early stages of development.

The extremely low level of investment in the STI sector has resulted in obsolete research and data infrastructures in Mongolia which fall short of international standards. Quality and state-of-the-art R&D is highly contingent on technological development and requires expensive research and data infrastructures which need to be constantly upgraded and renewed, and adequately operated and maintained. This implies that not only initial investments in research and data infrastructures are needed but also continuous investments, as well daily operations and maintenance performed by skilled personnel. As of June 2017, MECSS is in the process of drafting STI sector plan, 2017 2025, and STI human resources development plan, 2017 2027. These plans need to be accompanied by an STI investment plan which identifies and prioritizes investments in research and data infrastructures for the STI sector in the long run.

Impact STI sector revitalized

Project Outcome

Description of Outcome System for promoting STI strengthened

Progress Toward Outcome

Implementation Progress

Description of Project Outputs In-depth study of STI system and assessment of data infrastructure completed
Online platform for STI developed
Legal and policy frameworks for IPR improved
STI investment plan developed

Status of Implementation Progress (Outputs, Activities, and Issues)

Geographical Location

Summary of Environmental and Social Aspects

Environmental Aspects

Involuntary Resettlement

Indigenous Peoples

Stakeholder Communication, Participation, and Consultation

During Project Design

During Project Implementation

Business Opportunities

Consulting Services ADB will engage a consulting firm (international, 11 person-months; national, 21 person-months) to provide expertise in conducting in-depth study of the STI system and data infrastructure assessment in Mongolia, review of STI policy, institutional and legal frameworks, and data infrastructure in emerging and advanced economies, drafting amendments to laws and policies on IPR, and developing, STI investment plan. ADB will also engage a national consulting firm (5 nationals, 45 person-months) to develop online platform for STI. The firm will procure equipment to carry out the assignment. The consulting firms will be selected using the quality- and cost-based selection method with a quality- and cost-ratio of 90:10, and simplified technical proposals. Output-based, lump-sum contracts with a provision for fixed out-of-pocket expenditures will be considered for the consulting firms.

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Timetable

Concept Clearance 27 Jul 2017

Fact Finding 20 Mar 2017 to 24 Mar 2017

MRM -

Approval 18 Sep 2017

Last Review Mission -

Last PDS Update 18 Sep 2017

TA 9375-MON

Financing Plan/TA Utilization						Cumulative Disbursements		
ADB	Cofinancing	Counterpart				Total	Date	Amount
		Gov	Beneficiaries	Project Sponsor	Others			
600,000.00	0.00	0.00	0.00	0.00	0.00	600,000.00	-	0.00

Project Page <https://www.adb.org/projects/51123-001/main>

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