



Technical Assistance Report

Project Number: 54031-002
Transaction Technical Assistance (TRTA)
September 2021

Republic of Uzbekistan: Preparing the Science, Technology, Engineering and Mathematics in Secondary Education Project

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Asian Development Bank

CURRENCY EQUIVALENTS

(as of 1 September 2021)

Currency unit	–	sum (SUM)
SUM1.00	=	\$ 0.000094
\$1.00	=	SUM10,655.55

ABBREVIATIONS

ADB	–	Asian Development Bank
STEM	–	science, technology, engineering and mathematics
TA	–	technical assistance

NOTE:

In this report, “\$” refers to United States dollars

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TRANSACTION TECHNICAL ASSISTANCE AT A GLANCE

1. Basic Data		Project Number: 54031-002
Project Name	Preparing the Science, Technology, Engineering and Mathematics in Secondary Education Project	Department/Division CWRD/CWSS
Nature of Activity	Project Preparation	Executing Agency Ministry of Public Education
Modality	Regular	
Country	Uzbekistan	
2. Sector		ADB Financing (\$ million)
✓ Education	Education sector development	0.50
	Secondary	0.50
	Total	1.00
3. Operational Priorities		Climate Change Information
✓ Addressing remaining poverty and reducing inequalities		GHG Reductions (tons per annum) 0.000
✓ Accelerating progress in gender equality		Climate Change impact on the Project Low
		ADB Financing
		Adaptation (\$ million) 0.00
		Mitigation (\$ million) 0.00
		Cofinancing
		Adaptation (\$ million) 0.00
		Mitigation (\$ million) 0.00
Sustainable Development Goals		Gender Equity and Mainstreaming
SDG 1.4		Gender Equity (GEN) ✓
SDG 4.1, 4.5, 4.a, 4.c		
SDG 5.1, 5.5, 5.b		
SDG 10.2		Poverty Targeting
		General Intervention on Poverty ✓
4. Risk Categorization Low		
5. Safeguard Categorization Safeguard Policy Statement does not apply		
6. Financing		
Modality and Sources		Amount (\$ million)
ADB		1.00
Transaction technical assistance: Technical Assistance Special Fund		1.00
Cofinancing		0.00
None		0.00
Counterpart		0.00
None		0.00
Total		1.00
Currency of ADB Financing: US Dollar		

I. THE ENSUING PROJECT

1. The proposed project will aim at equipping secondary education students with relevant skills that enable them to succeed in an evolving and diverse labor market. The project will provide investment finance through the following objectives: (i) quality of science, technology, engineering and mathematics (STEM) education with support of technology improved; (ii) learning environments improved; (iii) STEM education promoted with public-private partnership (PPP) approach; and (iv) sector management strengthened with expanded partnership. The project is estimated to cost \$115 million. The Asian Development Bank (ADB) will finance \$100 million from its ordinary capital resources (concessional loan), and the Government of Uzbekistan will provide \$15 million in counterpart financing. The ensuing loan is listed in the country operations business plan for Uzbekistan, 2021–2023.¹ The Ministry of Public Education (MOPE) is proposed as the executing agency for the project.

II. THE TECHNICAL ASSISTANCE

A. Justification

2. The transaction technical assistance (TA) will help the government prepare the Science, Technology, Engineering and Mathematics in Secondary Education project.² STEM education is a novel approach to transform education with innovation³ and the project will introduce country-contextualized STEM education in Uzbekistan. To develop and deliver the STEM education in the project, the TA will support preparation of the investment feasibility study and implementation startup to include capacity building of the executing agency on project implementation. The TA will also help address country-contextualized STEM education (e.g. curriculum framework), and it will be implemented and realized (e.g., curriculum delivery with procured equipment by trained teachers in the ensuing project).

B. Outputs and Activities

3. The table below summarizes the major outputs and activities.

Table 1: Summary of Major Outputs and Activities

Major Outputs	Delivery Dates	Key Activities with Milestones
Output 1. Social and sector assessments undertaken	Q3 2021 – Q3 2022	1.1 Prepare sector and subsector analyses to identify concrete project intervention 1.2 Undertake poverty, social, and gender analysis for proposing effective project intervention 1.3 Undertake assessment of other development partners' support to harmonize project activities 1.4 Prepare social and sector assessments as needed
Output 2. Technical feasibility assessments conducted	Q3 2021 – Q2 2022	2.1 Assess technical feasibility of curriculum development, integrated STEM pilot,

¹ ADB. 2020. [Country Operations Business Plan: Uzbekistan, 2021–2023](#). Manila.

² The TA first appeared in the business opportunities section of ADB's website on 15 March 2019.

³ STEM is a relatively new approach globally, nonetheless, positive outputs and good practices have been reported in many countries including Korea, Singapore, Thailand, Finland, United States of America and Canada.

		<p>learning assessment, online platforms, teacher development, integration of curriculum and technology</p> <p>2.2 Assess feasibility of establishment of STEM center with PPP approach</p> <p>2.3 Assess civil works requirement for reconstruction or renovation of the selected schools through field survey. Assessment includes science laboratories and status of equipment— its usage (frequency and patterns), computer laboratories (status of usage), internet access and speed, equipment storage, library, dormitories, electricity supply and access, clean water supply, and toilet and its facilities</p> <p>2.4 Develop advanced prototype designs of civil work and equipment with gender friendly and energy-efficient features, electricity and internet access, and PWD access-friendly requirements on buildings</p> <p>2.5 Assess and develop the executing agency's plan to mainstream e-procurement and improved PEMIS for actual operation in all the districts in the country</p>
Output 3. Due diligence completed	Q2 2022 – Q3 2022	<p>3.1 Prepare economic and financial analysis</p> <p>3.2 Undertake social and environmental safeguards due diligence and climate change assessment</p> <p>3.3 Prepare fiduciary and governance due diligence (procurement, financial management, and anticorruption)</p> <p>3.4 Conduct institutional assessments</p>
Output 4. Implementation plans developed with enhanced project readiness	Q1 2022 – Q2 2023	<p>4.1 Prepare project procurement plan, implementation schedules, risk management plans, strategic procurement planning, project administration manuals, gender action plan, and environmental management plan</p> <p>4.2 Support EA to prepare the bidding documents of priority procurement packages</p> <p>4.3 Design and carry out capacity building activities for executing and implementing agencies and other government counterparts</p>

EA = executing agency; PWD = persons with disabilities; PEMIS = Public Education Management and Information System; Q = quarter; STEM = science, technology, engineering and mathematics.

Source: Asian Development Bank.

C. Cost and Financing

4. The TA is estimated to cost \$1,100,000, of which \$1,000,000 will be financed on a grant basis by ADB's Technical Assistance Special Fund (\$200,000 from TASF-7 and \$800,000 from TASF-other sources). The government's in-kind share is about 10% of the total cost. Key expenditure items are listed in Appendix 1.

5. The government will provide counterpart support in the form of counterpart staff, office accommodation, data and information access, facilitation of liaison with stakeholders during project preparation and other in-kind contributions. The government was informed that approval of the TA does not commit ADB to finance any ensuing project.

D. Implementation Arrangements

6. ADB will administer the TA. Ministry of Public Education (MOPE) will be the executing agency for the TA. ADB's Social Sector Division of the Central and West Asia Department will act as the focal point and coordinator of consulting inputs and activities. The proposed TA will be implemented for 24 months, from September 2021 to August 2023. The implementation arrangements are summarized in Table 2.

Table 2: Implementation Arrangements

Aspects	Arrangements		
Indicative implementation period ^a	September 2021 – August 2023		
Executing agency	Ministry of Public Education		
Consultants	To be selected and engaged by ADB		
	individual selection	International (12 persons month) and national expertise 16 person-months)	\$363,000
	QCBS	International (14 persons month) and national expertise 52 person-months)	\$575,000
Disbursement	Disbursement of TA resources will follow ADB's <i>Technical Assistance Disbursement Handbook</i> (2020, as amended from time to time).		

ADB = Asian Development Bank, QCBS = quality- and cost-based selection, TA = technical assistance.

Source: Asian Development Bank.

7. ADB will engage consultants following the ADB Procurement Policy (2017, as amended from time to time) and the associated project administration instructions and/or staff instructions. The TA will require consulting services of 26 persons-months of international expertise, and 68 persons months of national expertise. A firm will be engaged following the quality- and cost-based selection method with a quality-cost ratio of 90:10 for a complex assignment, using full technical proposal procedures. Consultants recruited through a firm will work on outputs 1-3, and some consultants including procurement specialist will also work on output 4. The individual consultants will be selected through the individual consultants selection method. Two individual consultants will provide strategic inputs to develop overall project design which has innovative features applicable to the Uzbekistan context. This TA has a provision of pool of consultants. ADB may recruit additional technical consultants and resource persons using individual consultant recruitment procedures. The executing agency administered ADB supported project⁴ more than 10 years ago and there will be needs of extra support including enhancement of the project readiness and building capacity of the executing agency. The expertise will be defined as the need arises. The indicative expertise and corresponding person-months are in Table 3.

⁴ ADB. [Uzbekistan: Rural Basic Education Project](#).

Table 3: Summary of Consulting Services Requirement

Positions	Person-Months Required
<i>International</i>	
Secondary education specialist	8
Education technology specialist	5
Financial management and costing specialist	3
Procurement specialist	2
Public-private partnership specialist	4
Pool of consultants	4
Sub total	26
<i>National</i>	
Secondary education specialist	12
Education technology specialist	7
PPP specialist	6
Financial Management Specialist	3
Environment specialist	3
Procurement specialist	6
Gender and social development specialist	3
Civil engineer	2
Structural engineer	2
Electrical engineer	2
School equipment specialist (ICT and Laboratories)	3
Heating specialist	2
Geotechnical/foundation design engineer	2
CAD Engineer	2
Junior engineers	6
Building survey	2
Costing specialist	1
Pool of consultants	4
Sub total	68
Total	94

CAD = computer-aided design, ICT = information and communications technology, PPP = public-private partnership.

Source: ADB

E. Governance

13. The TRTA will help conduct the due diligence for the ensuing project including the financial management assessment, financial evaluation, economic and financial analysis, risk assessment and risk management plan. The TRTA will undertake safeguard screening and categorization results, assess the EA capacity and prepare safeguard documents on environment, involuntary resettlement and indigenous peoples. The due diligence will be conducted in accordance with the respective ADB guidelines and requirements.

COST ESTIMATES AND FINANCING PLAN
(\$'000)

Item	Amount
A. Asian Development Bank^a	
1. Consultants	
a. Remuneration and per diem	
i. International consultants	558.0
ii. National consultants	313.0
b. Out-of-pocket expenditures	
i. International and local travel	40.0
ii. Surveys	5.0
iii. Reports and communications	12.0
iv. Miscellaneous administration and support costs	10.0
2. Miscellaneous technical assistance administration costs ^b	12.0
3. Contingencies	50.0
Total	1,000.0

Note: The technical assistance (TA) is estimated to cost \$1,100,000, of which contributions from the Asian Development Bank are presented in the table above. The government will provide counterpart support in the form of counterpart staff, office accommodation, office supplies, secretarial assistance, domestic transportation, and other in-kind contributions. The value of government contribution is estimated to account for 9.09 % of the total TA cost.

^a Financed by the Asian Development Bank's Technical Assistance Special Fund TASF. (\$200,000 from TASF-7 and \$800,000 from TASF-other sources)

^b Includes translation and interpretation requirements during (remote) missions.

Source: Asian Development Bank estimates.

LIST OF LINKED DOCUMENTS

<http://www.adb.org/Documents/LinkedDocs/?id=54031-002-TARreport>

1. Terms of Reference for Consultants