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Report No.: PAD715

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED CREDIT

IN THE AMOUNT OF USD 42.2 MILLION

TO THE

REPUBLIC OF UZBEKISTAN

FOR THE

MODERNIZING HIGHER EDUCATION PROJECT

April 8, 2016

Education Global Practice
Europe and Central Asia Region

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CURRENCY EQUIVALENTS

(Exchange Rate Effective January 20, 2016)

Currency Unit = Uzbekistan Sum (UZS)
UZS 2,805 = US\$1

FISCAL YEAR

January 1 – December 31

ABBREVIATIONS

AGM	AIF Grants Manual	IRR	Internal Rate of Return
AIF	Academic Innovation Fund	IT	Information Technology
CIEEI	Center for Implementation of E-Learning in Education Institutions	ITC	Interdepartmental Tender Committee
CQS	Selection Based on Consultants' Qualification	Khokimiyat	District Local Government
DA	Designated Account	LCS	Least-Cost Selection
DC	Direct Contracting	M&E	Monitoring and Evaluation
EAP	Expert Advisory Panel	Mahalla	Community Local Government
EMF	Environmental Management Framework	MHEP	Modernizing Higher Education Project
EMP	Environmental Management Plan	MHSSE	Ministry of Higher and Specialized Secondary Education
FM	Financial management	MoPE	Ministry of Public Education
FMB	Feedback Mechanism	NCB	National Competitive Bidding
GDP	Gross Domestic Product	NPV	Net Present Value
GNI	Gross National Income	OECD	Organization for Economic Co-operation and Development
GoU	Government of Uzbekistan	PDO	Project Development Objective
HEI	Higher Education Institution	PMT	Project Management Team
HEMIS	Higher Education Management Information System	POM	Project Operations Manual
IBRD	International Bank for Reconstruction and Development	QA	Quality Assurance
ICB	International Competitive Bidding	QCBS	Quality- and Cost-Based Selection
ICT	Information and Communications Technology	QECs	Quality Enhancement Cells
IDA	International Development Association	STC	State Testing Center
IFRs	Interim Financial Reports	TEC	Technical Expert Committee
ILO	International Labour Organization	TFP	Total Factor Productivity
IMSC	Inter-Ministerial Selection Committee	TOR	Terms of Reference
		TPM	Third-Party Monitoring
		TTL	Task Team Leader

Regional Vice President:	Cyril Muller
Acting Country Director:	Mariam J. Sherman
Senior Global Practice Director:	Claudia Maria Costin
Practice Manager:	Mario Cristian Aedo Inostroza
Task Team Leader:	Naveed Hassan Naqvi

UZBEKISTAN
MODERNIZING HIGHER EDUCATION PROJECT

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PAD DATA SHEET

Uzbekistan

Modernizing Higher Education Project (P128516)

PROJECT APPRAISAL DOCUMENT

EUROPE AND CENTRAL ASIA

Education Global Practice

Report No.: PAD715

Basic Information			
Project ID P128516	EA Category B - Partial Assessment	Team Leader(s) Naveed Hassan Naqvi	
Lending Instrument Investment Project Financing	Fragile and/or Capacity Constraints []		
	Financial Intermediaries []		
	Series of Projects []		
Project Implementation Start Date 01-Sep-2016	Project Implementation End Date 31-Aug-2022		
Expected Effectiveness Date 01-Sep-2016	Expected Closing Date 28-Feb-2023		
Joint IFC No			
Practice Manager	Senior Global Practice Director	Country Director	Regional Vice President
Mario Cristian Aedo Inostroza	Claudia Maria Costin	Mariam J. Sherman	Cyril E Muller
Borrower: Republic of Uzbekistan			
Responsible Agency: Ministry of Higher and Specialized Secondary Education			
Contact:	Alisher Vahobov	Title:	
Telephone No.:	998712460195	Email:	Avahabov@edu.uz
Project Financing Data(in USD Million)			
<input type="checkbox"/> Loan	<input type="checkbox"/> IDA Grant	<input type="checkbox"/> Guarantee	
<input checked="" type="checkbox"/> Credit	<input type="checkbox"/> Grant	<input type="checkbox"/> Other	
Total Project Cost:	50.0	Total Bank Financing:	42.2
Financing Gap:	0.00		

Financing Source	Amount
BORROWER/RECIPIENT	7.8
International Development Association (IDA)	42.2
Total	50.0

Expected Disbursements (in USD Million)

Fiscal Year	2016	2017	2018	2019	2020	2021	2022	2023
Annual	0.00	10.00	5.00	10.00	10.00	5.00	2.20	0.00
Cumulative	0.00	10.00	15.00	25.00	35.00	40.00	42.2	42.2

Institutional Data

Practice Area (Lead)

Education

Contributing Practice Areas

Cross Cutting Topics

- Climate Change
- Fragile, Conflict & Violence
- Gender
- Jobs
- Public Private Partnership

Sectors / Climate Change

Sector (Maximum 5 and total % must equal 100)

Major Sector	Sector	%	Adaptation Co-benefits %	Mitigation Co-benefits %
Education	Tertiary education	75		
Education	Vocational training	25		
Total		100		

I certify that there is no Adaptation and Mitigation Climate Change Co-benefits information applicable to this project.

Themes

Theme (Maximum 5 and total % must equal 100)

Major theme	Theme	%
Human development	Education for the	100

	knowledge economy	
Total		100
Proposed Development Objective(s)		
The project development objectives are to strengthen the Recipient's higher education system managerial capacity, and to improve both the labor market relevance and the learning environment of selected higher education institutions.		
Components		
Component Name	Cost (USD Millions)	
Strengthening Higher Education Management	4.3	
Improving the Learning Environment in HEIs	31.0	
Improving the Relevance of Higher Education	4.0	
Project Management, Monitoring and Evaluation	2.9	
Systematic Operations Risk- Rating Tool (SORT)		
Risk Category	Rating	
1. Political and Governance	Substantial	
2. Macroeconomic	Substantial	
3. Sector Strategies and Policies	Moderate	
4. Technical Design of Project or Program	Moderate	
5. Institutional Capacity for Implementation and Sustainability	Substantial	
6. Fiduciary	High	
7. Environment and Social	Substantial	
8. Stakeholders	Moderate	
9. Other		
OVERALL	Substantial	
Compliance		
Policy		
Does the project depart from the CAS in content or in other significant respects?	Yes []	No [X]
Does the project require any waivers of Bank policies?	Yes []	No [X]
Have these been approved by Bank management?	Yes []	No []
Is approval for any policy waiver sought from the Board?	Yes []	No [X]
Does the project meet the Regional criteria for readiness for implementation?	Yes [X]	No []
Safeguard Policies Triggered by the Project	Yes	No
Environmental Assessment OP/BP 4.01	X	

Natural Habitats OP/BP 4.04			X
Forests OP/BP 4.36			X
Pest Management OP 4.09			X
Physical Cultural Resources OP/BP 4.11			X
Indigenous Peoples OP/BP 4.10			X
Involuntary Resettlement OP/BP 4.12			X
Safety of Dams OP/BP 4.37			X
Projects on International Waterways OP/BP 7.50			X
Projects in Disputed Areas OP/BP 7.60			X
Legal Covenants			
Name	Recurrent	Due Date	Frequency
Third Party Monitoring of project (TPM) and Feedback Mechanism (FBM)	X		Yearly
Description of Covenant			
The Recipient shall carry out the Project in accordance with this Agreement, appropriate social standards and practices and any applicable laws and regulations on child and forced labor.			
Name	Recurrent	Due Date	Frequency
Project Management Team (PMT)	X		Yearly
Description of Covenant			
At all times during Project implementation, the Recipient shall ensure that the PMT is maintained with adequate funds, suitably qualified staff in sufficient numbers, facilities, services and other resources, including an adequate financial management system, all satisfactory to the Association.			
Name	Recurrent	Due Date	Frequency
Third Party Monitoring of project (TPM) and Feedback Mechanism (FBM)	X		Yearly
Description of Covenant			
The Recipient shall take all necessary actions, and ensure necessary actions are taken, enable the TPM Consultant to perform monitoring activities in accordance with the applicable terms of reference (TOR), including, but not limited to allowing and facilitating for the TPM Consultant to visit sites where the Project is being carried out, collect relevant data and communicate with Project stakeholder and participants.			
Name	Recurrent	Due Date	Frequency
Third Party Monitoring of project (TPM) and Feedback Mechanism (FBM)	X		Yearly
Description of Covenant			
The Recipient shall: (a) review and discuss with the Bank monitoring reports prepared by the TPM Consultant; and (b) promptly take any actions, as may be requested by the Bank upon its review of said reports, with respect to compliance with the undertakings relating to child and/or forced labor as set			

forth in the Financing Agreement and the Project Operations Manual.

Name	Recurrent	Due Date	Frequency
Third Party Monitoring of project (TPM) and Feedback Mechanism (FBM)	X		Yearly

Description of Covenant

The Recipient: (a) shall and shall cause respective local authorities to fully collaborate with the TPM Consultant in developing an effective grievance redress mechanism in connection with the Project activities, as set forth in the TPM Consultant's terms of reference;

Name	Recurrent	Due Date	Frequency
Third Party Monitoring of project (TPM) and Feedback Mechanism (FBM)	X		Yearly

Description of Covenant

The Recipient: (b) shall review biannual reports of the TPM Consultant on grievances received, redress mechanism and any feedback provided; The Recipient: (c) shall promptly implement or cause relevant local authorities to implement the recommendations provided in said reports.

Name	Recurrent	Due Date	Frequency
Institutional Arrangements		02-Jan-2017	

Description of Covenant

Not later than ninety (90) days after the effectiveness of the Financing Agreement , the Recipient shall establish, and thereafter maintain, throughout the implementation of the Project, an Expert Advisory Panel, consisting of four widely recognized higher education specialists, with at least two of them not being nationals of the Recipient, with terms of reference satisfactory to the Association.

Name	Recurrent	Due Date	Frequency
Institutional arrangements		02-Jan-2017	

Description of Covenant

Not later than ninety (90) days after the effectiveness of the Financing Agreement MHSSE shall acquire and install a fully functional automated accounting information system for keeping the Project records and generation of the Project Financial Statements.

Conditions

Source Of Fund	Name	Type
IDA	Project Management Team (PMT) established	Effectiveness

Description of Condition

The Recipient shall establish, within MHSSE, and thereafter maintain throughout the implementation of the Project, the PMT with functions, TOR, resources and staff all satisfactory to the Association.

Source Of Fund	Name	Type
IDA	Project Operations Manual (POM), including the AIF Grants Manual, adopted.	Effectiveness

Description of Condition

The Recipient, through MHSSE, shall adopt the POM, which shall include the AIF Grants Manual, both satisfactory to the Association.

Team Composition

Bank Staff

Name	Role	Title	Specialization	Unit
Naveed Hassan Naqvi	Team Leader (ADM Responsible)	Program Leader		ECCU8
Fasliddin Rakhimov	Procurement Specialist (ADM Responsible)	Procurement Specialist		GGO03
Djamshid Iriskulov	Financial Management Specialist	Consultant		GGOD R
Igor Kheyfets	Team Member	Senior Economist		GED03
Janssen Edelweiss Nunes Teixeira	Team Member	Senior Education Specialist		GED03
Jasna Mestnik	Team Member	Finance Officer		WFAL A
Nikolai Soubotin	Counsel	Lead Counsel		LEGLE
Nina Kolybashkina	Safeguards Specialist	Senior Social Development Specialist		GSU03
Rustam Arstanov	Safeguards Specialist	Environmental Specialist		GEN03
Sujani Eli	Team Member	Program Assistant		GED03
Tatyana Shin	Team Member	Education Spec.		GED03

Extended Team

Name	Title	Office Phone	Location
Iqboljon Ahadjonov	Consultant	+998711202412	Tashkent
Ricardo Fernando Reich Albertz	Consultant		Santiago
Syed Sohail Hussain Naqvi	Consultant		Lahore
Veronica Fernandez Lubbert	Consultant		Santiago

Locations

Country	First Administrative Division	Location	Plan ned	Act ual	Comments

Consultants (Will be disclosed in the Monthly Operational Summary)

I. STRATEGIC CONTEXT

A. Country Context

1. Uzbekistan is a lower-middle-income¹ country located in Central Asia with a population of 31 million.² Uzbekistan's real gross domestic product (GDP) growth has averaged around 8 percent for the last 10 years, with poverty declining from 26 percent in 2005 to 13 percent in 2015, and the Gini coefficient declining from 0.39 in 2001 to 0.30 in 2012. Economic growth has been broadly inclusive and consistent with the Bank's twin goals of reducing poverty and encouraging shared prosperity.

2. With high growth rates in the last decade, the gross national income (GNI) per capita has increased from US\$630 in 2000 to US\$2,090 in 2014. Currently, Uzbekistan's economy is comprised primarily of services (45 percent), industry (35 percent), and agriculture (20 percent). The composition of trade has transitioned away from agriculture: cotton fiber has decreased from 65 to 9 percent of exports, and energy has increased from 4 percent to 38 percent of exports since 1995. The composition of the workforce has also changed in recent years. The agricultural sector accounted for 40 percent of jobs in the 1990s, but now accounts for only 25 percent. By contrast, the service sector plays a leading role in the Uzbek economy, employing over 50 percent of the labor force and accounting for 45 percent of the country's GDP. Nearly 80 percent of all newly created jobs in Uzbekistan are in the service sector.

3. Investments in education are central to the Government of Uzbekistan's (GoU's) plans for economic and social development, with about 33 percent of the state budget allocated to the education sector in 2015. As the GoU seeks to shift the economy from heavy reliance on commodity exports (cotton, gold, and gas) to a more diversified growth model, it must contend with the needs of the country's young and growing population, 29.9 percent of whom are 15 years old or younger, and 33.5 percent of whom are under 18 (as of 2015). The GoU's stated goal of reaching upper-middle-income status by 2030 is ambitious. To do this, Uzbekistan's per capita income would need to increase from US\$2,090 (as of 2014) to roughly US\$15,000 in less than two decades, requiring an average GDP growth rate of 6 percent per year. Few countries in the world have been able to sustain such growth rates for a prolonged period of time.

4. In order to achieve its growth ambitions in a sustainable manner, Uzbekistan needs to transform its current commodity-dependent economy into a competitive industrialized one. This transformation can be achieved by seeking comparative advantage in high value-added activities and industries. It will require the development of a highly skilled workforce that can use its entrepreneurial talent to improve the competitiveness of the economy and catalyze its modernization. Private demand-driven creation of sufficient numbers of good jobs for the young

¹ According to the World Bank Atlas method (based on the gross national income [GNI] per capita). Lower-middle-income countries as of July 1, 2013, have GNI per capita between US\$1,036 and US\$4,085.

² National Statistics Committee, "Demographics of Uzbekistan – 2015," p. 67. Uzbekistan is the third-largest country by population and fifth-largest by landmass in the Former Soviet Union, and accounts for over half Central Asia's total population.

educated population will be central to the country's ability to move up the value chain of production and sustain high growth rates in the years and decades to come.

B. Sectoral and Institutional Context

5. In Uzbekistan, the Law on Education N-464-I (1997) asserts education as a priority of the state and guarantees equal rights to education. Primary and secondary education is free and compulsory. Public expenditure on education increased from 6 percent of GDP in the mid-1990s to 8 percent of GDP in 2014, focusing mostly on primary and secondary education where the country has now achieved nearly universal enrolment. In contrast, higher education has an enrolment rate of 9 percent, which is low by both regional and international standards, and is characterized by low funding, uncertain quality, and limited relevance to the changing needs of the country's economy.

6. In May 2011, Presidential Decree No. 1533 was the first substantial directive in the field of higher education, identifying the overall quality deficit and the disconnect between academia and industry as key shortcomings of the higher education sector. Multiple factors are responsible for the current state of affairs, including lack of focus on the disciplines of science, technology, and engineering; poor laboratory infrastructure; outdated curriculums; and faculty lacking advanced qualifications and training in their respective areas of specialization. Under Decree No. 1533, a high-ranking committee led by the First Deputy Prime Minister and including all key ministers was tasked with improving the higher education system, with a particular focus on improving overall quality and upgrading laboratories for teaching and research in technical fields.

7. Currently, the Uzbek higher education system comprises 65 higher education institutions (HEIs),³ including 20 universities, 36 postsecondary institutes, 2 academies, and 7 branches of foreign HEIs, all of which served 261,300 students⁴ in the 2014/15 academic year. There are no private, nongovernment HEIs in Uzbekistan, though there is a legal statute (the 1997 Education Act) that allows such institutions to exist.⁵ The higher education system is managed by the Ministry of Higher and Specialized Secondary Education (MHSSE).

8. State Standards for Higher Education dated 2001 and revised in January 2015⁶ list expected research skills and knowledge among other qualification requirements for bachelor's and master's degree holders and are mandatory for all HEIs. Thus, bachelor's degree holders are expected to know and be able to use methods for data collection, maintenance, processing, and use, and to be able to independently acquire new knowledge, and improve and scientifically organize their labor. The master's graduates are expected to know scientific research

³ Official website of the MHSSE; <http://www.edu.uz/en/otm/index>.

⁴ National Statistics Committee, "Education in Uzbekistan – 2015," p. 168.

⁵ The seven branches of foreign universities operate in partnerships with public institutions.

⁶ The State Standards for Higher Education define (a) general requirements for quality of personnel preparation and content of education; (b) necessary and sufficient level of graduate preparedness and general qualification requirements for bachelor's and master's degree holders, (c) workload for bachelor's and master's degree holders, and (d) procedures and mechanisms for evaluation of HEI activities and quality of graduates' preparedness.

methodology, develop methods and conduct analysis of research results, and formulate and present research-based recommendations in their specializations.⁷

9. While research has historically been a responsibility of the Academy of Sciences of the Republic of Uzbekistan, HEIs are increasingly expected to carry out research. In August 2014, Uzbekistan issued Presidential Decree No. 2204 “On measures for further optimization of the Academy of Science’s structure and strengthening integration of science and higher education of Uzbekistan.” The objectives of the Decree were to (a) strengthen and develop the research potential of the HEIs; (b) broaden involvement of the faculty and students in research activities; and (c) activate use of research results and innovations in teaching. The stated intention of the government is to include research as a key responsibility of HEIs and to inform teaching in higher education with research.

10. Uzbekistan’s system of higher education faces challenges in three key areas: (a) access; (b) quality and relevance; and (c) system management, as described below.

11. **Access:** Uzbekistan’s gross tertiary enrolment rate has declined from 17 percent in 1991 to approximately 9 percent today, substantially below the levels of its neighbors (Kazakhstan: 41 percent; Kyrgyz Republic: 49 percent), Russia and the high-income countries of the Organisation for Economic Co-operation and Development (OECD) (around 75 percent). The access challenge has three dimensions. First, enrolment levels for public universities are controlled by admission quotas set annually by the Ministry of Economy, which allocates fewer than 60,000 seats for new undergraduate entrants per year.⁸ Competition for the limited number of seats is fierce, with the number of applicants per seat for undergraduate studies increasing from 6.7 to 9.3 between the 2010/11 and 2014/15 academic years. Second, Uzbekistan’s higher education sector has limited private sector participation—among the 65 HEIs operating in the country, no fully private university exists and only three are private-public partnerships (all linked to foreign universities). Third, women have considerably lower enrollment in the universities when compared with men.⁹

12. In the 2014/15 academic year, only 37.5 percent of students enrolled in Uzbek universities were female. The ratio stands in sharp contrast to the rest of the world, where female enrolment rates have reached parity with or surpassed those of male students. In Eastern Europe and Central Asia (ECA), and in the high-income countries of the OECD, women make up on average 54 percent of the student population. Moreover, while its neighbors have made progress in enrolling more females in universities over the last decade, in Uzbekistan the share of female students has declined from 45 percent to 37.5 percent in the same period.

13. **Quality and relevance:** Uzbekistan’s higher education system has been slow to adjust to the country’s changing economic needs. While Decree No. 1533 has begun to align admission quotas with perceived labor market needs by increasing quotas for engineering, construction, and

⁷ The State Standards for Higher Education list eight qualification requirements for bachelor’s degrees and seven for master’s degrees.

⁸ National Statistics Committee, “Education in Uzbekistan – 2015,” pp. 174, 176.

⁹ In contrast with primary and secondary enrolment, where no such disparity exists.

manufacturing programs, mismatches persist. These mismatches result in many graduates not being able to find work in their area of specialization, and those who do often lack the level and mix of practical skills demanded by employers. The government has recognized that many technical universities lack both basic teaching laboratories and research laboratories. Employers point out that graduates often lack both technical and nontechnical skills.¹⁰ There is a need to support measures to align education in the tertiary sector with the needs of the economy, thereby improving its relevance. Relevance can be improved by deepening HEI's links with industry, upgrading learning environments by providing laboratories and library facilities, ensuring that curriculums are revised to use these resources effectively, and effectively tracking graduates in the job market. Feedback from industry, students, and civil society can be used to improve course offerings.

14. Another area of concern is the quality assurance system in higher education. Universities currently lack adequate internal quality assurance mechanisms. Meanwhile, external quality assurance is limited to a five-yearly attestation and state accreditation carried out by the State Testing Center (STC); however, these mechanisms do not conform to commonly accepted international standards. The Uzbek higher education system has few and weak links to international academia, and thus is not able to internalize the rapid developments in curriculum modernization, pedagogical and research practice, and training regimes that are the hallmark of a modern university system in the developed and frontline developing countries.

15. **System management:** The higher education sector is governed by a variety of actors and a hierarchy of laws, programs, decrees, and regulations issued by different state bodies.¹¹ A large degree of overlap and fragmentation in responsibilities exists among them. The country also lacks a modern higher education management information system (HEMIS), which hampers informed evidence-based decision-making and the framework governing non-state participation in higher education is restrictive. As a result, there is a lack of private providers, which perpetuates low levels of access.

C. Higher-Level Objectives to which the Project Contributes

16. The draft Uzbekistan Country Partnership Framework for FY 2016–20 and the proposed Project are well aligned. The proposed Project supports two of the three key results areas identified in the Country Partnership Framework in the following ways:

¹⁰ For example, 73 percent of the Uzbek firms surveyed in 2008 indicated that the skills and education of workers pose an obstacle to doing business—up from 60 percent in 2005—including 36 percent of firms that said that employee skills pose a “major” or “very severe” obstacle to growth (one of the highest rates in the region). A 2013 survey found that industrial enterprises faced severe challenges in finding the right skills among the available workforce.

¹¹ The key government bodies tasked with managing higher education include (a) the Cabinet of Ministers, which provides high-level guidance and approves the State Education Standards; (b) the STC, which organizes and conducts state accreditation and licensing of all HEIs; (c) the Ministry of Economy, which sets admission quotas for each institution and area of specialization; (d) the Ministry of Higher and Specialized Secondary Education, which governs the HEIs and mediates between them and other ministries; (e) other sector ministries, which run their own specialized HEIs; (f) the Ministry of Finance, which directly provides public financing for HEIs.

- ***Enhancing private sector growth.*** More than half of all employers cite the lack of adequately skilled workers as a key constraint to doing business in Uzbekistan. By strengthening higher education institutions in their ability to produce skilled graduates, generate ideas, and form partnerships with domestic and foreign partners, the proposed Project will help put their country on a path to sustainable economic transition. In addition, the proposed Project will strengthen the foundations of private-sector-led diversification by responding to employers’ needs for adequately trained workers and an improved innovation ecosystem by financing investments aimed at modernizing Uzbekistan’s higher education system (in science, technology, and engineering) and bringing it in line with the needs of a diversified knowledge economy.
- ***Improving service delivery.*** The proposed Project will complement the ongoing Global Partnership for Education-supported Improving Pre-School and General Secondary Education Project (P144856) in developing a holistic approach to improving the quality of education in Uzbekistan. Improvement in the quality of higher education will also impact the quality of educational outcomes at all levels due to the subsector’s role as the producer of teachers and health workers for the entire education and health systems.

17. The proposed Project is also directly aligned with Uzbekistan’s Education Sector Plan for 2013–2017.¹² Further, while the government recognizes challenges in both the quality and access dimensions, it has opted to first focus on strengthening systems for improving quality and relevance and then addressing low access.¹³ The proposed project will allow the GoU to put in place the enabling framework of quality assurance mechanisms necessary to guarantee that a future system expansion will provide graduates with the adequate skills that are demanded by employers. Expanding enrolment levels before such mechanisms are put in place would be inefficient, since it would inevitably result in higher expenditures without satisfying the need of industry for appropriately trained specialists in the priority fields.

18. The proposed Project is aligned with the World Bank’s twin goals of ending extreme poverty and boosting shared prosperity. Education is a fundamental building block of human capital, and a high-quality education is linked with poverty reduction and productivity growth, both of which contribute to shared prosperity. Higher education is known to reduce absolute and relative poverty through improving the quality of basic service providers (for example, teachers, doctors), and by contributing to economic development more broadly. Higher education is known to boost shared prosperity by facilitating social mobility and enhancing the earning

¹² The proposed Project will contribute to the Education Sector Plan Results 5.2 “Transition to Bologna process is activated for promotion of quality education provision”; 5.3 “Material and technical base of HEIs is strengthened; laboratories are provided”; 5.6 “Integration of science, education, and industry are deepened”; and 5.7 “Collaboration of professor and teaching staff within international educational and science/research sphere is expanded.”

¹³ The initial focus of the partnership will be on improving quality and relevance through (a) strengthening quality assurance processes at the HEI and system level; (b) provision of both basic and advanced laboratories in the science and technological fields along with the attendant changes in curriculum and training regimes; (c) strengthening of the capacity and management of the system; and (d) using competitive grants to foster links with industry, the private sector, and foreign universities; and (e) piloting innovative approaches in expanding access for underprivileged segments of society.

capacity of graduates. Finally, the higher education sector is critical to the supply of innovative ideas, technology development and adoption, and improving the quality and relevance of the growing labor force to meet the country's economic development objectives.

II. PROJECT DEVELOPMENT OBJECTIVE

A. Project Development Objective

19. The Project Development Objectives are to strengthen the Recipient’s higher education system managerial capacity, and to improve both the labor market relevance and the learning environment of selected higher education institutions.

B. Project Beneficiaries

20. The proposed Project will benefit:

- Students and teaching staff of technical HEIs
- The Ministry of Higher and Secondary Specialized Education
- The State Testing Center, as the key independent quality assurance agency in Uzbekistan
- Employers and industries working in Uzbekistan.

C. PDO-Level Results Indicators

21. The key PDO-level indicators of the proposed Project are the following:

- Percentage of universities that complete institutional self-assessment through Quality Enhancement Cells (QECs) (baseline = 0 percent; final target = 50 percent)
- Number of modernized learning and research laboratories established and incorporated in revised academic programs (baseline = 0; final target = 115).
- Increase in perception of labor market relevance of higher education programs and degrees (baseline = “No existing baseline”; final target = “20 percent increase in the perception of labor market relevance”)

III. PROJECT DESCRIPTION

A. Project Components

22. The proposed project consists of four components: (a) strengthening higher education management, (b) improving the learning environment in higher education institutions (HEIs), (c) improving the relevance of higher education, and (d) project management. A summary description of the project components follows.

Component 1 – Strengthening Higher Education Management

23. The project will support enhancement of the managerial capacity of the higher education system in Uzbekistan by (a) strengthening the capacity of the MHSSE to manage the sector, (b) supporting the STC to develop and implement the system of external quality assurance, and (c) supporting the HEIs to strengthen their systems of internal quality assurance.

24. *Establishing a Higher Education Management Information System (HEMIS).* MHSSE

currently lacks a streamlined information system. This component would finance improvements in the management capabilities of MHSSE and HEIs, including development of a HEMIS and capacity building for users of the HEMIS at HEIs and MHSSE. The HEMIS will provide better guidance, support, and direction to HEIs. The HEMIS would also improve coordination for policy making and planning among the many actors responsible for the management of higher education, including the Cabinet of Ministers, the Ministry of Economy, and the Ministry of Labor. Development of the HEMIS will involve the acquisition of an appropriate hardware platform and technical assistance in the development of software. Users of the information systems at HEIs and MHSSE will receive comprehensive training to ensure effective use of the HEMIS.

25. ***Improving the Quality Assurance System.*** Existing quality assurance norms in Uzbekistan fall short of international practices. Improving the system usually follows a two-stage process: (a) an internal self-evaluation performed by the HEI in question, and (b) an external peer review performed under the guidance of an independent agency. In order to help strengthen the quality assurance mechanisms in Uzbekistan, this subcomponent will support (a) strengthening of HEIs to establish QECs to take ownership of the self-assessment of the institution and its academic programs; (b) strengthening of the MHSSE to facilitate support of the HEIs to establish QECs, review self-assessment reports, and review and improve the university ranking system; and (c) strengthening the STC¹⁴ to carry out the function of an independent external quality assurance agency. QECs will be the focal offices for internal quality assurance and help inform campus decision making by collecting, analyzing, and reporting quantitative and qualitative data about their HEIs' students, faculty, staff, curriculums, course offerings, and learning outcomes. Toward this end, QECs will use the HEMIS developed under the project, in addition to other sources.

Component 2 – Improving the Learning Environment in HEIs

26. ***Improving laboratories and associated academic and research systems in priority areas.*** The project will support the government in improving laboratories and research systems, to help better prepare higher education graduates to contribute to scientific progress in an effort to increase economic growth. The proposed subcomponent will support (a) the establishment and upgrading of modern basic teaching laboratories and advanced scientific research laboratories in Uzbek HEIs in priority areas of the economy; (b) the development and implementation of a modern curriculum optimizing the use of the equipment provided; and (c) training of faculty and staff for optimal use of the equipment.

27. To improve the quality of teaching and academic research in Uzbekistan, the Project funding will support two types of laboratories: (a) basic teaching laboratories, and (b) advanced scientific research laboratories. In order to receive funding, universities will be requested to develop comprehensive proposals that move significantly beyond the development of specialized laboratories and focus on economic development of the country in priority areas. The proposals will include the intended use of the equipment, the development and adoption of modern

¹⁴ The STC reports directly to the Cabinet of Ministers, and is constitutionally mandated to be functionally independent of the MHSSE.

curriculums supporting the laboratories requested, mechanisms for links with industry, and a plan to develop and ensure availability of qualified faculty trained to optimize use of requested facilities.

28. ***Establishment of a national e-library for Uzbek HEIs.*** The project will support the establishment of a national e-library (electronic library) in Uzbekistan to improve the learning and research environment at Uzbekistan's HEIs. All HEIs are envisioned to have digital access to the national e-library through the MHSSE. The following activities are envisioned: (a) review of the need for e-library resources by the local HEIs, with a focus on students and teachers and the current availability of library and e-library resources in the country (including libraries at the HEIs, an e-learning network at the MHSSE, and the National Library of Uzbekistan), as well as development of a list of digital resources for subscription; (b) review of the current information technology (IT) network, including information and communications technology (ICT) capacity in the HEIs' libraries, and development of IT recommendations for establishing an e-library network that can be used across the higher education system; (c) establishment and testing of the e-library network; (d) subscription to digital/e-library resources; (e) development and delivery of training to librarians, faculty, and students, including printing of training materials and brochures with e-library research guidelines, and tips and rules for using the e-library (for example, authors' and distribution rights); and (f) provision of information technology equipment and software to MHSSE and HEIs.

Component 3 – Improving the Relevance of Higher Education

29. ***Establishing a Competitive Academic Innovation Fund (AIF).*** The project will support the establishment of a competitive AIF in the MHSSE. The AIF will aim to improve the relevance of higher education to the labor market by selecting and financing the innovative projects to strengthen the institutional and material basis for improving university-industry links, teaching and learning practices and environment within HEIs, including through the purchase of necessary teaching, learning and research material. In other higher education systems, well-designed competitive funds have led to innovative improvements in quality and relevance, and indirectly promoted a culture of accountability and attitudinal change at the HEI level. The AIF will finance on a pilot basis two rounds of academic improvement grants to HEIs. Each round of grant financing will fund a total of US\$2 million worth of grants. Individual grants will be limited to US\$200,000 in funding over two years. All public HEIs, and other related institutions¹⁵ are eligible to apply for these grants. After two rounds of grants, the AIF mechanism will be jointly evaluated by the World Bank and the GoU. If implementation is deemed successful, the AIF will be extended for up to three additional rounds through co-financing from the GoU. The AIF will finance grant proposals in two main strategic directions: (a) strengthening university-industry links, and (b) improving teaching and learning practices within HEIs. To encourage engagement of key stakeholders and promote mechanisms for inclusion and empowerment of female students, the list of review criteria of the AIF applications would include prioritization of faculty and institutions from underdeveloped areas, the proposed citizen engagement, and the likely gender impacts.

¹⁵ Such as the Academy of Sciences and the Scientific and Educational Center for Corporate Governance.

Component 4 – Project Management, Monitoring and Evaluation

30. The component will support incremental operating costs for the project, including a core team of consultants to coordinate the project, ensure fiduciary compliance, and monitor it. The project would also finance technical experts to support implementation, as needed, and studies and evaluations.

31. **Technical Assistance and Outreach.** The project will also support technical assistance activities to build capacity within the MHSSE and project-supported HEIs in areas including but not limited to (a) promotion of technical education; (b) identification of options for increasing access in higher education, particularly for females; (c) establishment of partnerships with industries and other HEIs; (d) technical design of specialized laboratories; and (e) awareness raising regarding the country's laws relating to child and forced labor. To promote higher education for women, especially in technical disciplines, a study to identify cultural, social, and financial barriers that hinder higher education for women would be conducted. Based on the recommendations from the study, a strategy for engagement and outreach with young women would be developed and implemented.¹⁶

B. Project Financing

1. Lending Instrument

32. The lending instrument for the proposed project would be Investment Project Financing. The Investment Project Financing instrument is appropriate given the specific nature of the system- and quality-enhancing investments to be financed under the proposed project.

2. Project Cost and Financing

33. The proposed project will be financed using an International Development Association (IDA) Credit for the amount of US\$42.2 million, which is expected to be implemented over a period of six years, from 2016 to 2022.

Table 1 Project Components and Costs

Project Cost by Component	Estimated Cost (US\$)	IDA Financing (US\$)	% of IDA Financing
1. Strengthening Higher Education Management	4,860,000	4,300,000	88.48%
2. Improving the Learning Environment in HEIs	38,166,000	31,000,000	81.22%
3. Improving the Relevance of Higher Education	4,000,000	4,000,000	100%
4. Project Management, Monitoring and	2,974,000	2,900,000	97.5%

¹⁶ Global and regional evidence demonstrates that citizen engagement is a crucial element of improved service delivery, through more informed decision making that reflects the needs of users, and better monitoring of the performance of service providers. The component will support the development and strengthening of mechanisms for citizen engagement/stakeholder consultations and beneficiary feedback within the higher education system, to enhance the dialogue between the educational authorities and the students, to improve the quality and relevance of teaching and research programs. Clear mechanisms for incorporating the results of such consultations and feedback mechanisms to directly influence management and policy decisions, would be developed.

Evaluation			
Total Project Costs	50,000,000	42,200,000	84.4%
Total Financing Required	50,000,000	42,200,000	84.4%

C. Lessons Learned and Reflected in the Project Design

34. The design of the proposed project benefited from the Bank’s analytical work¹⁷ that preceded this project’s preparation. The higher education system is characterized by (a) limited access, (b) lack of quality and relevance, and (c) weak management.

35. ***Prioritizing Quality and Relevance.*** International experience suggests that successful higher education systems focus on enhancing quality of education and improving links with the labor market. This requires that the managerial capacity of the higher education system, including quality assurance processes, as well as its links with industry, need to strengthen before undertaking any major expansion in access. In accordance with this, the GoU has prioritized improvement in quality, relevance, and education system management. The project therefore focuses on strengthening internal and external quality assurance processes, improvement in system management, and enhancement in learning environments. Since improved learning environments are considered key to improving quality, the project supports the establishment of both teaching and research laboratories, and an e-library system. Finally, the project supports several interventions to improve links to Uzbek HEIs with international HEIs and industry.

36. ***Use Competitive Innovation Funds to ignite transformation.*** International experience suggests that competitive funds are highly effective mechanisms for increasing innovation, quality, inclusion, and relevance in higher education. The specific design of these competitive funds will benefit from experiences in Chile, Ghana, Indonesia, Uruguay, and Vietnam, among others. For instance, the funds will include the use of caps to restrict excessive fund allocation to major universities, use of templates for proposal submission, establishment of maximum and minimum funding levels, and other relevant requirements. The selection stage will include evaluation of proposals by external peers, several eligibility categories to compensate for different levels of institutional development, multiple rounds of selection, and other standard procedures. The project will also incorporate lessons learned by the European Union through its Trans-European Mobility Programme for University Studies (TEMPUS) grant program for universities to ensure smooth implementation.

37. ***Project Implementation Arrangements Are Embedded in the Implementing Agency.*** International experience suggests that the implementation agency itself, rather than a stand-alone Project Implementation Unit, should oversee the implementation of project interventions. In keeping with lessons from international experience, the responsibility of implementation is placed with the MHSSE. A PMT is therefore being set up to be led by the Vice Minister of MHSSE as the Project Director. The Project Director will be supported by both staff from the ministry and specialized technical consultants to be hired from the market as needed, in consultation with the Bank. In addition, great care has been taken to ensure that the project

¹⁷ “Uzbekistan: Modernizing Tertiary Education,” World Bank (2014b). The report presents analysis of the following key aspects of higher education in Uzbekistan: (a) labor market and skills, (b) innovation, (c) access, (d) governance and quality assurance, (e) higher education financing, and (f) the way forward.

includes activities to build capacity of the implementation agency in project management, procurement, and financial management.

38. *Strong and continuous implementation support arrangements should be built into the project design* to strengthen the institutional capacity of the implementing agency, especially when designing and implementing the project in new (sub) sectors. Institutional and implementation arrangements need careful attention and operational support needs to be provided continuously to build/strengthen institutional capacity in project management, procurement, and FM.

IV. IMPLEMENTATION

A. Institutional and Implementation Arrangements

39. The Ministry of Higher and Specialized Secondary Education (MHSSE) would be the main project implementing agency. In addition, all public HEIs and other related institutions would be eligible to apply for grants under the AIF and would be responsible for implementation if their proposals are approved. Project implementation would rely primarily on the existing structure of the MHSSE, so the proposed project would not require establishment of a parallel structure or a full-scale Project Implementation Unit.

40. The Deputy Minister of Higher and Specialized Secondary Education, who would act as Project Director, would be responsible for overall leadership and management of the proposed project, and for liaison with the World Bank, other agencies involved in project implementation, and relevant stakeholders. The heads of some MHSSE departments, the head of the Center for Implementation of E-Learning in Educational Institutions (CIEEI), and the Director of the STC would be responsible for implementing specific subcomponents. A small team of local consultants comprised of a Project Coordinator, two Procurement Specialists, a Procurement Assistant, a Financial Management Specialist, and a Monitoring and Evaluation Specialist would be financed using project funds to assist the MHSSE to implement the project in accordance with the procedures set forth in the Financing Agreement and the Project Operations Manual.

41. Local and international consultants including two specialists dedicated to the AIF would be hired to technically support implementation of the proposed activities, as outlined in Annex 3. One international Procurement Specialist will also be hired to support the Project Management Team (PMT) in the first two years of implementation. In addition, four consultants (at least two of them international higher education specialists) would be hired on a time-based approach to comprise an Expert Advisory Panel (EAP) to provide high-level advice and guidance on project implementation to the Minister of Higher and Specialized Secondary Education.

B. Results Monitoring and Evaluation

42. The PDO-level and intermediate results indicators and the effectiveness of competitive grants would be monitored using the following sources and methodologies: regular data collection process, baseline and follow-up surveys, and reports prepared by the PMT.

43. The Monitoring and Evaluation Specialist of the PMT would be responsible for bringing together the reports and representatives of the MHSSE for monitoring the PDO and results, and reporting to the World Bank according to the frequency of reports described in Annex 1. Monitoring under the project would be integrated into regular monitoring functions of the MHSSE. The Project Results Framework includes indicators to measure the effect of the activities such as QECs and the AIF on teaching and learning processes, and on strengthening links between industries and the HEIs.

44. A firm or individual consultants would be selected to assess the quality and implementation of QECs (Subcomponent 1.2), basic teaching laboratories and advanced research laboratories (Subcomponent 2.1), and the AIF (Component 3). These studies should draw conclusions for the MHSSE on the effectiveness and impact of these subcomponents on the quality of the higher education.

C. Sustainability

45. The project will support several interventions to modernize the higher education sector in Uzbekistan. Institutional and financial sustainability are built into the design of the project. Both will be ensured by mainstreaming key interventions in existing institutions, which are already funded through the budget. The AIF will be funded through the project for the first two rounds of competition only, and subject to the first two rounds being assessed as successful in a joint World Bank-GoU review, the government will fund the upscaling of this intervention through budgetary financing within the project period. The laboratories financed under the project will be chosen through a rigorous process involving a wide cross-section of government and higher education stakeholders, and is supported by Decree No. 1533 as part of a larger government program aimed at upgrading the higher education infrastructure. Finally, the partnerships and capacity-building interventions (including citizen engagement processes) will survive project closing by design, and their success will ensure GoU interest in their continuity beyond the project life.

V. KEY RISKS AND MITIGATION MEASURES

A. Overall Risk Rating and Explanation of Key Risks

46. Project design was informed by global best practices and Uzbekistan-specific analytics. The project includes several innovative activities that will likely produce both winners and losers, and therefore resistance from beneficiaries of the status quo. The overall risk for the project is rated as substantial. The major risks are as follows.

Political and Governance Risk: Regional instability poses a risk. In particular, deterioration in the security situation in Afghanistan could spill over into Uzbekistan. In addition, structural reforms and privatization necessary for opening the economy to private investment will necessarily confront strong vested interests in the status quo, and the commitment to increase the market orientation of the economy and the role of the private sector remains untested. This risk is partially mitigated by the government together with the World Bank Group and other development partners and stakeholders by continuously assessing policy reforms, and the

provision of advice on the sequencing and pace of reforms and hands-on support to address capacity issues through technical assistance.

Macroeconomic Risk: Although Uzbekistan’s economy proved more resilient than that of many countries to the 2008–09 global financial crisis, it remains vulnerable to external shocks affecting commodity prices and remittances. An extended slowdown in growth in key trading partners, such as China, Russia, and Kazakhstan, would slow export growth and further reduce remittances. A further drop in commodity prices would undermine Uzbekistan’s external and fiscal balances. The risk is mitigated by the government’s agenda to accelerate job creation, increase competitiveness, and promote increased productivity and diversification. In addition, the World Bank’s Country Partnership Framework program support in these areas aims to mitigate this risk.

Implementation Capacity Risk: This is the first time that the Bank is working in the higher education sector in Uzbekistan. MHSSE officials and consultants are not experienced in working with the Bank, but will be assisted by staff of the Ministry of Public Education (MoPE) who have worked on Bank-funded projects for many years. Close supervision by the Bank team would ensure that activities are implemented as planned. Lessons learned during Basic Education Project 1 and Basic Education Project 2 implementation and the ongoing Global Partnership for Education project experience will be incorporated into the Project Operations Manual, which will be updated on a regular basis.

Social Risks: There is a substantial risk that students, university teachers, and managers (project beneficiaries) may be mobilized to support the cotton harvest. This risk will be mitigated by ensuring that project beneficiaries are covered by the International Labour Organization’s (ILO’s) Third Party Monitoring aimed at preventing child and forced labor, and by broader awareness-raising activities with citizens.

Fiduciary Risks: The 2013 Public Expenditure and Financial Accountability assessment found a number of elements of public financial management and procurement to be weak at the country level. In addition, given MHSSE’s lack of previous experience implementing World Bank-financed projects, and the required financial management and procurement arrangements that are still not in place, the overall fiduciary risk for the project is high. The risk is mitigated by financial management, disbursement, and procurement arrangements that are expected to be acceptable after a set of agreed actions have been met, as described in Annex 3.

VI. APPRAISAL SUMMARY

A. Economic and Financial Analysis

47. The project is expected to generate a net present value (NPV) of US\$249.1 million, with US\$274.2 million in benefits against US\$25.1 million in costs, yielding a benefit-to-cost ratio of 10.9 and an internal rate of return of 26 percent. The analysis assumes a discount rate of 12

percent.¹⁸ It can be concluded that the project represents a good investment, even with conservative assumptions for the wage premiums, growth in wage premiums, share of graduates to benefit, and gains from higher levels of productivity.

48. The cost-benefit analysis is based on conservative and well-informed assumptions. However, the project may perform better or worse than expected. Sensitivity analyses were performed to estimate the potential range of outcomes by adjusting the key assumptions outlined in Annex 5. Findings from the sensitivity analyses show that the net present value of the project could range from US\$27.6 million in the low case to US\$700.3 million in the high case, with benefit-to-cost ratios of 2.1 and 28.8 and internal rates of return of 7 percent and 40 percent, respectively. Therefore, even with the most conservative estimates, the project will yield positive benefits in terms of higher wages and economic growth in relation to its costs.

B. Technical

49. The technical design of the proposed project is based on (a) numerous consultations with stakeholders and technical discussions with national, regional, and international experts; and (b) the Education Sector Plan 2013–2017, which identifies eight specific strategic areas for all subsectors of the education system. The outcome for higher education identified in the Education Sector Plan is that “graduates are prepared as highly qualified specialists to contribute to scientific progress and socioeconomic and cultural development of the country.”

50. There are three analytical underpinnings of the proposed project. First, project design has benefited from the analysis of Uzbekistan’s higher education sector that was completed by the Bank in 2014. Second, the design draws heavily on international experience and sound practices in higher education, and is carefully contextualized for Uzbekistan. Third, the project builds on the lessons learned from the implementation of similar World Bank-financed projects in other Commonwealth of Independent States countries and around the world, which has allowed project design to be developed in anticipation of known challenges and plan accordingly to maximize the potential for success. Competitive funding has been found to be an effective instrument in leveraging limited resources to create system-wide incentives.¹⁹ In addition, a multipronged approach to improving quality—improving the learning environment and resources, improving quality assurance processes, strengthening teaching research facilities—has been introduced in line with best practices gleaned from higher education reform experiences around the world.

C. Financial Management

51. The overall residual financial management (FM) risk for the project is substantial, given MHSSE’s lack of previous experience implementing World Bank-financed projects, and the fact that the required FM arrangements are still not in place. However, FM and disbursement arrangements are expected to be acceptable after a set of agreed actions have been met, as described in Annex 3.

¹⁸ This is the discount rate assumed in recent PADs for water and horticulture projects in Uzbekistan.

¹⁹ Competitive funds for higher education have been assessed in Fehnel (2004) and Saint (2006).

52. The MHSSE (through its PMT) will be responsible for FM and disbursement aspects during project implementation including planning, budgeting, accounting, financial reporting, funds flow, internal controls, and auditing. The MHSSE has no prior experience in the implementation of the World Bank-financed projects and projects financed by other international financial institutions. The PMT within MHSSE is still to be established.

53. The PMT will be responsible for FM of all project components including submission of quarterly unaudited interim financial reports and audited annual project financial statements to the World Bank. It is expected that experienced FM staff will be identified before project effectiveness. The PMT will follow the established planning, budgeting, accounting, internal control, reporting, and auditing procedures that would be described in detail in the Project Operations Manual, which is to be developed as a condition of effectiveness. The PMT will manage project payments and maintain project accounting records, which would be segregated for this project. Accounting software still needs to be acquired and tailored to meet the World Bank requirements. Annual audited financial statements together with the auditor's opinion and a management letter will be provided to the Bank within six months after the end of each fiscal year and at the closing of the project. The PMT will be responsible for the selection and appointment of the project auditor, according to terms of reference acceptable to the Bank; the financial audit will be financed from the credit funds. The Project Operations Manual will include an AIF Grant Manual incorporating all FM and funds flow arrangements of the grant.

D. Procurement

54. A comprehensive country procurement assessment was conducted in 2003 by the World Bank and the Asian Development Bank and recently reviewed under the Public Expenditure and Financial Accountability study in 2013. The following weaknesses were identified: (a) absence of a unified legislative framework; (b) inefficient and nontransparent procurement practices; (c) absence of a single institution with oversight or regulatory authority for public procurement; (d) weak capacity for reviewing bidders' complaints; (e) complicated internal review/approval of bid evaluation reports, which leads to low accountability and delays; (f) no comprehensive anticorruption measures; and (g) low skills/capacity of the staff handling public procurement at every administrative level. Private sector suppliers and contractors remain dissatisfied with the rules governing public procurement and have little confidence in the system's fairness. Though the government has started extensive reforms of its public procurement system, the recent assessments under the Country Integrated Fiduciary Assessment and Public Expenditure and Financial Accountability studies indicate that there is as yet not much change in the public procurement environment. Thus, the procurement environment is considered a high risk.

55. The Bank has conducted a procurement capacity assessment of MHSSE, which will be responsible for project implementation, and the following additional risks were identified: (a) the government decrees and rules and regulations have internal conflicts in major provisions, particularly, the price verification by the Ministry for Foreign Economic Relations, Investment and Trade during the mandatory contract expertise review which leads to considerable delays in project procurement and implementation; (b) there is difficulty obtaining bank guarantees for bid security and performance security by the local bidders, and alternative instruments for such purpose are unavailable in the country's banking system, in particular joint ventures; (c) there are

a number of bid evaluation committees and stages, and the interdepartmental tender committee consists of around 11 high-ranking members, and signing of the minutes or reports minutes takes around two months; (d) the time between the bid opening and start of contract implementation is often 8 to 12 months. A risk mitigation plan was developed with counterparts and is included in Annex 3; once the risk mitigations are put in place, the procurement capacity and arrangements at the project level will be considered acceptable

56. Procurement for the proposed project will be carried out in accordance with the World Bank's "Guidelines: Procurement of Goods, Works and Non-Consulting Services under IBRD Loans and IDA Credits & Grants by World Bank Borrowers," dated January 2011 (revised July 2014) (Procurement Guidelines); and "Guidelines: Selection and Employment of Consultants under IBRD Loans and IDA Credits & Grants by World Bank Borrowers," dated January 2011 (revised July 2014) (Consultant Guidelines) and provisions stipulated in the Financing Agreement.

E. Social (including Safeguards)

57. Given the scope of the proposed project, there are several relevant stakeholders (the Women's Committee, the Mahalla Foundation, higher education institutions, faculty, students, and other institutions and social actors) that can be influential or have a stake in the higher education sector as well as the MHSSE. To properly address the needs and concerns that these stakeholders may have, and in accordance with Bank corporate requirements for citizen engagement, the MHSSE will conduct consultations with students, firms, and other members of civil society on a regular basis during implementation of the proposed project, as has already also been done during the project preparation process. Engaging stakeholders from early stages of project planning and implementation can help ensure strong buy-in and sustainability of project activities. In addition, the project would aim to build the capacity of the higher educational authorities, at the central and university levels, to engage with the students, to ensure that their opinions and feedback inform the design and implementation of teaching and research programs. Innovative mechanisms for collecting such feedback, through online and mobile-phone-based platforms, would be piloted. Clear mechanisms for incorporating the results of such consultations, and feedback mechanisms to directly influence management and policy decisions, would be developed, and results and beneficiary feedback would be presented at follow-up meetings.

58. Gross tertiary enrolment rates have declined in Uzbekistan over the last two decades. Only 37.5 percent of university students in Uzbekistan are women, a significantly lower rate than in neighboring countries or globally. In addition, university enrolment positively correlates with students' family income, putting the low-income and vulnerable population at a disadvantage in seeking higher education. The project will aim to address gender disparity through outreach activities aimed at encouraging (a) female students to enroll in hard sciences courses, and (b) female faculty participation in training courses and grant applications. The project will also aim to pilot interventions to reach out to students and faculty from rural areas, and disadvantaged and vulnerable population groups (that is, single-parent households, ethnic and/or religious minorities, first-generation university students). These interventions would be based on a study of social, cultural, and financial barriers that prevent students from such social groups from

accessing higher education. To promote mechanisms for inclusion and empowerment of low-income and female student beneficiaries, criteria, related to mechanisms the gender impact of subprojects, would also be included in the list of review criteria of the AIF.

59. The number of partners working in education, particularly higher education, is limited in Uzbekistan. The World Bank is working closely with UNICEF on preprimary and general secondary education. UNICEF has been engaged in early childhood work in Uzbekistan for a number of years and coordinates the local working group on early childhood development that contributed to the Education Strategic Plan. Since 2010, UNICEF has been piloting flexible approaches to Early Childhood Education and Care in six regions of the country, in partnership with the national and local government, including MoPE, the Women's Committee, and through the Mahalla Foundation. Private businesses have weak ties with higher education institutions, and fostering these relationships may pose a challenge. The project will provide capacity-building activities to build the necessary skills of higher education officials at the central and university levels to engage more closely with a variety of partners in the public and private sectors, to increase the relevance of the educational curriculum.

60. Uzbekistan's legal and labor codes prohibit child and forced labor. The country is a signatory to the ILO Conventions on minimum age and worst forms of child labor (CO 138 and 182), and on forced labor (CO 29 and 105). At the same time, allegations of child and forced labor in cotton production have been pervasive. While there is no longer systematic use of child labor in cotton harvest, as confirmed by the 2015 ILO monitoring report (ILO 2015), concerns about mobilization practices of adults continue, with reports that students, civil servants, and even employees of the private sector are involuntarily mobilized to pick cotton (and often, for other activities as well) to augment agricultural production in the country. The 2015 ILO monitoring report emphasized the risk of forced labor associated with large-scale organized mobilization of college and university students to pick cotton. The proposed project will mitigate the use of child and forced labor through participation in the Third Party Monitoring (TPM) and Feedback Mechanism (FBM), which will be funded through a separate multi-donor trust fund, as well as training and awareness-raising activities, to be implemented as part of the project.²⁰ Occurrence of child and/or forced labor in connection with project activities, as reported by the TPM and/or FBM, would entitle the World Bank to take any appropriate measures in accordance with any applicable provisions of legal agreement on the project. More details on child and forced labor issues in Uzbekistan are presented in Annex 6.

F. Environment (including Safeguards)

61. Component 2 of the project aims at improving laboratories and associated academic and research systems in priority areas. Subcomponent 2.1 covers standard basic teaching laboratories and advanced technical and science laboratories. Purchase of necessary laboratory equipment and materials as well as laboratory operations might have localized environmental impacts

²⁰ This would be coordinated as part of the implementation of the Government of Uzbekistan Action Plan on Improving Labor Relations in the Cotton Sector in 2016–2018, signed on January 7, 2015, which includes, under Action 26, “Implement additional activities aimed at raising awareness of students, with possible support from the Kamolot Youth Movement, under the new higher education development project.”

related to the storage, transportation, and use of hazardous substances. Should the provision of equipment be accompanied by refurbishment and reconstruction activities, these may pose additional hazards for the environment and the health and safety of personnel and visitors. Such hazards include but are not limited to construction waste, including asbestos, noise and vibration during the demolition and construction activities, and air and water pollution. The project triggers the Safeguards Policy OP 4.01 Environmental Assessment. Because the exact list of educational institutions is not known by Appraisal, the client has developed an Environmental Management Framework that covers possible impacts mentioned above. The Environmental Management Framework provides an overview of possible environmental impacts, describes the responsibilities for environmental management, and outlines a step-by-step procedure for site-specific environmental assessment and a template for the Environmental Management Plan Checklist. The Environmental Management Framework was disclosed the website of the Ministry of Higher and Secondary Education²¹ on January 30, 2016. A public consultation meeting was conducted on February 8, 2016. Minutes of consultations were disclosed at the same webpage on February 8, 2016.

G. Other Safeguards Policies Triggered *(if required)*

62. No other safeguards are triggered.

H. World Bank Grievance Redress

63. Communities and individuals who believe that they are adversely affected by a World Bank-supported project may submit complaints to existing project-level grievance redress mechanisms or the World Bank's Grievance Redress Service. The Grievance Redress Service ensures that complaints received are promptly reviewed in order to address project-related concerns. Project-affected communities and individuals may submit their complaint to the World Bank's independent Inspection Panel, which determines whether harm occurred, or could occur, as a result of World Bank noncompliance with its policies and procedures. Complaints may be submitted at any time after concerns have been brought directly to the World Bank's attention and Bank Management has been given an opportunity to respond. For information on how to submit complaints to the World Bank's corporate Grievance Redress Service, please visit <http://www.worldbank.org/GRS>. For information on how to submit complaints to the World Bank Inspection Panel, please visit www.inspectionpanel.org.

²¹ <http://edu.uz/ru/news/view/299>

Annex 1: Results Framework and Monitoring

Country: Uzbekistan

Project Name: Modernizing Higher Education Project (P128516)

Results Framework

Project Development Objectives

PDO Statement

The Project Development Objectives are to strengthen the Recipient's higher education system managerial capacity, and to improve both the labor market relevance and the learning environment of selected higher education institutions.

These results are at | Project Level

Project Development Objective Indicators

Indicator Name	Baseline	Cumulative Target Values										
		YR1	YR2	YR3	YR4	YR5	YR6	YR7	YR8	YR9	End Target	
Percentage of universities that complete institutional self-assessment through Quality Enhancement Cells (Percentage)	0.00	0.00	0.00	0.00	20.00	40.00	50.00					50.00
Increase in the index of labor market relevance of	No existing baseline	Survey designed	Baseline determined through a survey	No survey	Survey carried out and index increased	No survey	Survey carried out and index increased					20.00

higher education perceived by students, civil society, and firms. (Text)					by 5.00%		20.00%				
Number of modernized learning and research laboratories established and incorporated in revised academic programs (Number)	0.00	0.00	0.00	25.00	55.00	85.00	115.00				115.00

Intermediate Results Indicators

Indicator Name	Baseline	Cumulative Target Values										
		YR1	YR2	YR3	YR4	YR5	YR6	YR7	YR8	YR9	End Target	
Development of a HEMIS (Text)	HEMIS does not exist	Development of HEMIS specifications	Development of HEMIS	HEMIS Piloted	HEMIS operational in 50% of universities	HEMIS operational and implemented in all public universities	HEMIS operational and implemented in all public universities					HEMIS operational and implemented in all public universities
Number of State Testing Center staff and experts trained in higher	0.00	0.00	10.00	20.00	25.00	25.00	25.00					25.00

education external quality-assurance-related topics (Number)											
Number of basic teaching laboratories established and incorporated in academic programs (Number)	0.00	0.00	0.00	25.00	50.00	75.00	100.00				100.00
Number of advanced scientific research laboratories established and incorporated in research programs (Number)	0.00	0.00	0.00	0.00	5.00	10.00	15.00				15.00
Establishment of national e-library (Text)	National e-library does not exist	National e-library functionalities identified	Development of national e-library	National e-library established	National e-library established	National e-library established	National e-library established				National e-library established
Percentage of eligible HEIs benefitting from grants of the competitive AIF (Percentage)	0.00	0.00	0.00	10.00	20.00	30.00	30.00				30.00

Percentage of project-supported HEIs that incorporate citizen engagement into grant proposals under the AIF (Percentage)	0.00	0.00	0.00	50.00	75.00	75.00	75.00				75.00
Number of partnerships established under the AIF (Number)	0.00	0.00	0.00	7.00	10.00	15.00	15.00				15.00
Assessment of options to increase female enrolment (Text)	No assessment	No assessment	Report on Options to Increase Female Enrolment Published	Report on Options to Increase Female Enrolment disseminated to HEIs	Report on Options to Increase Female Enrolment used to inform selection criteria of grants under AIF	Report on Options to Increase Female Enrolment used to inform selection criteria of grants under AIF	Report on Options to Increase Female Enrolment used to inform selection criteria of grants under AIF				Report on Options to Increase Female Enrolment Published and used to inform policy on encouraging female enrolment.
Direct project beneficiaries (Number) - (Core) (Number)	0	321000.00	381000.00	441000.00	501000.00	561000.00	621000.00				621000.00
Female beneficiaries (Percentage - Sub-Type):	37.00	37.50	37.50	38.00	38.50	39.00	40.00				40.00

Supplemental) - (Core) (Number)											
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Indicator Description

Project Development Objective Indicators

Indicator Name	Description (indicator definition etc.)	Frequency	Data Source / Methodology	Responsibility for Data Collection
Percentage of universities that complete institutional self-assessment through QECs	This indicator will require establishment of QECs in each HEI, and an expanding coverage of HEMIS over the project period. QECs should be doing internal quality assessments using HEMIS data.	Annual	MHSSE	MHSSE
Increase in the index of labor market relevance of higher education perceived by students, civil society, and firms	Regular surveys will measure perception of firms and students at baseline, midterm, and end term. The results of the surveys, and actions taken, will be disseminated to students and other civil society members through beneficiary feedback meetings in Y2, Y4, Y6.	Three times in the project. Baseline in year 1, midterm in year 4, and end term in year 6.	MHSSE	MHSSE
Number of modernized learning and research laboratories established and incorporated in revised academic programs	Delivery of lab equipment should be accompanied by their effective use, defined by their incorporation in teaching and research practice. This will require MHSSE providing us evidence that the use of labs has been incorporated in the curricula of the relevant academic and research programs.	At the end of each round (yearly from year 3 onwards)	External assessment managed by the MHSSE through the PMT.	MHSSE

Intermediate Results Indicators

Indicator Name	Description (indicator definition etc.)	Frequency	Data Source / Methodology	Responsibility for Data Collection
Development of a HEMIS	This includes design, pilot testing and roll out of a standardized HEMIS to all HEIs.	Annual	MHSSE	MHSSE
Number of State Testing Center and experts staff trained in external higher education quality-assurance-related topics	Completion of QA-related training as evidenced by attendance records or completion certificates. Experts refer to experts among the STC staff and experts from national higher education institutions who conduct external quality assessment, have adequate competence and possess relevant skills.	Annual	STC	STC
Number of basic teaching laboratories established and incorporated in academic programs	Delivery of lab equipment should be accompanied by their effective use, defined by their incorporation in teaching practice. This will require MHSSE providing us evidence that the use of labs has been incorporated in the curricula of the relevant academic programs.	Annual	MHSSE	MHSSE
Number of advanced scientific research laboratories established and incorporated in research programs	Delivery of lab equipment should be accompanied by their effective use, defined by their incorporation in research practice. This will required MHSSE providing us evidence that the use of labs has been incorporated in the relevant research programs.	Annual	MHSSE	MHSSE
Establishment of national e-library	This will require identification of key academic databases, negotiations and direct contracting with owners of said databases, and ensuring that this is available to all public HEIs.	Annual	MHSSE	MHSSE
Percentage of eligible HEIs benefitting from grants of	There are 66 HEIs. At least 20 of them could benefit from the competitive grants,	Annual	MHSSE	MHSSE

the competitive AIF	given the grant size.			
Percentage of project-supported HEIs that incorporate citizen engagement into grant proposals under the AIF	Several criteria, including citizen engagement, are required for AIF grant applications. All HEIs can apply. This indicator will measure how well citizen engagement is incorporated as part of the applications for AIF grants. It is anticipated that the level of consultation and feedback with students and other civil society stakeholders will increase over the project period. The numerator is the number of grant proposals that included citizen engagement activities to engage students and civil society stakeholders. The denominator is the total number of proposals.	Annual	MHSSE	MHSSE
Number of partnerships established under the AIF	AIF grant applications can be for one institutions, or partnerships between two or more HEIs, or HEI and industry/firms. The application process will encourage partnerships. The indicator will measure the number of partnerships the grants support.	Annual	MHSSE	MHSSE
Assessment of options to increase female enrolment	This will monitor the study of options to increase female enrolment as well as the effect of the results of the study on higher education policy.	Once	MHSSE	MHSSE
Direct project beneficiaries(Number) - (Core)	Number of students benefiting from project interventions.	Annual	MHSSE	MHSSE
Female beneficiaries(Percentage - Sub-Type: Supplemental) - (Core)	% of female students in higher education benefiting from project interventions.	Annual	MHSSE	MHSSE

Annex 2: Detailed Project Description

Modernizing Higher Education Project

1. The Project Development Objectives are to strengthen the Recipient's higher education system managerial capacity, and to improve both the labor market relevance and the learning environment of selected higher education institutions (HEIs). The proposed project consists of four components: (a) strengthening higher education management, (b) improving the learning environment in HEIs, (c) improving the relevance of higher education, and (d) project management. The proposed project will be implemented over six years between 2016 and 2022 and will be financed by an IDA credit in the amount of US\$42.2 million. A detailed description of the proposed project components follows.

Component 1 – Strengthening Higher Education Management (total estimated cost: US\$ 4.86 million, of which US\$ 4.3 million is from IDA financing)

2. *Subcomponent 1.1 - Establishing the Higher Education Management Information System (HEMIS) (US\$2.0 million from IDA financing).* To improve the management capability of the MHSSE and HEIs, this subcomponent will support the development and enhancement of a comprehensive HEMIS, managed by the CIEEI. Under the proposed project, the HEMIS will improve existing information management systems in Uzbekistan that collect data that include student enrolment, academic staff, and research activity, among other information. In addition, modules on HEI financing and graduates' labor market outcomes will be developed and included in the HEMIS (the ability to carry out surveys on labor market outcomes will be developed under Subcomponent 1.2). An effective HEMIS, once developed, can be instrumental in better management of the higher education system, especially in targeting and resource allocation. It can inform decision making on which programs should get government support, and how to increase enrolment in priority fields and to better target scholarships.

3. To develop the HEMIS, the proposed project will support three activities: (a) training CIEEI staff to develop and manage the HEMIS; (b) training HEMIS users at HEIs to collect, submit, and use HEMIS data; and (c) provision of appropriate information technology (IT) equipment to implement the HEMIS. CIEEI staff will receive training in development of the HEMIS, which will cover merging, modernizing, and expanding the existing modules and creating new modules to collect financial information from HEIs and labor market outcomes from graduates (possibly using social media). At HEIs, the primary users of the HEMIS, or QECs, to be established under Subcomponent 1.2 of the proposed project, will receive training on data collection and submission. In addition, a help desk will be established at the center to respond to ongoing queries from HEIs. Finally, the project will finance the hardware to store a significant amount of data for the indicators to be collected by the HEMIS.

4. *Subcomponent 1.2 - Improving the Quality Assurance System (US\$2.3 million from IDA financing).* In order to help strengthen the quality assurance (QA) mechanisms in Uzbekistan, this subcomponent will support the development of various QA mechanisms at HEIs, the MHSSE, and the STC. Efforts will be made to align Uzbekistan's QA system with international best practices, such as those used in Europe, which are typically composed of two

mutually reinforcing phases: (a) a regular internal self-assessment performed by HEIs, and (b) a periodic external review coordinated by an independent agency.

5. Support to HEIs. Through the proposed project, HEIs will establish QECs, possibly building on existing focal offices for internal QA. The QEC will be responsible for developing procedures for functions such as the approval of a new program, annual monitoring and evaluation including through HEMIS, departmental review, student feedback, institutional assessment, and program specifications. In addition, internal QA responsibilities of the QEC will include review of quality standards and quality of teaching and learning, review of academic affiliations with other institutions, and ensuring that QA procedures meet national requirements, among others.

6. The proposed project will finance capacity building for QECs and acquisition of appropriate IT equipment. HEIs will receive initial training on how to develop an effective QEC and implement regular internal QA functions, with sessions to include topics such as data analysis methods, review of quality standards, development of program specifications, development of QA processes, and others. QECs will receive subsequent training on how to implement and use a self-assessment for the purposes of internal QA. International experts in the area of internal QA will be involved in development and delivery of capacity building. Training will be tailored to the unique needs of HEIs. In addition, QECs will receive appropriate IT equipment, including computers, to allow for data management and self-assessment procedures.

7. Support to MHSSE. MHSSE will enhance its capacity as an internal QA partner to QECs at HEIs. MHSSE will be responsible for developing an internal QA strategy in higher education and monitoring and evaluation of QECs, with technical assistance financed through the project. A core aspect of the internal QA strategy and guidelines will be the creation of guidelines for self-assessment at the HEI level. MHSSE will also provide ongoing support to QECs in the implementation of QA processes, including the self-assessment, at the HEI level.

8. Support to the STC. The STC will be assisted in strengthening its capacity to carry out the external QA function. The STC will strive to bring Uzbekistan's external QA processes in line with international standards. Strengthening the external QA function can include external reviews of HEIs; liaison with the Uzbek legislature to modify QA laws; and university ranking, including assessment of the research output of HEIs. The head of the STC will take the lead in STC-related activities and will be provided consultants as needed, to be funded from the project proceeds.

9. The proposed project will finance several activities to align Uzbekistan's external QA processes with international best practices. First, the project will finance technical assistance to assess STC functions, to identify gaps to be filled to meet international standards for carrying out external QA of HEIs. This can include a training needs assessment for STC staff, inputs for modification of the law on accreditation, and development of university accreditation processes that are compatible with European Standards and Guidelines for QA²² requirements. Next, a

²² The European Standards and Guidelines for Quality Assurance are an agreed set of standards, procedures, and guidelines that serve as a common European set of principles and reference points for QA in higher education.

training program for external QA evaluation specialists and guidance for a pilot of accreditation of HEIs through external review will be developed. These activities will prepare the STC to be able to apply for membership in the European Quality Assurance Registrar for Higher Education.²³ International experts will provide technical assistance to facilitate implementation of these activities and provide key inputs based on the European experience.

10. The proposed project will also provide resources to build capacity to enable STC to act as the independent external QA agency in Uzbekistan. Training activities will include workshops for QA specialists on external review of HEIs and study tours for STC staff to exchange knowledge on developing successful HEI ranking systems. The project will finance the development of survey instruments to measure crucial indicators of success in higher education: employer satisfaction, student satisfaction, and labor market outcomes. The project will also finance the hiring of consultant firms to carry out these surveys during the project period, and capacity building of the STC to take over this exercise by the end of the project. Reports will be produced with findings from the application of these surveys. Finally, STC will receive IT hardware and software for data collection, analysis, and dissemination.

Component 2 – Improving the Learning Environment in HEIs (total estimated cost: US\$ 38.17 million, of which US\$ 31.0 million is from IDA financing)

11. *Subcomponent 2.1: Improving laboratories and associated academic and research systems in priority areas (US\$29.0 million from IDA financing).* To enhance the learning environment in Uzbekistan, the proposed project will support the development of modern laboratories at selected HEIs. These laboratories will be modernized through enhancements in the following key areas: (a) laboratory equipment, (b) training of faculty and staff, (c) aligned curriculums, and (d) partnerships with industry or other HEIs.

12. The GoU is committed to these improvements through Decree No. 1533 on Modernization of Material and Technical Base of the Higher Educational Institutions, which is directed toward the development of human and technical resources to have a significant impact on the ability of universities to address the needs of the priority economic sectors. MHSSE will establish a Technical Expert Committee (TEC)²⁴ to assist with identification and selection of laboratories under this component. Two types of laboratories will be financed, as described below.

13. *Basic teaching laboratories (US\$17 million from IDA financing).* To improve standard basic teaching laboratories, the proposed project would finance (a) purchase of necessary laboratory equipment and materials, and (b) development of training for standard laboratory procedures. The TEC will carry out a needs assessment for standard basic teaching laboratories to identify both subject areas and HEIs that would benefit from these laboratories. Standardized equipment, material, and training requirements for each standard laboratory will be devised

²³ The European Quality Assurance Register for Higher Education is a register of QA agencies that comply with a common set of principles for QA in Europe.

²⁴ The TEC can consist of three to five members (a combination of consultants and MHSSE staff), who are empowered to engage other technical experts as needed.

under the supervision of the TEC. To ensure that these laboratories are part of a broader research system, MHSSE will be responsible for developing curriculums that are aligned with the laboratory improvements and for establishing partnerships across HEIs or with industry.

14. Principles of implementation: The allocation of Basic Teaching Laboratories will be determined centrally by the MHSSE. First, MHSSE will identify which disciplines should be prioritized to receive a standard set of basic laboratory equipment. The selection of disciplines will be guided by Uzbekistan's national priorities in the area of personnel training and skills development, the extent of coverage by each discipline of the student body of the country, and other factors. Next, MHSSE will constitute a TEC, with the responsibility for identifying groups of technical experts for each priority discipline to develop a set of standard specifications for basic laboratory equipment in their respective disciplines. Each expert group will be composed of faculty from the lead higher education institution in that discipline (if any) and other relevant institutions. The TEC will prepare its prioritized recommendations for basic teaching laboratories to be procured, along with the technical specifications for each type of laboratory. The list will identify the HEIs and the degree programs for which the laboratories are being procured. The Minister of Higher Education will consider the recommendations of the TEC, and approve the set of standard equipment and the list of HEIs where the laboratories will be provided. MHSSE will be responsible for ensuring the curriculums for the relevant degree programs are revised to incorporate the effective use of the laboratories in teaching and training, and will provide proof to the Bank of the adoption of revised curriculums for each relevant degree program or discipline.

15. *Advanced scientific research laboratories (US\$12 million from IDA financing).* To improve advanced technical and science laboratories, the proposed project will finance (a) a call for proposals workshop for representatives from HEIs; (b) training in proposal development; (c) purchase of necessary laboratory equipment and materials; and (d) curriculum development, links with industry, and training for faculty as described in proposals. To award the advanced technical laboratories, the MHSSE will use a two-step selection scheme. To promote the development of the modern laboratories fully integrated into teaching and research, priority will be given to proposals that include plans to adopt a curriculum that is aligned with the new system, to create links with industry and other HEIs, and to provide appropriate training for faculty.

16. Principles of implementation: Advanced Scientific Research Laboratories will be awarded through a two-stage process. In Stage 1, HEIs will submit applications for shortlisting consideration. To open the application process, the PMT will issue a call for proposals to all HEIs. HEIs will then prepare Initial Project Proposals in teams along guidelines provided in the Project Operations Manual (POM), and submit complete proposals to the PMT. In turn, the TEC will shortlist the best initial proposals and arrange for the shortlisted applicants to receive training in preparing detailed proposals to be considered for making final selections. In Stage 2, the full proposals will be sent for external review to two international reviewers by the TEC. The TEC will then prepare a prioritized list of proposals in light of the feedback from external reviewers, and present its recommendations for consideration by an Inter-Ministerial Selection Committee (IMSC). The IMSC will be chaired by the Minister of MHSSE, and include representatives of other key ministries, the rectors council, and the private sector. The IMSC will

make the final selection of Advanced Labs to be procured. The MHSSE will be responsible for ensuring the curriculums for the relevant degree programs are revised to incorporate the effective use of the laboratories in teaching and research, and will provide proof to the Bank of their effective use in teaching and research.

17. ***Subcomponent 2.2 - Establishment of a national e-library for Uzbek HEIs (US\$2.0 million from IDA financing)***. The project will support the establishment of a national e-library in Uzbekistan to improve the learning and research environments at Uzbekistan's HEIs. All HEIs are envisioned to have digital access to the national e-library through the MHSSE. The following activities are envisioned: (a) review of the need for e-library resources by the local HEIs with a focus on students and teachers and current availability of library and e-library resources in the country (including libraries at the HEIs, the e-learning network at the MHSSE, and the National Library of Uzbekistan), and development of a list of digital resources for subscription; (b) review of the current IT network, including ICT capacity in the HEIs' libraries, and development of IT recommendations for establishing an e-library network that can be used across the higher education system; (c) establishment and testing of the e-library network; (d) subscription to digital/e-library resources for the first three years, with the understanding that the state budget will cover this subscription afterward on a regular basis; (e) development and delivery of training to librarians, faculty, and students, including printing of training materials and brochures with e-library research guidelines, and tips and rules for use of the e-library (for example, authors' and distribution rights); and (f) provision of hardware and software at the MHSSE and HEIs as required.

18. **Principles of implementation:** The MHSSE will take the lead in identifying the team that will assess e-library needs of the Uzbek Higher Education System, and will subsequently negotiate a corporate license to establish a national e-library for use by all Uzbek HEIs. All Uzbek HEIs will be supported to access this e-library, including through the provision of ICT equipment and training for library staff. The MHSSE will be responsible for ensuring that the undergraduate curriculums include training in the use of the e-library for students and faculty of Uzbek HEIs.

Component 3 – Improving the Relevance of Higher Education (total estimated cost: US\$ 4.0 million, of which US\$ 4.0 million is from IDA financing)

19. This component will establish a competitive Academic Innovation Fund (AIF). The AIF will improve the relevance of higher education to the labor market by selecting and financing the innovative projects to strengthen the institutional and material basis for improving university-industry links, teaching and learning practices and environment within HEIs, including through the purchase of necessary teaching, learning and research material. Competitive funding, which has led to innovative improvements in relevance in other higher education systems, would represent a new source of discretionary financing for HEIs in Uzbekistan.

20. The AIF will fund two rounds of AIF grants to HEIs on a pilot basis. All public HEIs will be eligible to apply for these grants. All institutes under the Academy of Sciences, and the Center of Excellence in Corporate Governance may also apply for these grants in partnership with HEIs. Each round will be of US\$2 million worth of grants. Each grant will be limited to between

US\$100,000 and US\$200,000 in grant funding to be implemented over two years. Each HEI awarded an AIF grant will identify a focal person responsible for implementation of the grant. After two rounds, the World Bank and GoU will jointly evaluate the effectiveness of the AIF. If implementation is deemed successful, the GoU will provide resources from the budget to finance an additional three rounds of grants. The World Bank would consider a request for additional financing for grants on a matching basis with the GoU.

21. HEIs will be allowed flexibility in the design of proposals to encourage innovation. The AIF will finance grant proposals in two main strategic directions: (a) strengthening university-industry links, and (b) improving teaching and learning practices within HEIs. In the area of strengthening university-industry links, proposals may fund conducting joint university-industry development of innovative research designs including by the purchase of appropriate teaching, learning and research material, facilitating industry’s participation in academic research projects, development and delivery of bespoke training programs for industry employees, and sponsoring industrial research fellowships for doctoral students and post-doctorate fellows to engage in groundbreaking research in partnership with industry, among other activities. In the area of improving teaching and learning practices within HEIs, proposals may potentially fund piloting of initiatives to increase access to higher education, particularly for females; professional development of academic and nonacademic staff in support of teaching activities; inviting national and international experts to conduct short courses and participate in doctoral mentoring and thesis support; providing access to current scientific and academic databases, improving curriculum, and initiating joint academic programs with national and foreign universities; expanding access in underprivileged regions; and encouraging the participation of women in research and teaching in higher education and other activities. To encourage engagement of key stakeholders and promote mechanisms for inclusion and empowerment of female students, faculty, and HEIs from underdeveloped areas, criteria on citizen engagement and gender impact would be included in the list of review criteria of AIF applications.

22. The proposed project will finance AIF management activities (AIF consultants will be financed from Component 4), and provide funding for implementation of successful proposals. The application and selection process for the AIF will involve three stages that include support in preparing Preliminary Project Proposals and Detailed Project Proposals. See table A2.1 for a timeline of AIF funding.

Table A2.1 Timeline for AIF Funding

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Funding round 1					
	Funding round 2				
		Pilot round review			
			Additional funding round(s)*		

Note: *Additional funding rounds will be launched only subject to a positive joint evaluation of the first two rounds by the World Bank and the Government of Uzbekistan.

23. **Principles of implementation.** The Department of Coordination of Research Activities at the MHSSE will be responsible for ensuring the establishment and functioning of the AIF. The project will support hiring of three consultants (one director of AIF and two expert support staff) to ensure smooth AIF implementation. An AIF Grants Manual (AGM) will be finalized as a condition of project effectiveness. The competitive AIF will award grants to HEIs through a two-stage process. There will be two funding windows: (a) strengthening university-industry links, and (b) improving teaching and learning practices within HEIs. The application process will open with a call for proposals and proposal preparation workshops. Lead HEIs (and their partners) will then submit Initial Project Proposals for one funding window to AIF in a standard proposal format using procedures established in the AGM. The AIF director, together with representatives from key central ministries, will be responsible for shortlisting Preliminary Project Proposals and providing feedback to HEIs about how to develop better proposals. HEIs that continue in the application process will submit Detailed Project Proposals in a standard proposal format using procedures established in the AGM. AIF consultants, with the aid of appropriate technical experts such as from the EAP, will form a committee to conduct a technical evaluation of the Detailed Project Proposals along established evaluation procedures, and share the technical evaluation with the IMSC. The IMSC will make the final selection of proposals according to the selection procedures established in the AGM. Finally, grant awards will be announced. HEIs will be responsible for implementing the grants. Eligible and ineligible expenses will be outlined in the AGM.

Component 4 – Project Management, Monitoring and Evaluation (total estimated cost: US\$ 2.97 million, of which US\$ 2.9 million is from IDA financing)

24. **Subcomponent 4.1 - Project Implementation (US\$1.88 million from IDA financing).** The MHSSE, supported by the PMT, will ensure overall management of the project, including monitoring and evaluation of the impact of the investment. The component will support (a) financing of a PMT with core staff from MHSSE supported by consultants as needed, (b) training to PMT staff to enable them to discharge these functions, (c) monitoring and evaluation activities, (d) the expenses of the Expert Advisory Panel, and (e) project audits.

25. **Subcomponent 4.2 - Technical Assistance and Outreach (US\$1.02 million from IDA financing).** This component would also finance activities to build capacity within the MHSSE and project-supported HEIs in areas of outreach and stakeholder engagement, including but not limited to promotion of technical education, design and technical evaluation of laboratories, promotion of higher education for women, and establishment of partnerships with the industries and other higher education institutions. The component will support the development and strengthening of mechanisms for citizen engagement/stakeholder consultations and beneficiary feedback within the higher education system. Interventions to reach out to students and faculty from rural areas, disadvantaged and vulnerable population groups (that is, single-parent households, ethnic and/or religious minorities, first-generation university students), and female students and faculty, would be based on a study of the social, cultural, and financial barriers preventing students from such social groups from accessing higher education. To mitigate the risks of potential forced labor in the context of organized recruitment of students during cotton

harvest season, targeted awareness raising and training on Uzbekistan's laws and regulations would be organized for both participating faculty and university students.

Annex 3: Implementation Arrangements

Modernizing Higher Education Project

Project Institution and Implementation Arrangements

1. The proposed project would be implemented over six years, between 2016 and 2022. The MHSSE would be the project implementing agency. In addition, all public HEIs and other related institutions²⁵ can apply for grants under the AIF and play the role of project implementing agency. Project implementation would rely primarily on the existing structure of the MHSSE, so the proposed project would not require establishment of a parallel structure or a full-scale Project Implementation Unit. Instead, a small team of local consultants (–a PMT) would be supported using project funds to assist the MHSSE with day-to-day project management, and make sure it is implemented in accordance with the procedures set forth in the Financing Agreement, the Project Appraisal Document, and the Project Operations Manual.

2. The Deputy Minister of Higher and Specialized Secondary Education, who would act as Project Director, would be responsible for overall leadership and management of the proposed project, and for liaison with the World Bank, agencies involved in project implementation, and relevant stakeholders. The heads of some MHSSE’s Departments, the head of the CIEEI, and the director of the STC would be responsible for implementing specific subcomponents, as illustrated in table A3.1.

Table A3.1 Responsibilities by Component and Subcomponent

	Responsible Units	Consultants
<i>1. Strengthening Higher Education Management</i>		
1.1. Establishing HEMIS	Center for Implementation of E-Learning in Education Institutions	1 consultant
1.2. Improving the Quality Assurance System	State Testing Center	2 consultants at STC (1 international and 1 national)
	MHSSE’s Main Department for Administration of Higher Education Institutions	1 consultant at MHSSE (National)
<i>2. Improving the Learning Environment in HEIs</i>		
2.1 (a). Basic Teaching Laboratories	MHSSE’s Department of Material-Technical Supply	2 laboratory consultants (1 national, 1 international), 1 part-time environmental consultant
2.1 (b). Advanced Scientific and Research Laboratories	MHSSE’s Department of Coordination of Research Activities	
2.2 Establishment of a National E-library for HEIs	Center for Implementation of E-Learning in Education Institutions	1 consultant

²⁵ Such as the Academy of Sciences and the Scientific and Educational Center for Corporate Governance.

<i>3. Improving the Relevance of Higher Education</i>		
3.1 Establishing a competitive Academic Innovation Fund (AIF)	MHSSE's Department of Coordination of Research Activities	3 consultants (one director of AIF and two assistants)
<i>4. Project Management, Monitoring and Evaluation</i>		
4.1 Project Implementation	Project Management Team	1 Project Coordinator, 2 Procurement Specialists, 1 procurement assistant, 1 Financial Management Specialist, and 1 Monitoring and Evaluation Specialist
4.2 Technical Assistance and Outreach		

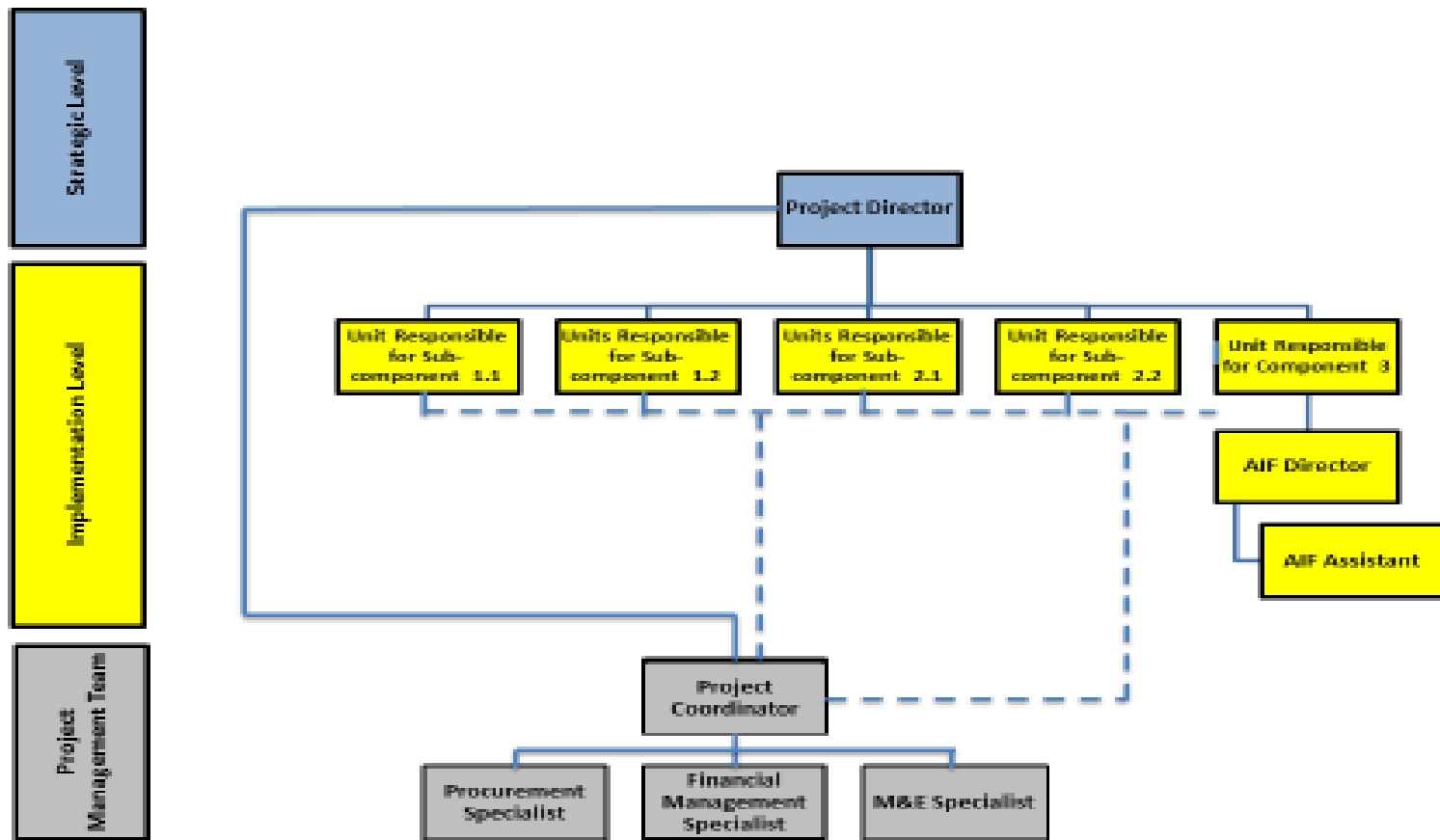
Note: The number of consultants is an estimate and can be changed during implementation as needed.

3. The PMT would manage project activities under the strategic guidance of the Deputy Minister of Higher and Specialized Secondary Education and in line with the implementation lead given by the department/agency heads mentioned in table A3.1. A small team of five full-time local consultants would be hired using project funds. The team will also include an international Procurement Specialist for the first two years of project implementation. The PMT would include a Project Coordinator, two Procurement Specialists (one local, one international for first two years), a Procurement Assistant, a Financial Management Specialist, and a Monitoring and Evaluation Specialist. The Project Coordinator would report to the Project Director. Project Component 4 would finance the operational costs of the PMT, as well as fees for translation services whenever needed over the course of implementation.

4. Technical consultants will also be hired to support implementation of individual project components as outlined in table A3.1. In addition, four consultants (at least two of them international higher education specialists) would be hired under a time-based approach to comprise an Expert Advisory Panel (EAP) to provide high-level advice and guidance on project implementation to the Minister of Higher and Specialized Secondary Education. The EAP will be led by a chairperson and will meet once a year to review project progress, at the invitation of the Minister of Higher and Specialized Secondary Education. All associated expenses (including fees, travel costs) of the EAP's work will be financed from Component 4. These implementation arrangements are reflected in figure A3.1.

5. The Project Operations Manual (POM) will be prepared by the client, in consultation with the Bank, to lay out the implementation arrangements for the project in detail. The POM will refer to the AIF Grants Manual as the manual that will govern grants under the AIF. The AIF Grants Manual will also be developed by the client, in consultation with the Bank.

Figure A3.1 Implementation Arrangements



The Procurement Specialist will be assisted by a Procurement Assistant, and an international Procurement Specialist for the first 2 years.

Financial Management, Disbursement, and Procurement

Financial Management

6. The financial management (FM) assessment of the MHSSE was carried out and concluded that the FM arrangements were not acceptable at the time of the assessment, but are expected to meet the minimum World Bank requirements once the actions agreed below are completed. The current fiduciary risk is assessed as substantial given that the MHSSE has no experience with the World Bank, including the Competitive Grant Component under the project, and taking into account that the capacity is yet to be built. Table A3.2 presents the additional actions agreed with MHSSE.

Table A3.2 Additional Actions Agreed with MHSSE

	Actions	Responsible	Completion Date
1	Establish the PMT within MHSSE and hire a qualified Project Coordinator and qualified FM Consultant.	MHSSE	By effectiveness (Condition of effectiveness)
2	Develop POM including a dedicated FM chapter satisfactory to the World Bank. The FM chapter of the POM should describe the Modernizing Higher Education Project (MHEP) internal control, budgeting, external auditing, financial reporting and accounting policies, and procedures and funds flow.	PMT within MHSSE	By effectiveness (Condition of effectiveness)
3	Acquire and install a fully functional automated accounting information system for keeping project records and generation of project financial statements.	MHSSE and PMT	Within 90 after effectiveness
4	Develop Competitive AIF Grant Manual satisfactory to the World Bank.	MHSSE and PMT	By effectiveness (Condition of effectiveness)
5	Identify management, staffing, and internal control arrangements established in the AIF Grant Manual.	MHSSE and PMT	By effectiveness

7. **Staffing:** The PMT will include one FM consultant. Currently, the MHSSE does not have enough FM capacity to implement the proposed project. It is expected the experienced FM consultant would be hired under the PMT and will be responsible for FM arrangements under the project. The FM consultant might need to be trained on World Bank policies and procedures and be provided with additional implementation support after project effectiveness.

8. **Budgeting:** Annual work programs and budgets will be prepared by the PMT consultants and reviewed and approved by the PMT Project Coordinator and submitted for the Bank's No Objection and approval by the Deputy Minister. The project budgets would be prepared based on the procurement plan, budgeted operating expenditures, and disbursement estimates. All changes to the procurement plan would require review of the PMT Project Coordinator and approval of the World Bank and Deputy Minister. The budget will form the basis for allocating funds to project activities. The budgets will be prepared according to the interim financial report (IFR) format (disbursement categories, components and activities, account codes, and broken down by quarters).

9. **Accounting:** The PMT will be responsible for maintenance of accounting records for all components of the project. Project accounting records will be maintained in accordance with the Cash Basis International Public Sector Accounting Standards. At the same time, the MHSSE will continue using the accrual basis of accounting in compliance with the National Accounting Standards of Uzbekistan. The PMT will install and modify the automated accounting and reporting system. This system would allow fully automated accounting and reporting, including automatic generation of Statements of Expenditure, IFRs, and other reports required by national legislation. The system will have in-built controls to ensure data security, integrity, and reliability.

10. **Internal controls:** The PMT will establish an internal control system capable of providing reliable and adequate controls over financial management and disbursement processes and procedures. These include controls for safeguard of assets, segregation of duties, authorization of transactions, review and approval of invoices, and contract management, among others. The internal control system to be used by the PMT, and additional reporting and auditing requirements, will be specified in detail in the POM. The POM will be prepared by the PMT within the MHSSE prior to project effectiveness.

11. **Co-financing:** Co-financing will be in the form of tax exemptions. The proposed project will be exempted from paying the value-added tax (VAT), the import VAT, excise tax, customs duties, and Road Fund charges on vehicles on goods, works, non-consulting services, and consultants' services procured under the project, and incremental operating costs incurred under the project.

12. **Competitive Grant:** The Competitive Grant Manual including financial management arrangements and funds flows will be developed by the PMT under the MHSSE and included as part of the POM.

13. **Financial reporting:** The PMT will prepare and submit IFRs to the Bank Project every calendar quarter, starting with the quarter in which the first disbursements occur. The format of IFRs was agreed and will include (a) Project Sources and Uses of Funds, (b) Uses of Funds by Project Activities, (c) Project Balance Sheet, (d) Designated Account Statement, and (e) a Statement of Expenditure Withdrawal Schedule. IFRs will be automatically generated by the project accounting software. These financial reports will be submitted to the Bank within 45 days after the end of each calendar quarter.

14. **External audit:** The PMT under the MHSSE will be responsible for arranging the annual audit of Project Financial Statements. The Project Financial Statements audit will be conducted (a) by independent private auditors acceptable to the Bank, on terms of reference acceptable to the Bank, and (b) according to the International Standards on Auditing issued by the International Auditing and Assurance Standards Board of the International Federation of Accountants. The project audit will include (a) audit of financial statements; and (b) review of the internal controls of the PMT, participating beneficiary universities, and other units or organizations involved in the Competitive Grant scheme, with special attention to the compliance with requirements established in the Competitive Grant Manual. No entity audit is

required. Table A3.3 summarizes the audit requirements for this project.

Table A3.3 Audit Requirements for this Project

Audit Report	Due Date
Audit of Project Financial Statements include Project Sources and Uses of Funds, Uses of Funds by Project Activities, Statement of Expenditure Withdrawal Schedule, Designated Account Statement, Notes to the Financial Statements, and Reconciliation Statement, with special attention to compliance with Competitive Grant Manual.	Within 6 months of the end of each fiscal year and at the closing of the project.

15. The audited project financial statements will be disclosed to the public in a manner acceptable to the Bank. Following the Bank’s formal receipt of these statements from the Borrower, the Bank will make them available to the public in accordance with the World Bank Policy on Access to Information. Audit of annual Project Financial Statements will be financed from credit proceeds.

Disbursement

16. **Flow of Funds:** Project funds will flow from the World Bank following the current general practice, which is via a separate Designated Account (DA) held by the implementing agency at a commercial bank acceptable to the World Bank that will be replenished on the basis of traditional World Bank disbursement procedures (advance to the DAs, documentation of the advance based on full documentation and Statements of Expenditures, direct payments, reimbursements, and special commitments). Details on the ceiling of the DAs will be provided in the Disbursement Letter. Withdrawal applications for the replenishments of the DA will be sent to the World Bank at least quarterly.

Procurement

17. **General:** Procurement for the proposed project will be carried out in accordance with the World Bank’s “Guidelines: Procurement of Goods, Works and Non-Consulting Services under IBRD Loans and IDA Credits & Grants by World Bank Borrowers,” dated January 2011 (revised July 2014) (Procurement Guidelines); and “Guidelines: Selection and Employment of Consultants under IBRD Loans and IDA Credits & Grants by World Bank Borrowers,” dated January 2011 (revised July 2014) (Consultant Guidelines) and provisions stipulated in the Financing Agreement. If there is conflict between the government decrees, rules and regulations, and the Bank Procurement and Consultant Guidelines, then Bank Guidelines shall prevail. In addition, the project will also follow “Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants dated October 15, 2006 and revised in January 2011.” For each contract to be financed by the Bank, the different procurement methods or consultant selection methods, the need for prequalification, estimated costs, prior review requirements, and time frame are to be agreed between the Borrower and the Bank project team in the Procurement Plan. The Procurement Plan will be updated at least annually or as required to reflect actual project implementation needs and improvements in institutional capacity.

18. The items to be procured would include the following:
- 1) Procurement of Works: Minor works contracts are envisaged for the installation of laboratory equipment and minor refurbishment. When required, if these minor works are not part of the laboratory contracts then they shall be procured through Shopping.
 - 2) Procurement of Goods: Goods procured under the project would include (a) hardware, including servers, computer equipment, and so forth, for development and maintenance of the HEMIS; (b) educational laboratories to support the learning process at universities, scientific research laboratories; and so forth. These goods will be procured following International Competitive Bidding (ICB) procedures. The Bank's latest Standard Bidding Documents (SBDs), including for supply and installation, shall be used. Direct contracting (DC) would be required for e-library resources subscription contracts.
 - 3) Consulting Services: The major consulting services would include (a) technical assistance to the MHSSE for Strengthening Higher Education Management and Improving the Quality Assurance System, (b) training in the appropriate areas, and (c) financial audit. Quality- and Cost-Based Selection (QCBS) and Least-Cost Selection (LCS) procedures shall be applied for major services.
 - 4) Procurement under Academic Innovation Fund (AIF) shall follow the Bank's Procurement Guidelines. The further details will be determined in the AIF Grants Manual.
19. Procurement Arrangements and Staffing: The PMT under the MHSSE is responsible for the day-to-day implementation of the Project. It would be created by order of the MHSSE or other appropriate authorities. The PMT would be staffed by appropriate consultants, including the local Procurement Specialist with experience in international financial institution/Bank-financed projects and possessing fluent English, who will be supported by an international Procurement Consultant (for the first 2 years of the Project) and a local Procurement Assistant.
20. The PMT will assist the MHSSE in project implementation and shall conduct procurement under the project. Further, a Procurement Specialist shall be identified by the time of project effectiveness. The PMT and/or the Procurement Specialist may also receive support from the Endowment Department and/or the Capital Construction Department of the MHSSE. The Procurement Specialist, the relevant staff of the PMT, the MHSSE, and evaluation committee members shall be trained in the Bank's Procurement Guidelines.
21. In line with the memorandum of understanding signed between the World Bank and the government, the project can initiate advance procurement immediately after completion of negotiations.
22. The project will finance the Procurement Consultant/Specialist and other concerned PMT and MHSSE consultants, training costs, and equipment needed for project management.

Recordkeeping

23. The Procurement Specialist of the PMT would be responsible for maintaining the procurement files and records. Separate files should be maintained for each contract (including both hard copy and electronic copy). All the procurement documents (including bids, and technical and financial proposals of consulting services) should be kept until the end of the project and then transferred to the Government Archives. The originals of various valuable documents (such as bid security, performance guarantee, and advance guarantee) shall be kept in a safe by the PMT's accountant.

Risk Analysis and Mitigation Measures

24. Procurement Risk Assessment and Mitigation: An Assessment of the Procurement Capacity of PMT has been completed.

25. The country procurement assessment was conducted in 2003 (by the World Bank and the Asian Development Bank), and identified the following weaknesses in the public procurement system in Uzbekistan: (a) absence of a unified legislative framework; (b) inefficient and non-transparent procurement practices; (c) absence of a single institution with oversight or regulatory authority for public procurement; (d) weak capacity for reviewing bidders' complaints; (e) complicated internal review/approval of bid evaluation reports, which leads to low accountability and delays; (f) no comprehensive anti-corruption measures; and (g) low skills/capacity of the staff handling public procurement at every administrative level. Private sector suppliers and contractors remain dissatisfied with the rules governing public procurement and have little confidence in the system's fairness. Though the government has started extensive reforms of its public procurement system, recent assessments under the Country Integrated Fiduciary Assessment and Public Expenditure and Financial Accountability studies indicate that there is as yet not much change in the public procurement environment. Thus, the procurement environment is considered a high risk.

26. The PMT has yet to be established, and the entire staff of which will be selected based on the Bank's competitive selection process. The Ministry does not have extensive experience working under international financial institution projects and, therefore, hiring a seasoned Procurement Specialist/Expert to the PMT is vitally important. The PMT will assist the MHSSE in project implementation and conduct procurement under the project. Provided that qualified staff are hired, the PMT would create satisfactory conditions for the procurement implementation under the project. The procurement capacity assessment identified the following additional risks: (a) government decrees and rules and regulations have internal conflicts in major provisions such as price verification, which leads to considerable delays in project procurement and implementation; (b) there is difficulty obtaining bank guarantees for bid security and performance security by the local bidders, and alternative instruments for such purposes are unavailable in the country's banking system, in particular, joint ventures; (c) there are a number bid evaluation committees and stages, and the interdepartmental tender committee consists of around 11 high-ranking members, and signing minutes or reports takes around two months; (d) the time between the bid opening and the start of contract implementation is often 8 to 12 months; (e) considerable procurement delays caused by contract expertise review by the Ministry for Foreign Economic Relations, Investment and Trade; (f) staff of implementing agency has

limited experience with Bank procedures and guidelines; and (g) government officials may intervene in the procurement decisions under the Project. That involves contracts with the international contractors and consultants and imported goods contracts. Table A3.4 summarizes the risks identified and mitigation measures.

Table A3.4 Risks Identified and Mitigation Measures

Description of Risk	Risk Rating	Mitigation Measures	Residual Risk
Government decrees and rules and regulations have internal conflicts in major provisions such as price verification.	S	The Bank Procurement and Consultant Guidelines shall be followed.	M
The bid evaluation committees/stages and the interdepartmental tender committee (ITC) consist of 11 members and the signing of their minutes takes approximately 2 months to process for all contracts valued to more than US\$1 million. This leads to delays in implementation.	S	The rules of the government were recently revised, and now only contracts for US\$5 million or above are subject to bid evaluation by the ITC. This is likely to accelerate implementation.	M
Import contract registration requirements are arduous and may seriously impact procurement and contract implementation.	H	The project team will monitor contract award notification and publication of contract award details per Bank Procurement and Consultant Guidelines. The team will further monitor receipt of signed prior review contracts and take timely action to ensure Bank Guidelines are followed.	S
Staff of implementing agencies have limited experience with Bank procedures and guidelines.	H	Hiring of a seasoned procurement specialist (PS) by the PMT would decrease this risk. The PS and the staff shall attend the Bank's regional procurement training in April 2016 in Astana. Having an international procurement consultant for the first two years would reduce this risk further.	S
Government officials may intervene in the procurement decisions under the Project.	H	The POM shall clearly identify the responsibilities of the project stakeholders in the procurement process. That includes AIF use, as well. Strict adherence to the Bank's Procurement Guidelines would minimize this risk. The Bank team would closely monitor that procurement procedures are strictly followed. Any complaints shall be handled consistently and followed up until fully addressed.	S
Average	H		S

Note: H = High; S = Substantial; M = Moderate; L = Low.

27. The POM will reflect the detailed internal approval stages and optimize the approval process and stages. The price verification and reasonableness of recommended contract value will be carried out as part of bid evaluation only, and the contracts will be awarded and signed as soon as the Bank's No Objection is issued and a signed contract or Performance Security (whenever required) is submitted to the Bank within four weeks of Bank's No Objection to the Bid Evaluation Report. The POM will include the complaint registration and handling mechanism, so complaints are treated fairly and openly. Any complaint concerning procurement or other aspects of project implementation must be registered and dealt with within a time frame agreed in the POM.

28. **Procurement Plan:** The MHSSE has developed a Procurement Plan covering procurement activities for the entire period of project implementation. This Procurement Plan will be continuously updated as the project progresses and will be reviewed and approved by the Bank, accordingly. The Procurement Plan will be published on the Bank's external website and the MHSSE website by the time of project negotiations. The POM will elaborate on the appropriate mechanisms for procurement according to Bank Guidelines. The General Procurement Notice and advertisement of procurement opportunities will be published on the PMT's website and in Uzbek media. The ICBs and major consultancy services will also be published on the Bank's external website and the United Nations Development Business website. The Borrower has the option of not disclosing the cost estimates while disclosing the procurement plan.

29. **Procurement Supervision and Procurement Post-Review:** Routine procurement reviews and supervision support will be provided by the Bank's procurement specialist. In addition, two supervision visits are expected to take place per year during which ex-post reviews will be conducted for the contracts that are not subject to Bank prior review on a sample basis (for example, 15 percent in terms of number of contracts). One ex-post review report will be prepared per fiscal year, including findings of physical inspections for not less than 10 percent of the contracts awarded during the review period.

30. **Disclosure:** The following documents shall be disclosed in the MHSSE website: (a) procurement plan and updates, (b) invitation for bids for goods and works for all ICB and National Competitive Bidding (NCB) contracts, (c) request for expression of interest for selection/hiring of consulting services, (d) contract awards of goods and works procured following ICB/NCB procedures, (e) list of contracts/purchase orders placed following shopping procedure on a quarterly basis, (f) shortlist of consultants, (g) contract award of all consultancy services, (h) list of contracts following DC or CQS or Single-Source Selection on a quarterly basis, (i) monthly physical and financial progress of all contracts, and (j) action taken report on the complaints received on a quarterly basis. The works bidding documents shall include a clause to erect a notice board on the construction site disclosing the contract details (description, contractor name and contract amount, start date, completion date, physical progress, and financial progress).

31. The following details shall be sent to the Bank for publishing on the Bank's external website and the United Nations Development Business website: (a) invitation for bids for procurement of goods and works using ICB procedures, (b) request for expression of interest for

consulting services with estimated cost of more than US\$200,000, (c) contract award details of all procurement of goods and works using ICB procedure, (d) contract award details of all consultancy services with an estimated cost of more than US\$200,000, and (e) a list of contracts/purchase orders placed following Single-Source Selection or Selection Based on Consultants' Qualification (CQS) or Direct Contracting (DC) procedures on a quarterly basis.

Procurement Plan

The MHSSE/PMT has developed the Procurement Plan (see below) for the project that is consistent with the implementation plan, which provides information on procurement packages, methods, and Bank review requirements. It will be available in the PMT's project database and will be updated in a manner agreed upon with the Bank project team, annually or as required, to reflect the needs and improvements in the implementing agencies' institutional capacity.

UZBEKISTAN MODERNIZING HIGHER EDUCATION PROJECT

PROCUREMENT PLAN - GOODS

Item №	Contract Ref.	Contract Description	Procur. Method	WB Review (Prior/Post)	Date of Draft BD to WB	Date of Contract Completion
1	MHEP/ICB/1	Basic teaching Laboratories	ICB	Prior	Apr-16	Sept-18
2	MHEP/SH/1	Office and IT equipment and furniture for PMT	SH	Prior	Jun-16	Oct-16
3	MHEP/SH/2	Software for Financial Management	SH	Post	Jun-16	Oct-16
4	MHEP/ICB/2	Equipment for HEMIS	ICB	Prior	Apr-17	Sept-19
5	MHEP/ICB/3	ICT and other equipment for MHSSE and universities for internal Quality Assurance (QA)	ICB	Prior	May-17	Aug-18
6	MHEP/ICB/4	Equipment for external QA for STC and training	ICB	Post	May-17	Oct-18
7	MHEP/ICB/5	ICT and other Equipment for E-Library	ICB	Post	May-17	Oct-18
8	MHEP/ICB/6	Scientific and Research Laboratories	ICB	Prior	Mar-17	Aug-18
9	MHEP/ICB/7	Subscription to digital and electronic library resources	DC	Prior	Sep-16	Feb-20

UZBEKISTAN
MODERNIZING HIGHER EDUCATION PROJECT
PROCUREMENT PLAN - CONSULTANCY (QCBS)

№	Contract Reference	Description	Select. Method	WB Review (Prior/ Post)	Draft RFP (incl. TOR, Short List) to the WB	Date of Contract Completion
1	MHEP/QCBS/C1	HEMIS Concept Development including training needs	QCBS	Prior	May-16	Nov-17
2	MHEP/QCBS/C2	Technical assistance for internal QA (i) strategy, (ii) guidelines for self-assessment of HEIs, (iii) training for MHSSE, and (iv) training for university-based QECs	QCBS	Prior	Sep-16	Apr-18
3	MHEP/QCBS/C3	Technical assistance on external quality assurance for STC incl.: (i) assessment and development of ext. QA strategy and training plan; (ii) development and delivery of trainings	QCBS	Prior	Sep-16	Apr-18
4	MHEP/QCBS/C4	Development of training materials on E-Library, including printing. Delivery of training to librarians, faculty and students	QCBS	Prior	Jul-17	Jan-19
5	MHEP/QCBS/C5	Technical assistance for the design of research laboratories	QCBS	Prior	Oct-16	Apr-18
6	MHEP/LCS/C6	Financial Audit	LCS	Prior		Apr-18
7	MHEP/QCBS/C7	Survey to assess relevance of degrees and academic programs to labor market needs and demands (incl. training of the MHSSE and HEIs' personnel on how to conduct such surveys and incorporate them into teaching programs)	QCBS	Prior	May-16	Nov-21
8	MHEP/QCBS/C8	Technical assistance for the MHSSE and HEIs with (a) promotion of higher education in technical specializations; (b) establishment of partnerships with the industry and other HEIs; c) identification of best options for increasing access to higher education, particularly for females.	QCBS	Prior	Apr-17	Oct-21
9	MHEP/QCBS/C9	Technical assistance in the development and strengthening of mechanisms for citizen involvement, consultation with stakeholders and gather feedback from beneficiaries	QCBS	Post	May-17	Nov-21

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PROCUREMENT PLAN - CONSULTANCY (CQS or Individual Consultants)

№	Contract Ref.	Contract Description	Select. Method	WB Review (Prior/ Post)	WB No-objection to RFP/ Short list	Date of Contract Completion
1	MHEP/IC/C-1	Consultant on HEMIS for the Center for the Implementation of E-Learning in higher education institutions (HEIs)	IC	Prior	Dec-16	Nov-20
2	MHEP/IC/C-2	Consultant for implementation of QA in higher education institutions	IC	Prior	Aug-16	Nov-20
3	MHEP/IC/C-3	Consultant for STC for implementation of external Quality Assurance activities	IC	Post	Sep-16	Nov-20
4	MHEP/IC/C-4	Consultant on external QA for STC	IC	Post	Sep-16	Nov-20
5	MHEP/IC/C-5	Local consultant for basic teaching and scientific/research labs	IC	Post	Oct-16	Nov-20
6	MHEP/IC/C-6	Int. consultant to support the MHSSE with the research scientific labs	IC	Post	May-16	Dec-19
7	MHEP/IC/C-7	Consultant on EMF (Part-time)	IC	Post	Jan-17	Dec-21
8	MHEP/IC/C-8	Consultant for implementation of national E-Library in the higher education institutions	IC	Post	Aug-16	Dec-20
9	MHEP/IC/C-9	Selection of staff for AIF	IC	Post	Jul-16	Dec-20
10	MHEP/IC/PMT-1	Selection of the PMT staff Expert Advisory Committee	IC	Prior	Jun-16	Aug-22
11	MHEP/CS/	Assessment of options to increase female enrollment	CQS	Post	Sept-16	Dec

-18

**UZBEKISTAN
MODERNIZATION HIGHER EDUCATION PROJECT
THRESHOLDS FOR PROCUREMENT METHODS AND BANK'S PRIOR REVIEW**

Expenditure Category	Contract Value Threshold (US\$)	Procurement Method	Contracts Subjects to Prior Review (US\$)
Goods (including technical services)	>=500,000	ICB	ICB contracts estimated >= 1,000,000
	<500,000	NCB	First 1 contract
	<=100,000	Shopping	First 1 contract
	N/A	DC	DC contracts >=50,000
Consultant Services (including training)	<=300,000	QCBS/QBS/LCS/FBS a/b/	>=200,000 for firms & all SSS contracts
	>300,000	CQS	
	N/A	SSS	
	N/A	IC	>=100,000 for individuals

Notes: a/ Short list may compose entirely of national consultants for assignments of less than US\$100,000 equivalent per contract;

b/ As appropriate, these methods may be adopted for assignments costing less than US\$200,000.

Legend:

NCB - International Competitive Bidding

NCB - National Competitive Bidding

DC - Direct Contracting

QCBS - Quality and Cost Based Selection

QBS - Quality Based Selection

LCS - Least Cost Selection

FBS - Fixed Budget Selection

CQS - Selection Based on Consultants' Qualification

SSS - Single Source Selection

IC - Individual Consultants

Anticorruption measures

32. The Bank's Guidelines On Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants dated October 15, 2006, and revised in January 2011, and the transparency and disclosure provisions of the Bank's Procurement and Consultants Guidelines (dated January 2011 and revised July 2014)), will apply.

Environmental Safeguards

33. **Client Capacity.** The MHSSE has limited experience in implementing the requirements of the World Bank environmental safeguards policies. However, a part-time environmental consultant under Component 2 will have appropriate qualifications and experience in environmental management. He or she will closely monitor implementation and will ensure that necessary environmental documentation is developed as per terms of the Environmental Management Framework during the application process for modernization of laboratories. The environmental consultant will also ensure that laboratory staff are provided with an induction and training on safe laboratory operation practices, including training provided by the equipment suppliers. The World Bank team will closely monitor the project to ensure that environmental risks are properly assessed, mitigated, and monitored.

34. **Environmental Assessment.** Environmental screening and assessment will be implemented by means of an Environmental Management Plan Checklist, the template of which is an integral part of the Environmental Management Framework (EMF). The project will not support (a) any activities involving the involuntary taking of land resulting in relocation or loss of shelter, loss of assets or access to assets, or loss of income sources or means of livelihood; or (b) any activities likely to have significant adverse environmental impacts that are sensitive, diverse, or unprecedented, that would be classified as "Category A" in accordance with Bank policies and procedures; or (c) any activity identified as ineligible on the list presented in the EMF.

35. Since the project aims at modernization of laboratory equipment and methods of work, the EMF document also includes good laboratory practices, including dealing with hazardous substances. Per World Bank requirements, the Environmental Management Framework was disclosed the website of the Ministry of Higher and Secondary Education²⁶ on January 30, 2016. A public consultation meeting was conducted on February 8, 2016. Minutes of consultations were disclosed at the same webpage on February 8, 2016.

Environmental Safeguards – Implementation Arrangements

36. Table A3.5 briefly describes the responsibilities of the MHSSE and the World Bank in the implementation process.

Table A3.5 Responsibilities of the MHSSE and the World Bank in the Implementation Process

²⁶ <http://edu.uz/ru/news/view/299>

Participant	Activity	Supporting Documentation
HEIs	<ul style="list-style-type: none"> • Submission of the applications • Obtaining required permits/licenses • Implementing and financing of environmental due diligence including documentation such as Environmental Management Plan (EMP) Checklists 	<ul style="list-style-type: none"> • Copies of permits/licenses • Clearance statement • Periodic reports and subproject completion report • EMP checklists
Part-time environmental consultant within the MHSSE for Basic Teaching Laboratories and Advanced Scientific and Research Laboratories	<ul style="list-style-type: none"> • Review of application package for required environmental documentation such as EMP Checklist and licenses/permits from the relevant state agencies • Maintain complete files of environmental documentation for review by World Bank • Monitoring compliance with EMP Checklist and other mitigation plans • Report on implementation of Environmental Management Framework (EMF) • Training to the HEIs on environmental due diligence • Occupational Health and Safety Training for HEIs focusing on laboratory activities 	<ul style="list-style-type: none"> • Include environmental monitoring/supervising information in regular portfolio reporting to World Bank • Include environmental documentation in MHSSE records • Periodic monitoring/supervising reports (if necessary) • Training records
MHSSE (Department of Material-Technical Supply and Department for Coordination of Research Activities)	<ul style="list-style-type: none"> • Clearance of project proposals including environment documentation 	
World Bank	<ul style="list-style-type: none"> • Provide information on and clarification of World Bank safeguard policy requirements • Carry out prior and post-reviews • Identify problems/issues and propose solutions • Carry out field supervision 	<ul style="list-style-type: none"> • Provide assistance • Document status of project implementation in Implementation Status and Results reports and the mission aide-memoirs

37. The MHSSE will provide regular reporting on the environmental status of the project to the World Bank team.

Annex 4: Implementation Support Plan

Modernizing Higher Education Project

1. The implementation support strategy for the proposed project would include regular dialogue with the government, joint review of project implementation, and regular exercise of fiduciary oversight throughout implementation.

Regular dialogue with the government would facilitate early identification of problems and obstacles that could delay implementation and would enable timely provision of technical advice and support to remove such obstacles. This would help identify issues as they emerge and address them through advice and support in a timely manner, without waiting for joint reviews.

Joint reviews would take place twice a year, aimed at reviewing the progress and achievement of agreed targets/results. The Bank Task Team would participate in such reviews with representatives of the Government of Uzbekistan and relevant stakeholders. During each review, the type of implementation support needed would be identified, followed by joint decisions on specific necessary assistance.

Fiduciary oversight would enable the Bank to fulfill its fiduciary obligations and ensure compliance with the Bank's fiduciary standards through the ongoing supervision of the project's financial management and procurement arrangements and results. Financial oversight would be carried out as follows.

- *Financial management (FM) and procurement supervision* will be carried out semiannually as part of the project supervision plan, and support will be provided on a timely basis to respond to client needs. The World Bank will conduct risk-based FM implementation support and supervision within six months of the project effectiveness date, and then at appropriate intervals, as part of its project implementation and supervision missions. During project implementation, the World Bank will supervise the project's FM arrangements in the following ways: (a) it will review the project's quarterly interim financial reports and annual financial statements and the auditor's management letters and remedial actions recommended in the auditor's management letters; and (b) during the World Bank's on-site visits, it will review the following key areas: (i) project accounting and internal control systems; (ii) budgeting and financial planning arrangements; (iii) disbursement arrangements and financial flows, including counterpart funds, as applicable; and (iv) any incidences of corrupt practices involving project resources. As required, a World Bank-accredited Financial Management Specialist will participate in the implementation support and supervision process.
- *Procurement supervision* will be provided through prior reviews in accordance with the procurement thresholds; supervision will be through both desk and on-site reviews of procurement arrangements and results, including post-review of contracts selected in a random manner. As needed, on-site training on procurement may be provided upon request to the PMT or MHSSE staff.

2. Table A4.1 summarizes the implementation support plan for the proposed project.

Table A4.1 Implementation Support Plan

Time	Focus	Skills Needed	Resource Estimate	Partner Role
First 12 months	Technical and operational support: (a) implementation of QA agenda, (b) setup of AIF, (c) M&E, and (d) overall implementation	Lead Education Specialist / TTL	10 weeks	Participation in joint reviews
	Technical support: (a) design and implementation AIF, (b) provision of labs, and (c) communication campaigns	Senior Education Specialist / Education Economist	6 weeks	
	Technical support: HEMIS, QA, capacity building	Senior Education Specialist / Operations Officer	6 weeks	
	Technical and operational support	Education Specialist	12 weeks	
	Social development support: analysis of the issues of forced and child labor	Senior Social Development Specialist	2 weeks	
	Financial management support	Financial Management Specialist	3 weeks	
	Procurement support	Procurement Specialist	4 weeks	
13th–72nd months	Technical and operational support: (a) implementation of QA agenda, (b) setup of AIF, (c) M&E, and (d) overall implementation	Lead Education Specialist / TTL	10 weeks / year	Participation in joint reviews
	Technical support: (a) design and implementation AIF, (b) provision of labs, and (c) communication campaigns	Senior Education Specialist / Education Economist	6 weeks / year	
	Technical support: HEMIS, QA, capacity building	Senior Education Specialist / Operations Officer	4 weeks / year	
	Technical and operational support	Education Specialist	12 weeks / year	
	Social development support: analysis of the issues of forced and child labor	Senior Social Development Specialist	2 weeks / year	
	Financial management support	Financial Management Specialist	3 weeks / year	
	Procurement support	Procurement Specialist	4 weeks / year	

Note: AIF = Academic Innovation Fund; HEMIS = Higher Education Management Information System; M&E = monitoring and evaluation; QA = quality assurance; TTL = Task Team Leader.

Annex 5: Economic and Financial Analysis

Modernizing Higher Education Project

1. This analysis estimates the economic value and summarizes the system-level benefits of the Uzbekistan Modernizing Higher Education Project. The economic value of the project has been assessed through a cost-benefit analysis of the quantifiable benefits in two subcomponents: Subcomponent 2.1 “Improving laboratories and associated academic and research systems in priority areas,” and Subcomponent 3.1 “Establishing a Competitive Academic Innovation Fund.” The first is aimed at improving laboratories through a US\$25 million investment in the enhancements of basic and advanced university laboratories and associated curriculums. The second is aimed at improving higher education relevance by fostering university-industry links and improving teaching and learning practices within higher education institutions (HEIs) through the allocation of competitive grants totaling US\$4 million over two rounds.

2. Building on analyses for comparable higher education projects that include competitive funds and promote innovation, a standard cost-benefit approach has been used to calculate the total costs and benefits and convert them to a net present value (NPV) of US\$249.1 million. The NPV of expected quantifiable benefits from the project components described above is US\$274.2 million from two benefit streams (described in detail below): US\$265.6 million from higher wages due to improved quality of tertiary education, and US\$8.6 million from increased productivity due to improvements to technology and innovation. Costs include public spending on laboratory maintenance and recurrent costs as well as project costs at NPV US\$25.1 million. The benefit-to-cost ratio is 10.9, and the internal rate of return (IRR) is 26 percent.

3. In addition to quantifiable benefits, the project is expected to encourage system-level improvements in a number of areas. These include establishment of a HEMIS, development of a modern quality assurance system, establishment of a national e-library, and improvement of business education in Uzbekistan. These activities are expected to have unquantifiable benefits in the areas of higher education system management and its relevance. For example, an internationally acceptable quality assurance system can ensure that HEIs satisfy a minimum level of quality, which will make Uzbekistan’s higher education system more competitive on the global stage.²⁷ Improvements to the HEMIS will have unquantifiable benefits in improving the capacity to use higher education data effectively for policy making and planning. The collection and dissemination of education statistics is critical for effective education sector planning and for monitoring progress toward national education targets.²⁸

4. The rest of the analysis explains the context of the higher education sector in Uzbekistan, lays out the expected quantifiable benefits from improved quality of higher education and improved technology and innovation, and presents a summary of the cost-benefit analysis.

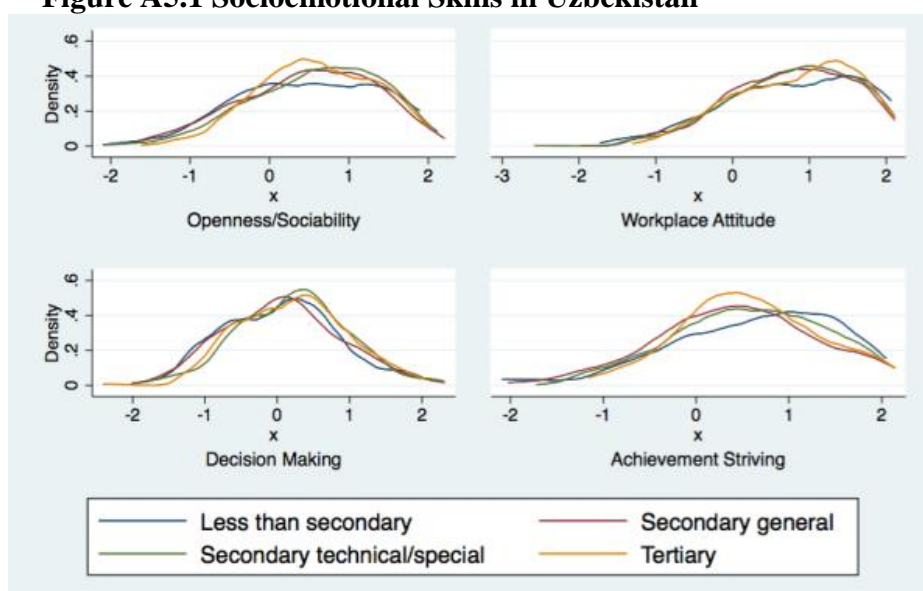
Context of the higher education sector in Uzbekistan

²⁷ Kis 2005.

²⁸ World Bank 2011a.

5. Information on the quality and relevance of higher education in Uzbekistan is scarce, but available data from the 2013 World Bank/GIZ Uzbekistan Jobs, Skills, and Migration survey show that higher education graduates may not have acquired the skills needed for initial success in the workplace. Findings show no positive association between higher education and cognitive skills for men. In addition, there is no evidence of a positive association between higher education and socioemotional skills for either gender (see figure A5.1). Employers particularly value these non-cognitive “soft” skills. Aside from Russian language knowledge, employers in Uzbekistan who employ higher education graduates report the highest skill deficits in non-cognitive soft skills such as accepting responsibility for one’s actions, self-motivation, and creativity.²⁹

Figure A5.1 Socioemotional Skills in Uzbekistan



Source: World Bank 2014a.

6. Available employer surveys indicate dissatisfaction with the low level of practical skills of higher education graduates. In 2008, 73 percent of Uzbek employers indicated that inadequate skills of the country’s workers was an obstacle to doing business in Uzbekistan, up from 60 percent in 2005.³⁰ In addition, 36 percent of employers in industry reported that the skills of higher education graduates have declined over the previous decade compared to just 33 percent reporting that skills have improved over the same period.

7. Uzbekistan’s economy is in transition, with high growth potential. However, technological advances and increased innovation will be necessary to ensure that the country can realize the maximum gains in its new economy. Growing at an average rate of 8 percent per year since the mid-2000s, Uzbekistan’s economy is shifting out of agriculture and into services. Nearly 80 percent of newly created jobs are in the service sector, which will create demand for a

²⁹ World Bank 2014a.

³⁰ World Bank 2010.

highly skilled workforce. In addition, Uzbekistan is in the midst of its “demographic window” of opportunity during which a very high percentage of the population will be in the labor force: the dependency ratio will contract from 52 percent in 2010 to 46 percent in 2030.³¹ These conditions are easing the transformation from a commodity-dependent economy to a competitive industrialized economy.

8. However, Uzbekistan lags behind in measures of innovation and technological progress. The Global Innovation Index (GII), which ranks the innovation capabilities and results of world economies, ranked Uzbekistan 122nd out of 141 countries in 2015. In addition, the number of technical and scientific journal articles published by Uzbek researchers declined from 327 in 1995 to 141 in 2011.³²

Expected benefits from the improved quality and relevance of higher education

9. The Project aims to enhance the quality and relevance of higher education through awarding academic innovation grants to higher education institutions to improve teaching and learning practices and supporting the development of modern laboratories at HEIs. If the quality of higher education improves and skill levels of graduates increase, wage premiums for higher education graduates are expected to increase, since employers will be willing to pay higher wage premiums for graduates with better skills. Currently, Uzbekistan workers with higher education earn 55 percent more on average than workers with secondary education.³³ As Uzbekistan adopts a modern quality assurance (QA) system aligned with Europe’s QA system through the project, in addition to making quality improvements, Uzbekistan can expect the quality of higher education to improve and wage premiums to converge with the OECD average of 60 percent.³⁴ In addition, an OECD literature review shows that higher education wage premiums are increasing at 2 percent per year on average over secondary education.³⁵ If the wage premium paid to higher education graduates in Uzbekistan increases faster for cohorts who have benefited from the project than the historical average, that premium can be attributed to the success of the project.

Expected benefits from improved technology and innovation

10. The project intends to encourage innovation at HEIs by fostering university-industry links and investing in improved research conditions. Prevailing economic models attribute growth to the accumulation of capital and labor and to technological change and development,³⁶ which is often measured as a “residual,” called Total Factor Productivity (TFP). TFP accounts for the efficiency with which labor and physical capital are applied, and can be explained as a

³¹ World Bank 2014b.

³² *World Development Indicators* (multiple years). Scientific and technical journal articles refer to the number of scientific and engineering articles published in the following fields: physics, biology, chemistry, mathematics, clinical medicine, biomedical research, engineering and technology, and earth and space sciences.

³³ World Bank 2014a.

³⁴ OECD 2015.

³⁵ Psacharopoulos 2009. This paper is a contribution to the Higher Education Funding reform project for the European Commission led by the Center for Higher Education Policy Studies (CHEPS).

³⁶ Including Solow, Lucas, and Romer.

measure of an economy's technological change. Productivity in Uzbekistan is currently low and growing slowly relative to countries in the region. Countries that are in a better position to apply knowledge attribute more of their growth from improved productivity instead of growth of inputs, and higher education can have a critical role in improving technology and innovation. TFP is partially influenced by innovation factors that are expected to improve as a result of the project's investment in strengthening university-industry links and establishing advanced research laboratories. It is anticipated that project-supported investments will generate returns similar to those accruing from private investment in research and development (R&D). Overall, returns to R&D vary, but a recent literature review³⁷ estimated that on average, returns range between 25 percent for private returns and 65 percent or higher for social returns.³⁸ The project is expected to generate these social returns on its total investment in technology and innovation over 10 years.

Calculation of costs and benefits

11. Table A5.1 enumerates the assumptions used to calculate the effects of project investment on the higher education sector in Uzbekistan. Using available analytical work and similar economic and financial analyses, the NPV calculations of benefits from improved quality and relevance of higher education, and from improved technology and innovation, are displayed.

Table A5.1 Quantitative Benefits and Costs for Base Case and Sensitivity Analyses

<i>BENEFITS from improved quality and relevance of higher education</i>		
1. Incremental earnings		
	Average wage level of young higher graduates (aged 25–34) working in Uzbekistan ¹	US\$492 per month
	Expected wage premium for higher graduates over secondary graduates ²	
	Low case	3 percent
	Base case	5 percent
	High case	7 percent
	Annual wage growth for higher graduates ³	
	Low case	1 percent
	Base case	2 percent
	High case	3 percent
2. Beneficiaries (higher students)		
	Number of higher graduates in 2015 ⁴	67,600
	Historical average annual growth rate in number of graduates ⁵	2.6 percent
	Share of graduates to benefit from teaching and learning competitive grants ⁶ and basic laboratories	
	Low case	10 percent
	Base case	30 percent
	High case	50 percent
	First year when beneficiary students graduate	2021
	Last year when beneficiary students graduate	2030
	Number of years that graduates earn wages	30 years

³⁷ Sveikauskas 2007.

³⁸ Social returns include benefits from new knowledge to firms other than the firm that generated the knowledge, and benefits to consumers from better-quality or less expensive products.

<i>BENEFITS from improved technology and innovation</i>		
1. Added value to the economy		
	Investment in innovation through competitive grants to increase university-industry links and establish advanced laboratories	US\$14.5 million
	Social returns to investment in innovation ⁷ distributed	
	Low case	25 percent
	Base case	65 percent
	High case	85 percent
2. Timeline for benefits from the availability of new advanced research laboratories and competitive funding for university-industry links		
	Duration of benefits	10 years
	First year of benefits	2021
	Last year of benefits	2030
<i>COSTS</i>		
	Public spending on replacement of labs after 10 years as a share of lab costs ⁸	30 percent
	Government and university maintenance and operational costs over 10 years as a share of lab costs ⁹	3 percent
	IDA Credit ¹⁰	US\$29 million
	Service charges on disbursed amount ¹¹	0.75 percent per year
	Commitment charges on disbursed amount ¹²	0 percent per year
	Duration of service charges	30 years

Note: 1. Analysis of World Bank/GIZ Uzbekistan Jobs, Skills, Migration survey (2013). 2. Estimated as the difference between the wage premium in OECD countries and the current wage premium in Uzbekistan. 3. Estimate from Psacharopoulos (2009). 4. MHSSE data (multiple years). 5. Calculated on the basis of MHSSE data (2007–15). 6. Assuming one grant on average per HEI and a blend of university-wide and department-specific grants. 7. Base case estimate included in World Bank (2007) as calculated in Sveikauskas (2007). 8. Based on estimate in World Bank (2009). 9. Based on estimate in World Bank (2009). 10. Total disbursement on components with quantifiable benefits (2016 US\$). 11. IDA service charges are fixed at 75 basis points each year as stated in World Bank (2014b). 12. Commitment charges are revised quarterly and were 0 percent during Q3 FY16.

12. The project is expected to generate an NPV of US\$249.1 million, with US\$274.2 million in benefits against US\$25.1 million in costs, yielding a benefit-to-cost ratio of 10.9 and an IRR of 26 percent (see table A5.2). The analysis assumes a discount rate of 12 percent.³⁹ It can be concluded that the project represents a good investment, even with conservative assumptions for the wage premiums, growth in wage premiums, share of graduates to benefit, and gains from higher levels of productivity.

Table A5.2 Summary of Base Case (US\$)

Benefits from higher-quality education (wages)	\$265,633,633
Benefits from technology and innovation (productivity)	\$8,591,034
<i>Total benefits</i>	<i>\$274,224,667</i>
Cost of project disbursements and service charges	\$(22,310,744)
Cost of public spending on replacing and maintaining labs	\$(2,838,566)
<i>Total costs</i>	<i>\$(25,149,310)</i>
NPV (benefits-costs)	\$249,075,357

³⁹ This is the discount rate assumed in recent PADs for water and horticulture projects in Uzbekistan.

Benefit-to-cost ratio	10.9
IRR	26%

13. The cost-benefit analysis is based on conservative and well-informed assumptions. However, the project may perform better or worse than expected. Sensitivity analyses were performed to estimate the potential range of outcomes by adjusting the key assumptions outlined in table A5.1. Findings from the sensitivity analyses show that the NPV of the project could range from US\$27.6 million in the low case to US\$700.3 million in the high case, with benefit-to-cost ratios of 2.1 and 28.8 and IRRs of 7 percent and 40 percent, respectively (see table A5.3). Therefore, even with the most conservative estimates, the project will yield positive benefits in terms of higher wages and economic growth in relation to its costs.

Table A5.3 Sensitivity Analyses

	Benefit-to-Cost Ratio	IRR	NPV
Low case	2.1	7%	\$27,577,345
Base case	10.9	26%	\$249,075,357
High case	28.8	40%	\$700,309,809

Annex 6: Mobilization of Labor for Cotton Production

Modernizing Higher Education Project

1. **The Government of Uzbekistan (GoU) has signed and ratified several International Labour Organization (ILO) conventions related to child and forced labor, and has promulgated similar provisions in its national legislation.** These conventions include Convention No. 138 on Minimum Age for Admission to Employment, Convention No. 182 on Worst Forms of Child Labor, Convention No. 29 on Forced Labor, and Convention No. 105 on Abolition of Forced Labor. In addition, the International Covenant on Civil and Political Rights, also subscribed to by the government, prohibits forced labor (Article 8). Said legislation essentially prohibits any form of child⁴⁰ and forced labor,⁴¹ ensures fair employment conditions, and aims at creating adequate working environments. The GoU's domestic legislation includes a number of provisions prohibiting child and forced labor. In particular, the Constitution, the Labor Code, the Criminal Code, and some other local laws and decrees contribute to laying out a legal framework in such areas. However, child labor has been reportedly substituted with large-scale organized mobilization of adult labor.

2. **Child labor in cotton harvesting used to be widespread, but has mostly disappeared in recent years.** A joint ILO-GoU monitoring of child labor during the cotton harvesting season in September–October 2013 concluded “there was no systematic recourse to forced child labor.” The 2014 GoU National Monitoring confirmed findings of the previous year. In 2015, the ILO, in coordination with the GoU, conducted monitoring in 10 provinces, where projects financed by the World Bank are being implemented. The monitoring found no conclusive evidence that beneficiaries of World Bank-supported projects used child or forced labor during the 2015 cotton harvest, but serious concerns were raised about the risks of forced labor associated with the widespread organized recruitment of adults for cotton harvesting. The ILO monitoring concluded, among other things, that robust further steps are required to remove the risks of forced labor, and noted that the existence of such risks has been recognized by the Uzbekistan counterparts. Over the last two years, the World Bank, in close collaboration with the ILO, has been involved in a policy dialogue with the GoU, informed by multiple consultations and including several large commissioned analytical pieces. As a continuation of this work, an Action Plan for Improving Labor Conditions, Employment and Social Protection of Workers in the Agricultural Sector in 2016–2018 was approved by the Prime Minister of Uzbekistan on

⁴⁰ For the purposes of Convention No. 182 on the Worst Forms of Child Labor, the term “child” “shall apply to all persons under the age of 18” (Article 2). Article 3 provides that “...the term ‘the worst forms of child labor’ comprises: (a) all forms of slavery or practices similar to slavery, such as the sale and trafficking of children, debt bondage and serfdom and forced or compulsory labor, including forced or compulsory recruitment of children for use in armed conflict; (b) the use, procuring or offering of a child for prostitution, for the production of pornography or for pornographic performances; (c) the use, procuring or offering of a child for illicit activities, in particular for the production and trafficking of drugs as defined in the relevant international treaties; (d) work which, by its nature or the circumstances in which it is carried out, is likely to harm the health, safety or morals of children.”

⁴¹ For the purposes of Convention No. 29 on Forced Labor, the term “forced or compulsory labor” refers to “all work or service which is exacted from any person under the menace of any penalty and for which the said person has not offered himself voluntarily” (Article 2).

January 7, 2015, outlining a number of key areas for cooperation with the World Bank and the ILO.

3. **Child labor has reportedly been replaced by large-scale organized mobilization of adult labor.** In order to comply with the cotton quotas, the burden of cotton harvesting has shifted from children to adults. The majority of the laborers are mobilized by the Council of Farmers and the Mahallas (community local governments) among the local unemployed or underemployed population. But in cases where such supply of labor is not sufficient to meet the demand, the Khokimiyat (district local governments) work with the administrators of different governmental organizations (primarily schools, universities, hospitals, and so forth) to compile a list of employees and students who would be mobilized during the cotton harvesting season, especially to be deployed to the remote regions with labor shortages. University students are often mobilized, and in some cases it is not possible to opt out of the mobilization. Cotton pickers sign statements of consent prior to taking part in cotton harvesting to indicate that they have joined cotton harvesting campaigns of their own volition.

4. **The level of coercion to take part in cotton harvesting seems to vary from one locality and organization to another.** In some localities and organizations, cotton harvesting needs may be less considerable, and it may be fairly easy to refuse or to excuse oneself from taking part. In other places, a refusal can reportedly lead to serious complications in the workplace (for example, dismissal, rejection of promotion, denial of benefits).

5. **For some, income from cotton picking may be a welcomed influx of cash.** Cotton pickers receive a set rate per kilogram for the amount of cotton they pick. All payments are made in cash. Pickers who are able to harvest more than the daily quota also receive additional “awards” such as cotton oil or stalks from farmers. In a cash-strapped economy, cotton picking may be the only way to gain access to cash, since the majority of civil servants receive their payments via non-cash transfer. Low- and middle-income cotton pickers report that income from cotton is very important for their family budget, since it helps them pay for school expenses and cultural celebrations such as weddings and dowries, and plan for the winter. It is reported that pickers mobilized from non-agricultural sectors for the cotton harvest, in many instances get to keep their salaries and receive payment for picked cotton. At the same time, farmers report that pickers from non-agricultural sectors mobilized for the cotton harvest tend to be poorly motivated, with low agricultural skills, and the cost of having them outweighs the benefit.

6. **The mass mobilization of government employees reduces access to public services, including health care, education, and social services.** Governmental employees are typically mobilized to pick cotton in shifts. In schools, while some teachers are sent to the fields, those who remain in schools teach additional classes, combine children from several classes, or simply cancel classes. In hospitals, only emergency services may be offered due to the absence of large numbers of workers. Reportedly, payments of pensions and other social benefits are considerably delayed because governmental employees are in the cotton fields and absent from their regular workplaces.

7. **The start of the academic year in Uzbekistan in early September roughly coincides with the start of the cotton harvest,** which typically lasts six to eight weeks. Students from

colleges and universities are actively mobilized to participate in the cotton harvest.⁴² The 2015 ILO report observed: “many colleges and universities were effectively closed while students and faculty were engaged with the harvest. Many tens of thousands of students aged 18 years and older were organized by the university or college authorities, ostensibly at the voluntary request of students themselves, through agreement with the Kamalot Youth Organization. Faculty members were allocated as brigade leaders. Students from agricultural colleges were engaged in *practical classes* in the fields picking cotton for many weeks. While there is no conclusive evidence of forced labor, there are some signs.” Organized recruitment from colleges and universities results in shortening of the academic year, thereby hindering the effectiveness and quality of education. Additional measures to ensure that students have viable options to opt out of the recruitment and continue with their studies, and to file complaints about recruitment, working and living conditions, payment of wages, and other concerns, need to be implemented, to mitigate the risk of abusive labor practices and the potential of forced labor. Recognizing the importance of targeted awareness-raising and monitoring activities in the higher education sector, the Action Plan, signed on January 7, 2015, includes a separate Action (26) “Implement additional activities aimed at raising awareness of students, with possible support from the Kamalot Youth Organization, under the new higher education development project.”

⁴² Action 13 of the “Action Plan of Free Labor Recruitment,” adopted in July 2015, states: “Form lists of scholars of vocational colleges and academic lyceums with age breakdown and, based on this list, determine number of scholars aged above 18 and take measures to create favorable conditions for their voluntary participation in cotton harvest at time free from academic studies.”

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Annex 7: Map of Uzbekistan – IBRD33508R

