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Report No: PAD3405

INTERNATIONAL DEVELOPMENT ASSOCIATION

PROJECT APPRAISAL DOCUMENT  
ON A  
PROPOSED CREDIT

IN THE AMOUNT OF EUR 35.7 MILLION  
(US\$39.4 MILLION EQUIVALENT)

TO THE  
REPUBLIC OF MOLDOVA

FOR THE  
HIGHER EDUCATION PROJECT

February 13, 2020

Education Global Practice  
Europe And Central Asia Region

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## CURRENCY EQUIVALENTS

(Exchange Rate Effective January 31, 2020)

Currency Unit = EUR

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USD 1 = EUR 0.90604331

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USD 1 = MDL 17.44

## FISCAL YEAR

January 1 – December 31

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## ABBREVIATIONS AND ACRONYMS

DA	Designated Account
DFIL	Disbursement and Financial Information Letter
ECA	Europe and Central Asia
ENQA	European Association for Quality Assurance in Higher Education
EQAR	European Quality Assurance Register for Higher Education
EQF	European Qualifications Framework
ESCP	Environmental and Social Commitment Plan
ESF	Environmental and Social Framework
ESG	Standards and Guidelines for Quality Assurance in the European Higher Education Area
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
ESS	Environmental and Social Standard
EU	European Union
EUR	Euro
FM	Financial Management
GDP	Gross Domestic Product
GoM	Government of Moldova
HCI	Human Capital Index
HEMIS	Higher Education Management Information System
HEIP	Higher Education Improvement Program
HEIPOM	Higher Education Improvement Program Operations Manual
IDA	International Development Association
IFR	Interim Unaudited Financial Report
IMF	International Monetary Fund
IRR	Internal Rate of Return
LMIS	Labor Market Information System
LMP	Labor Management Procedures
MDL	Moldovan Leu
MERP	Moldova Education Reform Project
MoECR	Ministry of Education, Culture and Research
MoF	Ministry of Finance
MoHLSP	Ministry of Health, Labor and Social Protection
NAQAER	National Agency for Quality Assurance in Education and Research
NEA	National Employment Agency
NPV	Net Present Value
NQF	National Qualifications Framework
PDO	Project Development Objectives
POM	Project Operations Manual
PP	Procurement Plan
PPSD	Project Procurement Strategy for Development
QA	Quality Assurance
SEP	Stakeholder Engagement Plan

SoE	Statement of Expenditure
STEM	Science, Technology, Engineering and Mathematics
STEP	Systematic Tracking of Exchange in Procurement
ToR	Terms of Reference
VET	Vocational Education and Training



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DATASHEET

**BASIC INFORMATION**

Country(ies)	Project Name	
Moldova	Higher Education Project	
Project ID	Financing Instrument	Environmental and Social Risk Classification
P167790	Investment Project Financing	Moderate

**Financing & Implementation Modalities**

<input type="checkbox"/> Multiphase Programmatic Approach (MPA)	<input type="checkbox"/> Contingent Emergency Response Component (CERC)
<input type="checkbox"/> Series of Projects (SOP)	<input type="checkbox"/> Fragile State(s)
<input type="checkbox"/> Disbursement-linked Indicators (DLIs)	<input type="checkbox"/> Small State(s)
<input type="checkbox"/> Financial Intermediaries (FI)	<input type="checkbox"/> Fragile within a non-fragile Country
<input type="checkbox"/> Project-Based Guarantee	<input type="checkbox"/> Conflict
<input type="checkbox"/> Deferred Drawdown	<input type="checkbox"/> Responding to Natural or Man-made Disaster
<input type="checkbox"/> Alternate Procurement Arrangements (APA)	

Expected Approval Date	Expected Closing Date
05-Mar-2020	31-Dec-2025

Bank/IFC Collaboration

No

**Proposed Development Objective(s)**

The Project Development Objective is to improve the labor market orientation of selected higher education institutions and the quality assurance mechanisms.



**Components**

Component Name	Cost (US\$, millions)
1 – Improving the Quality Assurance Mechanisms	10.30
2 – Improving the Labor Market Orientation through Targeted Interventions	27.80
3 – Project Management	1.30

**Organizations**

Borrower: Republic of Moldova through the Ministry of Finance

Implementing Agency: Ministry of Education, Culture and Research

**PROJECT FINANCING DATA (US\$, Millions)**

**SUMMARY**

<b>Total Project Cost</b>	39.40
<b>Total Financing</b>	39.40
<b>of which IBRD/IDA</b>	39.40
<b>Financing Gap</b>	0.00

**DETAILS**

**World Bank Group Financing**

International Development Association (IDA)	39.40
IDA Credit	39.40

**IDA Resources (in US\$, Millions)**

	Credit Amount	Grant Amount	Guarantee Amount	Total Amount
<b>Moldova</b>	39.40	0.00	0.00	39.40
National PBA	39.40	0.00	0.00	39.40
<b>Total</b>	<b>39.40</b>	<b>0.00</b>	<b>0.00</b>	<b>39.40</b>



**Expected Disbursements (in US\$, Millions)**

WB Fiscal Year	2020	2021	2022	2023	2024	2025	2026
Annual	0.75	6.40	10.50	8.20	7.40	4.90	1.25
Cumulative	0.75	7.15	17.65	25.85	33.25	38.15	39.40

**INSTITUTIONAL DATA**

**Practice Area (Lead)**

Education

**Contributing Practice Areas**

**Climate Change and Disaster Screening**

This operation has been screened for short and long-term climate change and disaster risks

**SYSTEMATIC OPERATIONS RISK-RATING TOOL (SORT)**

Risk Category	Rating
1. Political and Governance	● High
2. Macroeconomic	● High
3. Sector Strategies and Policies	● High
4. Technical Design of Project or Program	● Substantial
5. Institutional Capacity for Implementation and Sustainability	● Substantial
6. Fiduciary	● High
7. Environment and Social	● Moderate
8. Stakeholders	● High
9. Other	
10. Overall	● High





**COMPLIANCE**

**Policy**

Does the project depart from the CPF in content or in other significant respects?

Yes  No

Does the project require any waivers of Bank policies?

Yes  No

**Environmental and Social Standards Relevance Given its Context at the Time of Appraisal**

E & S Standards	Relevance
Assessment and Management of Environmental and Social Risks and Impacts	Relevant
Stakeholder Engagement and Information Disclosure	Relevant
Labor and Working Conditions	Relevant
Resource Efficiency and Pollution Prevention and Management	Relevant
Community Health and Safety	Relevant
Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	Not Currently Relevant
Biodiversity Conservation and Sustainable Management of Living Natural Resources	Not Currently Relevant
Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities	Not Currently Relevant
Cultural Heritage	Not Currently Relevant
Financial Intermediaries	Not Currently Relevant

**NOTE:** For further information regarding the World Bank’s due diligence assessment of the Project’s potential environmental and social risks and impacts, please refer to the Project’s Appraisal Environmental and Social Review Summary (ESRS).

**Legal Covenants**

Sections and Description



The Recipient, through the Ministry of Education, Culture and Research, shall carry out the Project Components 1, 2.1 and 3 in accordance with the requirements, criteria, organizational arrangements and operational procedures set forth in the Project Financing Agreement, Project Operations Manual and Higher Education Improvement Program Operations Manual. The Recipient, through the Ministry of Education, Culture and Research, shall not amend, suspend, abrogate or waive any provisions of the Project Operations Manual and Higher Education Improvement Program Operations Manual without prior written approval of the International Development Association. In case of any inconsistency between the provisions of the Project Operation Manual and the Higher Education Improvement Program Operations Manual and those of the Project Financing Agreement, those of this Agreement shall prevail.

**Sections and Description**

The implementation of the Project Sub-component 2.2 shall be a responsibility of selected Moldovan higher education institutions and pedagogical colleges in accordance with the requirements, criteria, organizational arrangements and operational procedures set forth in the Project Financing Agreement, Project Operations Manual and Higher Education Improvement Program Operations Manual. Selected Moldovan higher education institutions and pedagogical colleges shall not amend, suspend, abrogate or waive any provisions of the Project Operation Manual and the Higher Education Improvement Program Operations Manual without prior written approval of the International Development Association. In case of any inconsistency between the provisions of the Project Operation Manual and the Higher Education Improvement Program Operations Manual and those of the Project Financing Agreement, those of the Financing Agreement shall prevail.

**Sections and Description**

The Recipient shall carry out the Project in accordance with the Project Operations Manual and the Higher Education Improvement Program Operations Manual.

**Sections and Description**

The Recipient, through Ministry of Education, Culture and Research, shall (i) hire and maintain throughout Project implementation a Project Coordinator and other key qualified technical and fiduciary specialists to provide support to the coordination, implementation, monitoring and evaluation of the Project, all under terms of reference acceptable to the International Development Association; and (ii) ensure that any additional technical and fiduciary specialists financed out of the proceeds of the Credit is selected and hired in accordance with the Procurement Regulations.

**Sections and Description**

The Recipient, through the Ministry of Education, Culture and Research, shall upgrade the existing project accounting system or install a new one in a manner satisfactory to the International Development Association by no later than ninety days after the Effectiveness Date.

**Sections and Description**

The Recipient, through the Ministry of Education, Culture and Research, shall hire an Environmental and Social Specialist in a manner satisfactory to the International Development Association by no later than ninety days after the Effectiveness Date.



**Conditions**

Type	Description
Effectiveness	The Recipient has adopted the Project Operations Manual in a manner satisfactory to the International Development Association.
Effectiveness	The Recipient has hired a Project Coordinator, a Procurement Specialist, a Financial Management Specialist, and a Monitoring and Evaluation Specialist for Project coordination, implementation, monitoring and evaluation in a manner satisfactory to the International Development Association.
Disbursement	On the implementation of the Higher Education Improvement Program under Sub-component 2.2, the Recipient, through the Ministry of Education, Culture and Research has adopted the Higher Education Improvement Program Operations Manual in a manner acceptable to the International Development Association.
Disbursement	On the implementation of the Higher Education Improvement Program under Sub-component 2.2, the Recipient, through the Ministry of Education, Culture and Research has hired a Higher Education Improvement Program Officer under terms of reference acceptable to the International Development Association.



## I. STRATEGIC CONTEXT

### A. Country Context

- Moldova is a small lower-middle-income country in Eastern Europe, with a population of approximately 2.7 million.** Moldova's economy expanded with an increase in the Gross Domestic Product (GDP) of 4 percent in 2018.<sup>1</sup> The poverty rate in Moldova has rapidly declined, with a poverty headcount ratio at national poverty lines decreasing from 22 percent to 9.6 percent of the population, from 2011 to 2015. The economy has seen significant structural changes since the 2000s. While the share of the agricultural sector in the GDP accounted for 29 percent in 2000, it declined to 14 percent in 2016. In contrast, the service sector, which is the current key economic driver, increased its share from 49 percent to over 70 percent of the GDP, from 2000 to 2016. Moldova has also performed well in promoting shared prosperity, with 4.8 percent growth in consumption among the bottom 40 percent of the consumption distribution in 2009–14, compared with 1.3 percent across the entire population.
- Moldova faces the starkest demographic challenges of Europe and Central Asia (ECA) region. Moldova's population has been rapidly shrinking since the country's independence in 1991.** From 1990 to 2015, the population dwindled by 21 percent.<sup>2</sup> Three trends contributed to this: emigration among the youth population, sharply declining fertility rates, and slow progress in life expectancy. Longevity, on the other hand, has been slowed by low access to health care. These factors lead to an annual decrease of the population of around 1 percent. If this trend continues, Moldova can expect to see its population shrink by another 31 percent, or a reduction of 1.2 million people, by 2060.
- Moldova has been struggling with emigration and brain drain over the past few years. It has one of the top ten highest emigrant stock shares of the total population among ECA region countries.**<sup>3</sup> For origin countries like Moldova that experience extended periods of loss of scarce human capital, emigration of skilled labor represents a serious concern. Improving governance quality and service delivery, as well as strengthening institutions in origin countries are long-term policies that can address the root causes of persistent emigration. Policies to retain skilled workers include investing in quality higher education, promoting private sector participation and job creation, and increasing opportunities for women in the economy.
- Brain drain is a key concern in Moldova and many lower-income countries, especially in occupations and sectors that provide economywide externalities, such as health care and technical education.** Data shows that the emigration rate of high-skilled workers is close to 40 percent in Moldova.<sup>4</sup> Various factors drive brain drain from countries like Moldova - in addition to higher wages, they include opportunities for professional advancement and training, and better living and working conditions. Although the mobility of high-skilled professionals generates gains, extensive and sustained emigration is likely to have long-term negative effects on origin countries. However, brain drain is often the symptom, not the cause, of an underperforming economy.
- An adverse external environment, a summer drought, and a banking crisis hindered economic growth and the growth prospects in Moldova in 2015.** First, the deep recession of eastern partners reduced remittances and cut

<sup>1</sup> World Development Indicators. (2018). World Bank. Washington DC.

<sup>2</sup> Estimated by the United Nations, which does not include Transnistria. See World Population Prospects: The 2015 Revision (database), Population Division, Department of Economic and Social Affairs, United Nations, New York.

<sup>3</sup> Moldova's emigrant stock share is 24 percent (Demirguc-Kunt, Asli. 2019. *World Bank ECA Economic Update Fall 2019*. Washington, D.C, World Bank Group).

<sup>4</sup> Demirguc-Kunt, Asli. (2019). *World Bank ECA Economic Update Fall 2019*. Washington, D.C, World Bank Group.



Moldova's exports to Russia in half, while exchange rate rebalancing led to higher inflation. Second, hot weather and low precipitation caused a double-digit decline in agricultural GDP. Weather shocks, particularly droughts, have taken a toll in the past decade; from 2000 to 2012, the country experienced four devastating droughts (2000, 2003, 2007, and 2012). The annual economic loss caused by natural disasters was 3.5 percent to 7.0 percent of GDP and even higher in some instances. Finally, a banking crisis brought on by a massive fraud in three banks lowered confidence in the banking sector, leading to significant interest rate increases and reduced credit to the private sector. The monetary and fiscal cost involved in rescuing the three insolvent banks (amounting to 12 percent of GDP) led to higher public debt and lower foreign exchange reserves, damaged business confidence, and reduced the macroeconomic buffers against economic shocks. The economy contracted by 0.5 percent in 2015.<sup>5</sup>

**6. The impacts of climate change also affect learning environments. Research shows that new environmental problems can arise when functional school infrastructure is compromised and hazardous materials are spread by natural risks such as floods.**<sup>6</sup> Such disasters, which are made more frequent and more extreme by climate change<sup>7</sup>, increase mold growth in classrooms, contaminate learning environments, create physical and chemical hazards from debris and can result in prolonged school closures. Aside from this, rising global temperatures often ascribed to global warming, can make learning environments thermally uncomfortable. Hence, investments in energy efficient and sustainable learning environments can contribute to mitigating the impacts of climate change.

## B. Sectoral and Institutional Context

**7. The mentioned demographic challenges and the rapidly changing labor market highlight the need for reforms in Moldova's education system.** A continuous decline of the number of students have had a negative impact on the education system's efficiency, calling for immediate action from the Government. Moldova's economic development objectives and the skills that are required for participation in a fast-changing labor market implies that increasing emphasis is placed on the acquisition of basic skills by students. Improving the relevance of Moldova's education system is fundamental to address this challenge.

**8. Moldova's higher education system has been facing significant declining enrolment rates over the past 13 years.** The country currently has 29 higher education institutions (a drop from 35 institutions in 2005), out of which 19 (65 percent) are public. One third of all universities have less than 2,000 enrolled students and only one of them – the Moldovan State University - enrolls more than 10,000 students. In the 2018-19 academic year, there were only 60,608 students enrolled (excluding foreigners) in Moldovan universities with 84 percent of them attending public institutions. Women outnumber men; around 58 percent of enrolled students are women.<sup>8</sup> This decline in the number of enrolled students is a matter of concern. In the past three years, the number of enrolled students decreased by 26 percent. The projections point to an additional decrease of 8 percent by 2020. The number of university students per 10,000 inhabitants decreased from 312 to 222, between 2014 and 2018.<sup>9</sup> The main reasons for this phenomenon include falling birth rates, incentives for studying abroad<sup>10</sup>, emigration for economic purposes, family reunion and increased rigor of Baccalaureate exams. Additionally, Moldovan universities face competition with neighboring

<sup>5</sup> World Bank Projects Recession for Moldova. (2015). World Bank. Washington DC.

<sup>6</sup> Sheffield, P. E., & Landrigan, P. J. (2010). Global Climate Change and Children's Health: Threats and Strategies for Prevention. *Environmental Health Perspectives*, 119(3), 291-298.

<sup>7</sup> Geneva, S. (2013). Intergovernmental Panel on Climate Change, 2014. *Working Group I Contribution to the IPCC Fifth Assessment Report. Climate Change*.

<sup>8</sup> National Bureau of Statistics. (2019). Moldova.

<sup>9</sup> Calculation based on data from the National Bureau of Statistics.

<sup>10</sup> Receiving countries include Romania, Russia, Ukraine and other European countries.



countries' institutions.

**9. The country's Vocational Education and Training (VET) system struggles with the small size of its student population. At present, there are 89 VET institutions in Moldova, which enroll around 44,000 students.** The Ministry of Education, Culture and Research (MoECR) is promoting VET programs in pedagogy to combat the shortage of teachers in rural kindergartens. Six VET colleges currently offer programs in pedagogy in Chisinau, as well as in Balti, Soroca, Orhei, Comrat and Cahul. In the academic year 2019-20, these colleges enrolled 1,880 students in pedagogical programs. It is worth mentioning that Moldova's VET system has been supported by the European Union over the past years, and there is a national strategy to improve this system.<sup>11</sup>

### **Governance**

**10. Moldova's higher education regulatory framework has undergone important changes since the country gained independence in 1991.** The MoECR plays the most important role in the governance of Moldova's higher education system, by setting the strategic guidance, making policies and monitoring the performance. Other actors with key roles in the system include the (i) Ministry of Finance (MoF), (ii) Ministry of Agriculture, Regional Development and Environment, (iii) Ministry of Health, Labor and Social Protection (MoHLSP), (iv) Ministry of Economy and Infrastructure, and the (v) National Agency for Quality Assurance in Education and Research (NAQAER). While the MoHLSP and other line Ministries are responsible for the agenda of those who are unemployed, including their reskilling, the NAQAER is responsible for the overall external quality assurance of Moldova's higher education system (see more information on this agency below). Moldova joined the Bologna process in 2005, which led to changes to the Law of Education issued in 1995. Since then, Moldovan higher education institutions have worked to comply with the Bologna requirements and standards, but there are several steps to be taken to ensure full compliance. An example is the lack of education qualification and occupation standards. Moldova adopted a new Education Code in 2014 and, according to this Code and the existing regulatory framework, public universities are autonomous.

**11. The current higher education institutional governance structure does not support innovations.** The rector selection process is based on elections of internal university candidates and tends to attract individuals who are unlikely to make difficult decisions or hard choices. This may well reinforce ongoing institutional power structures rather than encourage changes. The Strategic Council with its external members tends not to contradict the Senate. Furthermore, Ministries play a role in the governance through the appointment of Strategic Council members. The few external council members do not allow for significant voice of external stakeholders, which may hinder advances to closely align university activities with labor market needs.

### **University Autonomy**

**12. The GoM granted higher education institutions with autonomy when it adopted the 2014 Education Code, but university leaders do not exercise their full autonomy.** The granted autonomy gives universities the rights and responsibilities related to research; the curriculum (that has to be aligned with state education standards); admissions; hiring and promoting personnel; establishing management bodies; addressing student and staff social and discipline problems; overseeing finances and budgets, including seeking additional sources of income and keeping accumulated income and developing material resources; and administering property to advance university mission/charter. Along with this autonomy, the 2014 Education Code puts forth principles of (i) public responsibility, (ii) strategic leadership,

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<sup>11</sup> Government of Republic of Moldova. (2013). Decision no. 97 of 1 of February 2013 on approval of strategy for Development of Vocational and Technical Education for the period of 2013-2020. Chisinau.



and (iii) efficient and transparent management. However, this Code states that “higher education management shall be performed at two levels: at the national level by the MoECR, and at the institutional level”, which means that the Ministry will continue to play a relevant role in university strategy and management. Moldovan university leaders do not seem to (or seem to be able to) take full advantage of the system’s autonomy. Although university leaders are grateful for the increased financial autonomy, they face ongoing constraints and have limited ways to generate revenue outside of student fees. For example, some of them struggle with the physical conditions of buildings, which require improvements.

### **Financing**

**13. One of the major challenges currently observed in Moldova’s higher education system is its financial efficiency and underfunding.** Spending in higher education represented 1.1 percent of the GDP in 2016, which was more than what was spent by countries such as Belarus, Armenia, Albania and Georgia, but less than Ukraine.<sup>12</sup> The internal efficiency of the system is a matter of concern because the number of teachers, non-teaching staff and institutions are not shrinking at the same pace as the contraction in the number of students. This is concerning because 90 percent of the total budget allocated for higher education has been used to pay the salaries of teachers and non-teaching staff. Public spending on higher education decreased by approximately 10 percent between 2013 and 2017, however the per student spending has been increasing because of the declining number of enrolled students. Overall, public funding per student increased by approximately 20 percent in real terms, between 2013 and 2017.

**14. Moreover, there are no financial incentives for performance in Moldova’s higher education system. The existing financial model is based on historical data.** Under this model, it may happen, for instance, that two universities with a 100 percent difference in the total number of enrolled students receive the same budget in the same year, as done in previous exercises. This model contributes to inefficiencies and low accountability in the system. The existing model lacks a per capita formula, performance-based indicators and competitive funding schemes. Within this context, there are no financial incentives for universities to perform and improve the quality of their programs.

**15. The MoECR developed a performance-based financial model for Bachelor and Master’s programs, under an Erasmus Project in 2018.** This model includes the following three components: a per capita/student amount, a performance-based amount, and an amount for specific needs. The performance-based component, which will be a novelty in higher education in Moldova, will be determined based on indicators such as the volume of research and the qualification of the faculty. However, this financial model has not been piloted yet. The MoECR plans to have a methodology on this financial model approved by the GoM in early 2020 (see additional information below).

**16. Most of Moldovan university students pay some tuition. In fact, 65 percent of all enrolled students paid some tuition in public and private universities, in 2018.** Tuition-paid programs enrolled 28,737 students in public universities, and 9,988 students in private institutions, in 2018.<sup>13</sup> The remaining 21,883 students enrolled in public universities (47 percent of the total) were financed by the State budget. There are three different types of scholarships provided by the Government (regulated by the Governmental Decision No 1009, from 2006), including merit scholarships and social scholarships (needs-based). The scholarships vary from MDL 600 to 1,000 (approximately USD 33 to 56, with the exchange rate USD 1 = MDL 17.90) per student per month, depending on the year of study and academic performance. The fees paid by students are a notable component of Moldovan university budgets, even though the current country’s economic conditions affect students’ ability to pay for their education. Thus, Moldovan

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<sup>12</sup> DataBank. (2016). World Bank. Washington DC.

<sup>13</sup> National Bureau of Statistics. (2019). Moldova.



universities face inelastic pricing.

### ***Higher Education System's Inefficiencies***

**17. Too many universities compete for declining numbers of students, and most of those universities are too small to operate efficiently with static administrations and infrastructure that do not adapt to changing enrollments.** Moreover, the quality of the infrastructure adds to the inefficiencies of the system. Altogether, these facts call for a consolidation of the network of public universities. The disproportionately large number of universities means that there are financial redundancies within and across institutions, given the small number of students in each university. For instance, each university in the system must have its own administrative and instructional infrastructures, much of which do not shrink according to enrollment. Universities require similar numbers of rectors, vice rectors and deans, regardless if there are 200 or 12,000 students enrolled in their programs. Furthermore, the physical plant, equipment and ICT infrastructures are also costly on a per student basis and operate under capacity, which is an added structural inefficiency. It costs a university the same amount to maintain per square meter of classroom or laboratory floor space to educate 10 students or 25 students. Larger enrollments lead to a more efficient use of spaces - classrooms and laboratories are filled closer to their capacity and used more often and for longer periods of the day.

**18. Inefficiencies are also observed in the programs. The lack of degree relevance in the system also leads to inefficiencies.** While university autonomy is key and should be incentivized and improved in Moldova, the relevance of university programs should not be ignored. In many cases, Moldovan public universities are spending scarce resources on degrees that do not have strong market relevance or clear student and/or employer demand. Irrelevant programs are often costly, because staff salaries are spent in the wrong areas and facilities are underutilized or misallocated. Furthermore, a university system of small universities is likely to have more offerings than needed and overlapping degree programs.

**19. The GoM is aware of these inefficiencies and is keen to address this challenge by making difficult decisions starting this academic year.** In September 2019, the former Government signed an agreement on key strategic actions to be taken by the end of 2020. An Action Plan was published and included one action on the approval of a new higher education financial methodology. The current Government, which was appointed in November 2019, also acknowledges the importance of improving the efficiency of the higher education system and it is committed to act on this in the short-term. The new Government's recently prepared Action Plan for 2019 – 2020 includes an action on a new methodology for funding public higher education institutions.

**20. The GoM has been considering three major scenarios to optimize public spending on higher education. The scenarios are to decrease the number of universities, reduce their number of managerial staff, and introduce an electronic admission system.** The reduction of the number of universities would be done through mergers/creation of clusters. While the current Government has not shared information on the mergers/clustering yet, it has informed the World Bank that academic programs in engineering, information technologies, pedagogy and health (medicine) are fundamental for addressing key education system's issues (e.g. shortage of teachers) and for economic growth. Based on these principles, the GoM<sup>14</sup> has informed the World Bank that nine universities currently offering academic programs in these four priority areas would not be closed, and some of them would integrate other universities into their structures as a result of the network consolidation. The GoM has not informed the World Bank about the names of these nine universities yet. It is worth noting that the proposed World Bank-funded Moldova Higher Education

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<sup>14</sup> Including the Government that was appointed in November 2019. The World Bank team in charge of the preparation of the proposed Project met this Government on December 2 to 10, 2019.





Project would not finance the consolidation of the network of public universities, but rather a package of interventions that would complement the GoM's efforts in this area (see Section II below).

### **Quality Assurance**

**21. Moldova's higher education quality assurance (QA) system is under-developed.** QA at the system level is under the responsibility of NAQAER, which is a public agency that reports to the MoECR. NAQAER is responsible for quality assurance at all levels of the education system in the country. Well-established higher education quality assurance systems shall have an independent quality assurance agency, as expressed in the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG). At the level of universities, most institutions do not have well-developed internal QA mechanisms in place. The NAQAER is an associate member of the European Association for Quality Assurance in Higher Education (ENQA), a governmental member of the European Quality Assurance Register for Higher Education (EQAR) and a full member of the Central and Eastern European Network of Quality Assurance Agencies in Higher Education. However, the NAQAER is not registered in EQAR yet, which may affect the mobility of university students and graduates. Only diplomas of universities and programs accredited by QA agencies that are registered in EQAR are automatically recognized in countries that adopt the Bologna process. The registration in EQAR facilitates employment of university graduates and the continuation of their studies abroad.

**22. The existing National Qualifications Framework (NQF), which was approved in 2017, serves as a reference for setting qualification standards in different professional fields and specialties in all levels of education.** Qualification standards define the expected outcomes of a learning process, leading to the award of a qualification. They guide the development of the curricula. While a methodology for the development of qualification standards was approved in Moldova, in 2018, currently there is a need for developing or revising 300 qualification standards for Bachelors, Master's and Doctoral programs in 23 different fields.

**23. Moreover, the size of the Moldovan higher education system poses challenges to the evaluation/accreditation process.** The system's size makes economies of scale problematic. The challenge of a cost-effective QA support structure is a major concern, mainly because of the reliance on international experts, as mentioned above. Additionally, the NAQAER struggles to be acknowledged in their advising of universities on how to improve their competencies and practices in QA. The tension between evaluation for accreditation (i.e. assessment) and for improvement (i.e. with no sanctions) remains. Despite all these challenges, approximately 80 percent of undergraduate study programs and 90 percent of graduate programs have already been accredited.

### **Labor Market Orientation**

**24. Moldova's education and training system is insufficiently geared towards labor market demand and Moldovan employers report that inadequate workforce skills hamper the performance of their businesses.** The three biggest challenges that affect firms and their performances are insufficient job-specific skills, unsatisfactory work ethic, and poor motivation.<sup>15</sup> These skills gaps are more pronounced in the case of middle-skilled employees than for high-skilled employees. Middle-skilled workers are reported to lack motivation, a willingness to learn, analytical and problem-solving skills and computer skills. High-skilled workers are more often hindered by poor foreign language skills.

**25. A new law on employment promotion and unemployment insurance became effective in early 2019 and includes provisions aimed at preventing and reducing unemployment.** This law regulates the delivery of new services

<sup>15</sup> Rutkowski, J., Levin, V., & Bargu, A., (2017). Missing Skills; Results of the Skills Module of the Moldovan Labor Market Forecast Survey.



for employers and job seekers, as well as new measures to address the challenges that are currently observed in the labor market. These measures include the promotion of employment by connecting the labor force demand and supply (e.g. through the sharing of information and jobs intermediation), as well as the support to professional training activities. The National Employment Agency (NEA)<sup>16</sup> plays a key role with the implementation of the new employment law. However, the NEA's capacity will have to be strengthened for the provision of the services established in the new employment law and the delivery of the mentioned measures. The NEA will also have to develop and manage a Labor Market Information System (LMIS) that should be able to address the needs of both employers and job seekers. Currently, there is no information system that helps with collecting, managing and sharing data on job vacancies, job applicants (and their skills) and skills in demand in the Moldovan labor market.

### **Gender Issues**

**26. Data show that the employment occupational structure is segregated by gender in Moldova. This segregation stems from the choice of study made by students in vocational schools, colleges and universities.** Female and male adult workers differ not only in terms of their level of education, but also fields of study. According to data from the 2016 labor force survey, women represent over two thirds of workers with a higher education degree employed in fields such as business and administration (81 percent), teaching (76.3 percent), and commerce (66.7 percent). Over half of all employed women with a higher education degree studied either education, accounting or public administration. At the same time, women accounted for less than one third of workers with a higher education degree in Science, Technology, Engineering and Mathematics (STEM) areas; more precisely, only 31.6 percent in science and engineering and 27.3 percent in information and technologies. In contrast, the most popular fields of studies reported by employed males with a higher education degree included science, engineering (predominantly mechanical and electrical engineering), and legal.<sup>17</sup> This evidence show the magnitude of this gender gap in Moldova. Actions to address this challenge should include incentives to increase the enrolment of women in higher education programs in STEM areas.

**27. Existing gender norms and stereotypes underpin occupational segregation in Moldova, as proven by evidence.** Traditional gender roles typically assign women and girls to the private, unpaid domestic sphere, and men and boys, to the public, paid working sphere. The 2017 Gender Barometer Study conducted in Moldova found that approximately 80 percent of survey participants demonstrated gender stereotypes related to family decision-making roles and perceptions on men's role as primary breadwinners. Over the past ten years, the perceptions of traditional gender roles have not improved in Moldova. In 2016, 64 percent of the respondents agreed with the statement that men's responsibility is to bring money home, whereas women's task is to take care of the family and household. This finding is only 3 percentage points less than the share observed in 2006.

**28. Data also show that female workers outnumber men in educational attainment in Moldova.** Overall, more women than men graduate from higher education programs in Moldova. In the 2018-19 academic year, around 18,150 students graduated from Moldovan universities, out of which 61 percent of which were women. Moreover, employed women are more likely to have post-secondary non-higher (college) or higher (university) education, while more men have stopped at secondary vocational education. As relatively more educated cohorts of women replace the earlier ones, women become more highly educated than men. This is observed not only in employment, which is more highly

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<sup>16</sup> The NEA is an administrative authority subordinated to the Ministry of Health, Labor and Social Protection that is responsible for the implementation of policies in employment promotion, labor migration and unemployment insurance.

<sup>17</sup> Kupets, O. (2018). Employer-provided training, innovation and skills in post-Soviet countries. *Economics of Transition*, 26(4), 725-768.



selected on education for women than for men, but also in the non-employed population that includes the unemployed and those outside the labor force.<sup>18</sup>

### **Research**

**29. A new law on research became effective in March 2018 and introduced changes in the institutional arrangements and financing.** The Academy of Sciences of Moldova was replaced by the MoECR as the national institution responsible for research. Since this institutional change, the National Agency for Research and Development, which was created in February 2018, has improved its capacity and has taken over the role of the Academy of Sciences in the implementation of the European Union's Horizon 2020 programme. However, adjustments are needed to maximize the opportunities for Moldova to benefit from Horizon 2020, mainly through supporting effective cooperation between business and academia. Funding for research has changed with the adoption of the new law, in early 2018. Until 2017, funds for research were entirely managed by the Academy of Sciences of Moldova. With the adoption of the 2018 research law, existing research institutes were mapped to the MoECR, MoHLSP and Ministry of Agriculture, and funds started flowing to the institutes through these ministries. Some funds have been channeled to public universities as well.

### **Reasons for Investing in Higher Education in Moldova**

**30. Considering the economic and demographic challenges that were mentioned above and acknowledging the importance of human capital to address them, Moldova's Parliament approved the National Development Strategy "Moldova 2020".** This strategy recognizes the importance of aligning the country's education system with the needs of the labor market to boost productivity. Moreover, education is defined as a main priority for the GoM in the Midterm Sectorial Policy Priorities (2019-2021), which was approved in April 2018 (see additional information on the strategic relevance of education below).

**31. Moldova's Human Capital Index (HCI) is 0.58, which places the country in rank 75 out of 157.** This figure means that a child born in Moldova today will be only 58 percent as productive when she grows up, as she could be if she enjoyed complete education and full health. The HCI for girls (0.60) is slightly higher than for boys (0.56). Moldova's HCI is lower than the average index for Europe and Central Asia Region, but higher than the average for its income group.

**32. The World Bank and other development organizations have been supporting the country's education system over the past ten years, but higher education has been under assisted.** The European Union has supported the country's VET system. The Government of Romania has invested in preschool education. UNICEF has been supporting programs to address challenges in equity, financing and preschool education. Currently, the World Bank is financing important reforms in primary and secondary education through the ongoing Moldova Education Reform Project (IDA Credit No. 6181-MD).

**33. Despite these facts, the returns to higher education (see Annex 2) and the abovementioned low HCI for Moldova show that investments in higher education are justifiable in the country.** Higher education graduates earn 10.86 percent more than their peers for every year of post-secondary education in Moldova. These returns were

<sup>18</sup> Kupets, O. (2018). Employer-provided training, innovation and skills in post-Soviet countries. *Economics of Transition*, 26(4), 725-768.



obtained comparing data on wages of higher education graduates and workers who did not pursue a post-secondary education degree. These returns are slightly higher for women than for men (see more information in section B of this concept note), which is consistent with the estimates found in the literature.<sup>19</sup>

**34. Within this context, the World Bank and the MoECR are preparing an investment project in higher education for Moldova.** This project would support the GoM's efforts to make higher education more attractive to Moldovan students who are currently leaving the country for academic and economic reasons. The systemic interventions proposed under the Project are expected to improve the internal efficiency of the system and ultimately make the GoM's investments more targeted to enhancing the system's capacity for quality management and monitoring.

### C. Relevance to Higher Level Objectives

**35. The proposed Project responds to a Government's request for supporting reforms in higher education.** The MoF requested the World Bank's support to reforms in higher education through a letter dated November 7, 2018. This request refers to interventions to improve the conditions of existing learning environments and equipment, better alignment of the higher education system with the needs of the labor market, as well as to establish mechanisms to increase the employability of higher education graduates. The World Bank and the GoM had originally held discussions about an investment project in skills, but the GoM prefers to prioritize higher education now.

**36. The Government appointed in November 2019 is committed to reforming Moldova's higher education system.** The World Bank team responsible for the preparation of the Proposed Project met high level officials of the newly appointed Government for in-depth technical discussions during the final stage of the project appraisal (early December 2019). The World Bank was informed about the Government's commitment to the consolidation of the network of public universities, as well as to the improvement of higher education quality, labor market orientation and efficiency. The Government Action Plan 2019 – 2023, which was approved on December 11, 2019, includes actions aimed at improving the higher education quality and relevance. Additionally, the MoECR is preparing a National Higher Education Program for 2020 – 2023 that is expected to be approved in late January 2020. The MoECR informed the World Bank that this program includes actions that would build on and be aligned with the systemic interventions in quality assurance, financing and monitoring capacity that the proposed Project would finance.

**37. The proposed project is aligned with the National Development Strategy ("Moldova 2020"), which recognizes the importance of orienting the country's education system to the needs of the labor market, in order to improve the productivity of the workforce.** This strategy, which was approved by the Parliament on July 11, 2012 (Law No 166), acknowledges that the challenges that are currently observed in Moldova's education system contribute to the migration of young graduates to more developed markets and economies. The proposed Project would support the GoM's efforts to improve the labor market orientation of the higher education system, as described in the strategic documents mentioned below. Moreover, the proposed Project is aligned with the Country Partnership Framework FY 18–21 (Report Number 115716-MD, Board date 07/27/2017) through its Focus Area 3 on skills development, namely the enhancement of the quality of education and training to enable the acquisition of job-related skills. Concerning Moldova's vulnerability to natural disasters, which are aggravated by climate change, the proposed Project would contribute to the GoM's adaptation and mitigation measures through targeted interventions in and financial incentives to selected universities and pedagogical colleges (see Section II.B below).

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<sup>19</sup> Psacharopoulos, G., & Patrinos, H. A. (2018). Returns to investment in education.



- Government Action Plan for 2019–2023 approved on December 11, 2019;<sup>20</sup>
- Draft National Development Strategy “Moldova 2030”;
- Midterm Sectorial Policy Priorities 2019-2021 approved by the GoM in April 2018 (Government Decision No 350);
- Education Development Strategy 2014-2020 (“Education 2020”) approved by the GoM in November 2014 (Government Decision No 944);
- National Employment Strategy 2017-2021 approved by the GoM in December 2017 (Government Decision No 1473);
- National Strategy on Ensuring Equality between Women and Men 2017-2021 approved by the GoM in April 2017 (Government Decision No 259).
- Moldova’s National Gender Equality Strategy 2016-2020, which aims to mainstream gender in several areas including health, education, social services, labor market, climate change and disaster management, and political participation. Moreover, the Moldova Gender Action Plan 2018-2021 prioritizes the reduction of occupational segregation through interventions in education and training. The proposed Project is well-aligned with the World Bank’s gender agenda for Moldova, as proven by the incentives for closing the occupational segregation gap through the higher education improvement program.

## II. PROJECT DESCRIPTION

### A. Project Development Objective

#### Project Development Objectives (PDO) Statement

38. The Project Development Objective is to improve the labor market orientation of selected higher education institutions and the quality assurance mechanisms.

#### PDO Level Indicators

39. The following PDO level indicators would be used to measure the outcomes specified in the PDO statement:
- share of students of selected higher education institutions enrolled in Bachelor and Master’s programs of government’s priority areas;
  - perception of employers about the labor market orientation of selected higher education institutions’ programs;
  - new Master’s programs accredited based on the revised curriculum; and
  - the status of the registration of NAQAER in EQAR.<sup>21</sup>

### B. Project Components

40. The proposed Project would be implemented over a period of five years (from 2020 to 2025), organized around three components, which are described below, and financed by an International Development Association (IDA) Credit of EUR 35.7 million (US\$39.4 million equivalent). The Project design includes systemic interventions in the areas of

<sup>20</sup> The GoM is planning to issue a National Higher Education Program for 2020 – 2023, as mentioned above. This program is expected to include actions to improve higher education labor market relevance, quality and financing.

<sup>21</sup> The registration of NAQAER in EQAR is important for the recognition of Moldovan universities’ diplomas in Europe.



higher education quality, financing and management, as well as a targeted program to be implemented by selected universities and pedagogical colleges to address some of their most pressing needs in labor market orientation.

41. Even though the proposed Project would not finance the GoM's initiatives to consolidate the network of public universities, all planned project activities would be implemented in full alignment with these initiatives. No institutions that will be integrated into others' structure because of the consolidation shall benefit from the targeted interventions to be supported by the proposed Project (see description of Component 2 below).

42. The systemic interventions proposed under Component 1 would be transformational and complement the GoM's efforts toward an improved higher education system that is more efficient, affordable and of better quality. It would support fundamental activities such as the improvement of the system's quality assurance mechanisms, as well as its overall capacity to collect, analyze and use data to inform decision.

43. The proposed Project would support the modernization and enhancement of key elements of the system's quality assurance mechanisms, such as the development of qualification standards that would guide the subsequent revision of the curricula and accreditation of academic programs. It would also support the registration of NAQAER in EQAR, which is a pre-requisite for the recognition of diplomas issued by Moldovan universities in Europe.

44. Project Component 1 would also support the piloting and implementation of a new performance-based higher education financial model that is meant to increase the system's efficiency and lead to a budget planning paradigm shift, by driving universities to focus on results and performance, rather than on inputs. Moreover, it would support the development and implementation of an electronic admission system that would optimize existing outdated processes and bring in additional efficiencies for both students (applicants) and universities.

45. Additionally, the proposed Project would support the development of a unique higher education management information system and a multi-functional labor market information system. While the former would strengthen the higher education system's capacity in planning and monitoring and evaluation, the latter would be paramount for addressing the needs of both employers and job seekers, including university graduates, who currently struggle to find reliable information on skills and job vacancies.

46. In addition to the activities mentioned above, the proposed Project includes a targeted package that would benefit public universities that offer academic programs in four priority areas identified by the GoM as well as pedagogical colleges. The priority areas are engineering, information technologies, health (medicine) and pedagogy. In total, the MoECR expects that 15 institutions (9 public higher education institutions and 6 pedagogical colleges) would be eligible for benefitting from the targeted interventions. These institutions would go through a strategic prioritization exercise to identify their needs and prioritize them for financing through the Project, provided that their proposals meet the selection criteria and requirements for evaluation acceptable to the World Bank.

47. *Project Costs.* The table below shows the total estimated cost of each project sub-component and component.

**Table 1. Project Costs**

<b>Components and Sub-Components</b>	<b>Amount (EUR)</b>
<b>1 - Improving the Quality Assurance Mechanisms</b>	<b>9,222,000</b>
1.1 - National Qualifications Framework and Quality Assurance	2,807,000
1.2 - System Management and Monitoring	5,704,000
1.3 - Higher Education Financing	711,000
<b>2 - Improving the Labor Market Orientation through Targeted Interventions</b>	<b>25,334,000</b>
2.1 - Higher Education Improvement Program Preparation	628,000
2.2 - Higher Education Improvement Program Implementation	24,706,000
<b>3 - Project Management</b>	<b>1,144,000</b>
<b>Total</b>	<b>35,700,000</b>

48. **Component 1 – Improving the Quality Assurance Mechanisms (cost = EUR 9.2 million).** This component aims to improve Moldova higher education system’s quality assurance mechanisms, which would also contribute to improve its labor market orientation. It comprises three sub-components that support activities in higher education quality, financing and information systems (management and monitoring), which would benefit all universities in Moldova. It would also benefit Moldovan citizens, including university graduates, who currently struggle with the lack of reliable information on labor market needs and job opportunities. Private universities would benefit from the qualification standards to be developed through this component.

49. *Sub-Component 1.1 – National Qualifications Framework and Quality Assurance (cost = EUR 2.8 million).* This sub-component would finance relevant activities in higher education quality assurance, including the development and revision of qualification standards in alignment with the NQF, and the improvement of the existing QA mechanisms. The qualification standards that would be developed through the proposed Project would inform the revision of the curriculum, which is a requirement for the accreditation of new academic programs.

50. The sequencing for the implementation of this sub-component should be defined in the Project Operations Manual (POM) and Project Implementation Plan. The implementation should start with the development of the standards, which will be followed by the revision of the curriculum and then, the accreditation of programs. Given that all these activities are time consuming, the sequencing should be based on some sort of parallelism, so that the revision of the curriculum of programs in a certain field starts right after the completion of the development of the respective standard(s), rather than after the development of all standards.

51. The activities on the NQF would be implemented by the MoECR’s NQF Directorate in close collaboration with the MoECR’s Higher Education Department and the Information and Communication Technologies Center for Education. By the end of the implementation of the Project, it is expected that 300 qualification standards are developed, and teachers of all Moldovan public universities are trained for the implementation of these standards through the revision of the curricula. The development and revision of qualification standards would be done with the participation of relevant employers or their associations in each specific field. The involvement of the private sector in this important activity is currently limited in Moldova, but it would be boosted through this sub-component. This component would support the following activities:



- development and revision of 300 qualification standards for Bachelors, Master's and Doctoral programs (levels 6 to 8)<sup>22</sup> in 23 fields;
- assistance to the implementation of the NQF including through the training of 80 university teachers, as well as support to MoECR's NQF Directorate for the self-certification of the NQF;
- technical assistance for the management and maintenance of the national qualifications register;
- digitalization of the archive of diplomas that were issued before 2008.

52. To address the challenges with the QA of Moldova's higher education system, this sub-component would support activities aimed at strengthening NAQAER's capacity as the key external QA authority, as well as universities' capacity in this area. These activities would be implemented by the MoECR's Higher Education Department in close collaboration with the NAQAER. By the end of the implementation of the Project, it is expected that the NAQAER will be registered as a member of the EQAR. This component would support the following activities:

- assistance to the accreditation of programs (Master's and Doctoral), as well as institutions that offer Doctoral programs. The participation of employers in the accreditation process is defined in the Education Code of 2014;
- enhancement of the capacity of NAQAER and universities. More specifically, this would be done by:
  - enhancing NAQAER's management, planning and evaluation capacities, as well as supporting the development of standards, norms and procedures for evaluation and accreditation that would be compatible with the ESG 2015 (for EQAR membership);
  - developing self-evaluation and external evaluation capacities within universities, delivering training activities, and fostering inter-institutional collaboration. It is expected that 200 staff of universities would be trained through this activity;
- trainings of MoECR's and NAQAER's staff in European best practices in higher education QA. It is expected that this activity would enhance the capacity of 30 staff of these institutions;
- registration of NAQAER in EQAR through the provision of technical assistance. The Ministry of Finance will ensure the payment of the EQAR registration fee with other source(s) of funds.

53. *Sub-component 1.2 – System Management and Monitoring (cost = EUR 5.7 million)*. This sub-component would finance activities to improve the higher education system's management and monitoring capacity. It would finance the development and implementation of three *information systems* (see below) and a *higher education system-wide graduate tracer study*<sup>23</sup> that would use data from various information systems (including the three mentioned below) and surveys to inform plans and decisions at the central (MoECR) and universities levels.

54. It would support the development and installation of the following information systems: (i) unified electronic higher education admission system (e-Admission), (ii) unique Higher Education Management Information System (HEMIS), and (iii) LMIS. These information systems would produce data that would be used to inform plans and decisions at the system and institutional levels. The installation of these information systems would imply an extensive capacity building program to train staff of the MoECR, MoHLSP, NEA and universities in the operation of these tools and utilization of their data for planning and decision-making. It would benefit these institutions, university students,

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<sup>22</sup> UNESCO Institute for Statistics. (2012). *International standard classification of education: ISCED 2011*. Montreal: UNESCO Institute for Statistics.

<sup>23</sup> A graduate tracer study is a survey of graduates that is carried out after graduation. It usually includes questions on the progress with the studies of surveyed graduates, their transition to work, career, the utilization of acquired competencies, and their current occupations. It provides reliable information for evidence-based policy-making in areas including the relevance of academic programs and quality of education.





upper secondary education students (in their applications), as well as job seekers (including university graduates) and employers (through the LMIS).

55. The activities on the development of these systems would be implemented by the MoECR's Higher Education Department in close collaboration with the MoECR's ICT Department, the Information and Communication Technologies Center for Education, as well as the MoHLSP. The activities to be supported for each information system is presented below.

- e-Admission:
  - preparation of the Terms of Reference for the development of the e-Admission system;
  - specialized assistance for managing the development and implementation of the e-Admission system;
  - development and maintenance of the e-Admission system;
  - training of users of the e-Admission system;
  - specialized assistance for the acceptance of the e-Admission system;
  - development and implementation of communication campaigns to promote the utilization of e-Admission widely, including in remote villages;
  - training of MoECR's staff in good practices regarding admission to higher education institutions;
  - supporting the establishment of the unit that will be responsible for e-Admission management through the purchase of ICT equipment and furniture.
- HEMIS:
  - preparation of the Terms of Reference for the development of the HEMIS;
  - specialized assistance for managing the development and implementation of the HEMIS;
  - development and maintenance of the HEMIS. The HEMIS should be able to communicate with existing isolated management information systems that currently run in universities and the MoECR. It should also communicate with the e-Admission system and LMIS. The HEMIS should include modules for the (i) management of accredited programs and institutions, (ii) management of the NQF, and (iii) issuance of diplomas;
  - training of HEMIS's users;
  - specialized assistance for the acceptance of the HEMIS;
  - enhancement of the capacity of the MoECR and universities in the utilization of data for planning and decision-making, including for the proposed Higher Education Improvement Program (see component 2 below).
- LMIS, which would consist of two separate information systems – NEA's Management Information System and the Labor Market Observatory Information Services, as described below.
  - NEA's management information system would collect and manage reliable data on job seekers and employers' needs, as well as facilitate NEA's daily activities in relation to labor market programs and policies (passive or active). This system should include, among others, the following functionalities/modules: management of the NEA daily activities, profiling, individual action plan management and case management for beneficiaries, administration of active and passive labor market programs, labor market programs and service providers auditing, employers servicing and job vacancies management, advanced communication mechanisms for all involved actors, support for grievance redress mechanisms, annual planning of activities and programs, and support to monitoring and evaluation of beneficiaries.
  - The labor market observatory information system would become the primary mechanism for fetching and dissemination of labor market information and intelligence, building on existing fragmented data and analyses, and would gradually address certain data exchange gaps between labor market



- information systems and enhance the anticipatory focus of the outputs. Overall it would: integrate data and analyses contributing to an improved understanding of labor market and skills dynamics (short and medium-term); foster cooperation and dialogue of partners and stakeholders in making sense of the produced information; enhance coordinated data collection and production of needed analysis; and disseminate information on labor market trends for social and economic decisions for the wider public.
- The MoHLSP through the NEA would be a beneficiary of the LMIS. The implementation arrangements for these activities are presented in Section III.A below. The activities to be financed for the development of the systems mentioned above are:
    - technical assistance for: (i) the completion of the Terms of Reference for the development of the LMIS; (ii) managing the LMIS development and implementation; (iii) the acceptance of the LMIS;
    - development and maintenance of the LMIS;
    - training of LMIS's users;
    - enhancing the NEA's data analysis capacity;
    - purchase of equipment for the operation of the LMIS.

56. *System-wide graduates tracer study*: this sub-component would finance (i) technical assistance for the development and implementation of the study, (ii) logistical support for its implementation, and (iii) the purchase of a statistical package for data processing. For the purpose of institutionalizing the graduate tracer study beyond the Project Closing Date, this sub-component would support the enhancement of the capacity of an institution related to the MoECR and the subsequent transfer of knowledge to this institution.<sup>24</sup>

57. *Sub-component 1.3 - Higher Education Financing (cost = EUR 0.7 million)*. To improve the internal efficiency of Moldova's higher education system, which would ultimately help to channel more public funds toward the improvement of this system's quality, this sub-component would support the piloting and implementation of the financial model that the MoECR developed in 2018. This financial model includes a performance-based component. More precisely, the following activities would be financed:

- piloting the implementation of the new financial model and adjusting it, if needed;
- development of guidelines for the implementation of the new model;
- training of MoECR's and universities' staff in the new model. It is expected that 100 staff would be trained through this activity;
- monitoring/assessment of the implementation of the new financial model for course correction;
- development and implementation of a communication strategy to raise awareness on the new model and its advantages.

58. **Component 2 – Improving the Labor Market Orientation through Targeted Interventions (cost = EUR 25.3 million)**. This component would finance the design and implementation of a targeted and needs-based program (Higher Education Improvement Program - HEIP<sup>25</sup>) aimed at improving the labor market orientation of Moldova's higher education institutions, as well as their research capacity.

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<sup>24</sup> A decision on the host institution shall be made at the implementation stage and mentioned in the POM. A potential candidate is the National Institute of Economic Research under the MoECR, whose capacity was assessed by the World Bank during the project preparation and found acceptable.

<sup>25</sup> Even though pedagogical colleges would also benefit from this program, it's called HEIP for the sake of simplicity.



59. *Targeting Mechanism.* The GoM has informed/confirmed to the World Bank that academic programs in engineering, information technologies, pedagogy and health (medicine) are fundamental for addressing key education system's issues (e.g. shortage of teachers) and for economic growth. Based on these principles, the GoM<sup>26</sup> has informed the World Bank that nine public higher education institutions that currently offer academic programs in these four priority areas would not be closed, and some of them would integrate other higher education institutions into their structures as a result of the network consolidation. While the GoM has not informed the World Bank about the names of these nine public higher education institutions yet, it is known that the HEIP would target them as well as the existing six pedagogical colleges, given the mentioned issue with the shortage of teachers in the country.

60. The criteria for the selection of public higher education institutions to benefit from the HEIP shall be submitted for approval of the World Bank and included in the HEIP Operations Manual (HEIPOM). The HEIPOM would be a document distinct from the POM.

61. *Sub-component 2.1 - HEIP Preparation (cost = EUR 0.6 million).* This sub-component would finance technical assistance for the (i) preparation of improvement programs (proposals) by eligible higher education institutions and colleges, including the development of guidelines for beneficiaries, (ii) evaluation of these proposals, and (iii) constant and high-quality fiduciary support (procurement and financial management) at the HEIP implementation stage. These activities would help with mitigating the risk associated with the limited fiduciary capacity of some HEIP beneficiaries. In addition to the fiduciary support to HEIP implementation to be financed through this sub-component, a Program Officer would be hired as a member of the team of dedicated individual consultants who will assist the MoECR with the implementation of the Project (see Section III below). This sub-component would also finance the adaptation or development of an online tool for engaging stakeholders in the design of the HEIP (participatory planning and decision-making).

62. *Sub-component 2.2 – HEIP Implementation (EUR 24.7 million).* This sub-component would finance the implementation of the HEIP's awarded proposals. Upon World Bank's approval of the criteria for the selection of HEIP beneficiaries, the MoECR would invite eligible public higher education institutions and pedagogical colleges to prepare proposals for addressing their needs in labor market orientation, research and learning. Eligible activities for financing through the HEIP include: purchase of goods, minor civil works<sup>27</sup>, consultants' services, non-consulting services, training and operating costs. Detailed information on this sub-component is presented in Annex 3.

63. **Component 3 – Project Management (cost = EUR 1.2 million).** This component would support the day-to-day management of the proposed Project by the MoECR with assistance of a dedicated team of individual consultants who would provide managerial, fiduciary and technical support to the implementation of the proposed Project for its full duration. This component would finance *inter alia* (i) consultants' fees, (ii) targeted technical assistance in areas such as procurement, citizen engagement, grievance redress and others related to the proposed Project, (iii) training activities, (iv) logistical support to training activities, and (v) operating costs.

64. This component would finance: (i) project monitoring studies or surveys, including surveys on citizen engagement, (ii) the required annual project audits, as well as the (iii) design and implementation of a project-specific Grievance

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<sup>26</sup> Including the Government that was appointed in November 2019. The World Bank team in charge of the preparation of the proposed Project met this Government on December 2 to 10, 2019.

<sup>27</sup> The HEIP would finance minor civil works for the renovation of learning spaces of eligible pedagogical colleges. Any minor civil works that may be needed for the implementation of proposals prepared by higher education institutions should be financed from sources other than the HEIP.



*Redress Mechanism (GRM)*. The project's GRM should build on existing and similar mechanisms and be able to capture grievance through various channels including telephone and Internet-based applications for computers and smart phones. The results of the Project's GRM should be made public by the MoECR.

### **C. Project Beneficiaries**

65. Direct beneficiaries of the proposed Project would include: (i) 91,000 higher education students,<sup>28</sup> (ii) 4,100 pedagogical college students,<sup>29</sup> and (iii) 4,400 teachers of public universities and pedagogical colleges. Direct project beneficiaries would also include 30,000 job seekers and 5,000 employers who would use the LMIS to address their needs in terms of job vacancies and skills in high demand.

66. Regarding institutional beneficiaries, the proposed Project would also enhance the capacity of the MoECR, NAQAER, Moldovan public universities and pedagogical colleges. The capacity of the MoHLSP through NEA (as a project beneficiary) would also be enhanced through the Project.

### **D. Results Chain**

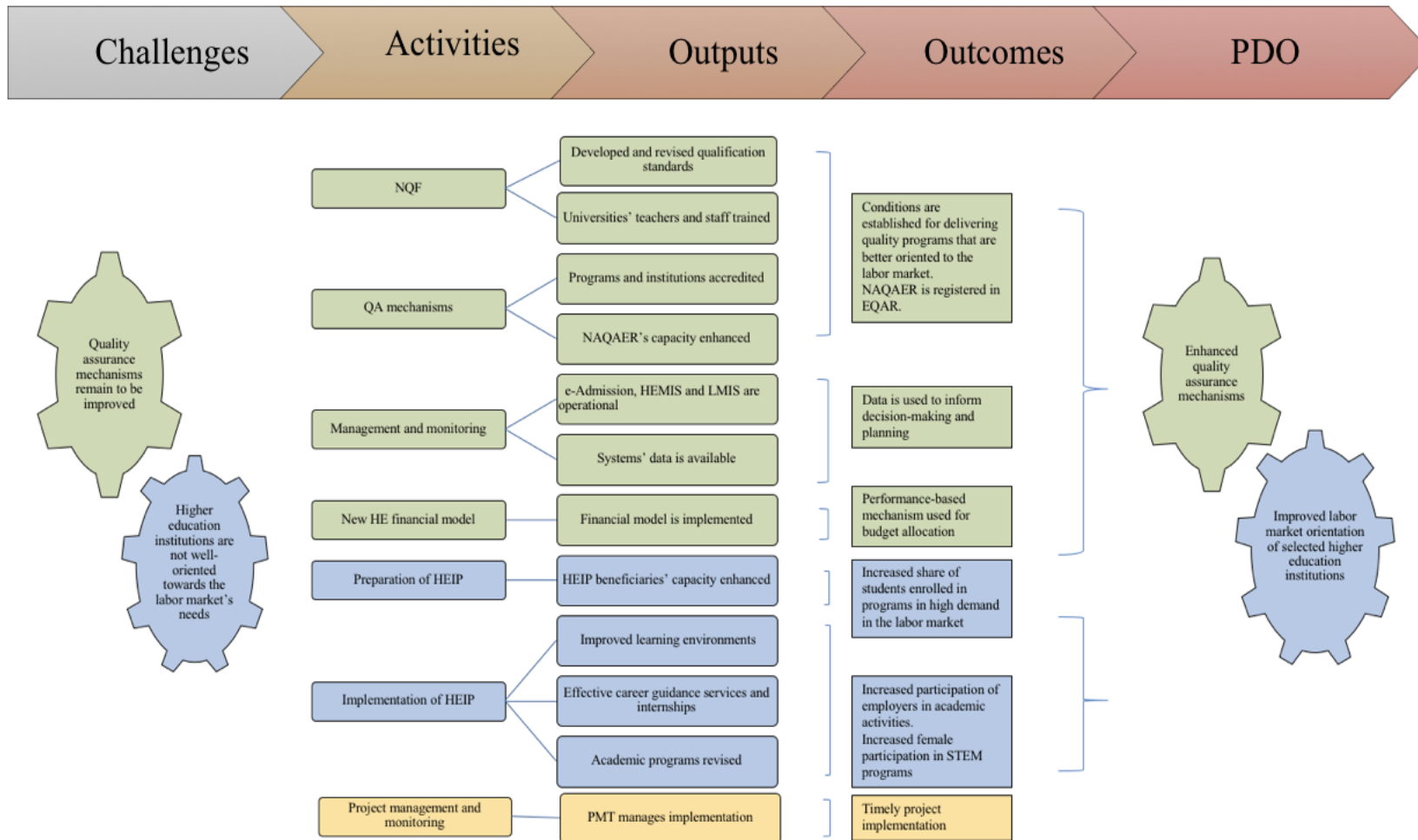
67. The theory of change for the proposed Project is built on the current challenges related to Moldovan higher education institutions's limited labor market orientation and quality assurance mechanisms. The diagram below illustrates the project results chain.

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<sup>28</sup> Estimated number of students to benefit from the Project over 5 years. It includes 1<sup>st</sup> year students for project implementation years 2 to 5.

<sup>29</sup> *ibid*

**Figure 1. Project Results Chain**





## E. Rationale for Bank Involvement and Role of Partners

68. There are three main reasons that justify the World Bank's involvement in higher education in Moldova through the proposed Project; these reasons are presented below.

- First, the World Bank has broad experience in supporting the implementation of activities to improve the quality and labor market relevance of higher education systems across the world, as well as in Europe and Central Asia region in particular. This experience will be valuable, given the GoM's plans to improve the efficiency of the country's system, while also enhancing its quality and relevance.
- Second, the World Bank is currently financing the implementation of the ongoing Moldova Education Reform Project (MERP), which focus on improving learning conditions of selected general education schools, strengthening education monitoring systems and promoting efficiency reforms. There is an interesting alignment between the packages of interventions proposed for the higher education Project and those under implementation (existing Project), yet those are for different education levels. Moreover, students currently enrolled in schools that are benefitting from the ongoing Project would likely be the beneficiaries of the proposed one. Thus, there is a logical linkage between these two projects.
- Third, the World Bank and other development partners have been supporting Moldova's education system over the past ten years, but the higher education sector has not been well assisted. The European Union had supported the country's VET system. The Government of Romania has been investing in preschool education. UNICEF has been supporting programs to address challenges in equity, financing and preschool education. But, again, higher education has been historically underserved by development organizations.

## F. Lessons Learned and Reflected in the Project Design

69. *Bottom-up implementation approaches can be helpful to improve the labor market orientation of higher education systems.* The results of the Africa Centers of Excellence Programs, such as the ones implemented in Ghana and Burkina, show the importance of: (i) bottom-up approaches that allow for education institutions to better understand their challenges and prepare investment programs to address them in alignment with the national development priorities/strategies and labor market's needs; and (ii) competitive and transparent funding schemes for the achievement of the expected results. These lessons were considered for the overall project design and HEIP's implementation scheme more specifically.

70. *Even in challenging higher education contexts, it is worthwhile pursuing innovative approaches at the level of universities.* Across many of the Moldovan universities there is a desire for meaningful progress with innovations. Although the country's context puts constraints on university innovation, some creative leaders who the World Bank team met during the preparation of the proposed Project showed that they are finding ways to move their universities forward with innovative ideas. For instance, one university has approached its finances to provide budget flexibility and investment, although in modest amounts. It has been pursuing entrepreneurial activities, such as opening a university store. It has been incentivizing new behaviors through awarding bonuses and developing investment funds to co-finance research projects. This university has been intentional about changing the mindsets of staff that historically have impeded innovation. While other universities reported about some of these elements, they efforts are not as comprehensive as this one. However, across a group of universities met by the World Bank team, there is a desire to innovate even if they are only now beginning to do so. This lesson was considered for the design of the HEIP funded by component 2.



71. *The engagement of stakeholders and the wider society during the preparation of a project with interventions in system's governance and financing, such as the proposed one, is a critical factor of success.* Major issues encountered in the initial stages of the World Bank-funded Belarus Education Modernization Project were related to a lack of awareness and engagement among/of local authorities about the project activities. Local actors and beneficiary institutions needed to be fully involved and encouraged to take the ownership of that project. This lesson was taken into account for the preparation of the proposed Project and for designing its interventions in financing and governance.

72. *There are successful cases of competitive processes for the selection of proposals for investment programs in labor market relevance/orientation and research.* Evidence from labor market relevance/orientation and research projects ECA region (for instance, the Croatia Science Technology Project funded by the World Bank) and other regions (for instance, the Chile Millennium Science Initiative Projects, as well as projects from Uruguay, Vietnam, Indonesia and Ghana) shows that a competitive selection process focused on excellence in research led to improvements in research quality, research productivity, human capital development and labor market relevance/orientation of academic programs. These experiences were considered for the design of the HEIP funded by component 2.

### III. IMPLEMENTATION ARRANGEMENTS

#### A. Institutional and Implementation Arrangements

73. The MoECR plays a key role in policymaking, strategic planning and monitoring in/of higher education in Moldova. Other institutions with relevant roles in higher education are the NAQAER and universities. The MoF is responsible for budgeting. Within this context, the proposed Project would be implemented by: (i) the MoECR for components 1 and 3, as well as sub-component 2.1; and (ii) selected public higher education institutions and pedagogical colleges for sub-component 2.2 (implementation of HEIP). The MoHLSP through the NEA would be a project beneficiary.

74. The capacity of the MoECR's needs to be supplemented for the implementation of the proposed Project, as showed by the capacity assessment that was carried out during the project preparation. Therefore, a team of dedicated key individual consultants shall be maintained throughout the project implementation to supplement the technical and fiduciary capacity of the MoECR without establishing any additional units or duplicating functions. The team of dedicated key individual consultants (hereinafter "the Project dedicated consultants") would include a Project Coordinator and specialists in procurement, financial management and monitoring and evaluation among others (see additional information in Annex 1).

75. The MoECR has experience with the implementation of projects financed by international development organizations, including the World Bank. At present, the MoECR is implementing the MERP (Credit N° 6181-MD) with assistance from a team of individual consultants who are knowledgeable about the World Bank's procedures and policies. The MoECR has decided to build on the capacity of MERP's team of consultants for the purposes of the proposed Project, while also supplementing this capacity with additional functions to ensure an adequate implementation.

76. The Project dedicated consultants would be responsible for day-to-day project management activities including the fiduciary functions (financial management, disbursement and procurement) and monitoring and evaluation. They would oversee the implementation of the HEIP, under which each beneficiary would be responsible for its own compulsory fiduciary functions. In addition to the fiduciary functions of the Project dedicated consultants, the



proposed Project would finance specialized fiduciary assistance for the implementation of the HEIP under sub-component 2.1, so that there would be two Procurement Specialists (the one of the team of dedicated consultants and one specific for the HEIP) and two Financial Management Specialists (similarly) supported by the Project. Moreover, each HEIP beneficiary shall provide for fiduciary functions in its proposal (compulsory requirement for proposal approval), which could be funded either by the program (sub-component 2.2) or other sources. These arrangements comprise a multi-layer fiduciary approach for the proposed Project: (i) team of dedicated consultants' fiduciary functions, (ii) HEIP-wide specialized fiduciary assistance, and (iii) mandatory HEIP beneficiary-specific fiduciary functions. Detailed information about the financial management, disbursement and procurement arrangements for the HEIP would be defined in the HEIPOM.

77. The Project dedicated consultants shall include: one Project Coordinator, one Financial Management Specialist, one Procurement Specialist, one Monitoring and Evaluation Specialist, one HEIP Officer and one Social and Environmental Specialist. The HEIP Officer and the Social and Environmental Specialist are necessary because of the nature of the proposed package of interventions to be funded by the Project and the new Environmental and Social Framework applicable to it. The HEIP Officer would play a technical and supervisory role, rather than a fiduciary role for the implementation of the program. The latter would be also responsible for all matters related to citizen engagement and grievance redress under the Project. The selection of these individual consultants shall be done based on the Terms of Reference acceptable to the World Bank. The responsibilities of each of these consultants shall be described in the POM and the respective Terms of Reference shall be included as Annexes to this manual. The effectiveness of the proposed Project would be conditional to the hiring of the Project Coordinator, Procurement Management Specialist, Financial Management Specialist and Monitoring and Evaluation Specialist.

78. The Project Coordinator would be the liaison officer between the MoECR and the World Bank, as well as between the MoECR and project beneficiaries such as the MoHLSP/NEA and NAQAER. He or she should report to the Project Director (MoECR's staff) that will be appointed by the Minister of Education, Culture and Research. In addition to the specialists mentioned above, the MoECR is encouraged and would be allowed to hire as many individual consultants as need to assist with the implementation of specific project activities and fiduciary control over the course of the implementation. MoECR's departments that would play a clear role in the implementation of the proposed Project include those responsible for (i) higher education, (ii) NQF, and (iii) information, communication and technologies.

79. The MoHLSP through the NEA would benefit from the implementation of sub-component 1.2. Individual consultants would be hired through the proposed Project to (i) assist the NEA with the management of the LMIS and (ii) liaise with the Project dedicated consultants, MoECR and MoHLSP. Representative(s) of the MoHLSP/NEA would take part in evaluation committees to be established for procurement activities related to the development of the LMIS. These arrangements would allow for both representing MoHLSP/NEA's interests in the implementation of the activities in reference, as well as enabling a regular flow of information between the two ministries.

## **B. Results Monitoring and Evaluation Arrangements**

80. The PDO-level and intermediate results indicators would be monitored using the following sources and methodologies: (i) analysis of data generated by the e-Admission system, HEMIS and LMIS; (ii) results from the system-wide graduate tracer study to be funded by the proposed Project; (iii) regular administrative data collection processes; (iv) surveys with beneficiaries; (v) other monitoring and evaluation studies which may be needed and carried out during the project implementation; and (vi) progress reports to be prepared by the Project dedicated consultants.





81. The Project dedicated consultants would be responsible for gathering the relevant reports and information from MoECR's representatives, NEA's staff, HEIP beneficiaries, and other relevant parties involved in the project implementation to monitor the PDO and results, and for communicating with the World Bank every quarter. The proposed Project would also support the enhancement of the MoECR's and universities' capacity to plan, monitor and evaluate policy and programs, especially with the use of data from HEMIS, e-Admission and LMIS.

82. *Monitoring of gender and citizen engagement.* The project results framework includes one indicator on the share of women enrolled in STEM programs developed or improved through the HEIP, as well as one indicator on effective citizen engagement mechanisms. The former would be used to monitor the gender gap on occupational segregation that is expected to be addressed through the HEIP. Data from sources such as the HEMIS would be analyzed by the Project dedicated consultants every six months. The monitoring of gender issues related to the Project would also include the analysis of gender disaggregated data, such as the number of female students of project-supported universities who benefit from internships through the HEIP. The monitoring of citizen engagement would include the measurement of the effective engagement of beneficiaries through participatory mechanisms such as university open days and workshops.

### C. Sustainability

83. The GoM is committed to improving the efficiency, quality and labor market orientation of its higher education system, as recently informed to the World Bank. The World Bank's team responsible for the preparation of the Proposed Project met high level officials of the GoM that was appointed in November 2019 for in-depth technical discussions during the final stage of the project appraisal (early December 2019). While there is still no written strategy or plan with detailed information on the priority actions that the GoM wants to take in the short- and medium-terms, the World Bank was informed about the Government's commitment to the consolidation of the network of public universities, as well as with improving higher education quality, labor market orientation and efficiency. The MoECR is preparing a National Higher Education Program for 2020 – 2030 that is expected to be approved by late January 2020. The MoECR informed the World Bank that this program includes actions that would build on and be aligned with the systemic interventions in quality assurance, financing and monitoring capacity that the proposed Project would finance. The nature and scope of these initiatives and their alignment with project-supported activities suggest that the envisioned project objective is sustainable.

84. In addition to the GoM's commitment to higher education, the Project itself is addressing three factors that are critical to the sustainability of its development objectives. Firstly, existing evidence show that there are no financial incentives for performance in Moldova's higher education system, at present. The existing financial model is based on historical data and contributes to inefficiencies and low accountability in the system. With the implementation of a new financial model, there will incentives for universities to perform and improve the quality of their academic programs. This new model would contribute to an increased efficiency, when implemented. Secondly, the proposed interventions aimed at improving the higher education system's quality assurance mechanisms are also expected to increase the system's efficiency. For example, they would help with addressing current academic inefficiencies, mainly by tackling the lack of relevance of some university programs. Thirdly, the HEIP will only finance improvement programs with clear approaches and objectives to boost labor market orientation, while also improving research and learning conditions.



## IV. PROJECT APPRAISAL SUMMARY

### A. Technical, Economic and Financial Analysis

85. The economic and financial analysis confirms that the project's investments of EUR 35.7 million (US\$ 39.4 million equivalent)<sup>30</sup> planned for 2020 - 2025 is well justified and that the proposed interventions are likely to bring private and public benefits and savings far exceeding the project's initial costs. The benefits of the proposed Project are driven by the development and revision of qualification standards and the improvement of the quality assurance mechanism (component 1), and the improvement of the labor market orientation of the higher education system (component 2). As a result of the proposed interventions to enhance quality and labor market orientation, the proposed Project would have a positive influence on skill development and upgrading, the skill mismatch between firms and graduates, and Moldova's labor market performance as a whole in the medium and long term.

86. **Expected development impact.** By enhancing the labor market orientation of degrees and programs, a reduction in the skill gap is expected and thus an improvement in firm-graduate matching, which would lead to better labor market outcomes in terms of employment, worker fulfilment, and income tax revenue. Internal and external quality assurance would improve the functioning of the Moldovan higher education system to ensure effective improvements in the future. The economic analysis takes into consideration the declining number of enrolled students and graduates from higher education institutions.

87. The economic analysis uses a cost-benefit economic model that accounts for the cash flow generated by a person over the course of his or her productive lifetime. The underlying assumption is that an enhanced learning environment at the university level has a positive impact on student achievement.<sup>31</sup> In turn, higher student achievement leads to higher earning for individuals over the course of their lifetimes and faster economic growth for nations (component 1).<sup>32</sup> Moreover, the model takes into account the reduction in the training cost that firms need to undertake due to the skills mismatch between the skill supply—provided by the higher education system—and the skills demanded in the labor market by firms (component 2).

88. The Table below displays the net present value (NPV) of the total quantifiable benefits and costs associated with the proposed Project. The analysis accounts for the project direct costs and loan servicing fees, and the long-term indirect costs such as maintenance and depreciation expenses that the Republic of Moldova would incur to safeguard the benefits associated with the proposed Project.

89. The baseline scenario presents a net present value of USD 271.18 million, and a benefit-to-cost ratio of 4.19— an equivalent internal rate of return of 16.18%— which indicates that the proposed Project is a promising investment in higher education. It is important to note that the model utilized in the analysis captures only part of the project benefits and therefore underestimates overall gains. The analysis does not capture the improved outcomes in the labor market and adult life indicators such as better health, lower criminality or better-informed voters, which are associated with better cognitive and non-cognitive skills that the proposed Project would enhance. By the same token,

<sup>30</sup> The economic and financial analysis considers the project costs and amounts in US Dollar, rather than Euro.

<sup>31</sup> Brooks, D. C. (2011). "Space matters: The impact of formal learning environments on student learning." *British Journal of Educational Technology* 42 (5):719-726

<sup>32</sup> Hanushek E.A. & L. Woessmann (2008). "The Role of Cognitive Skills in Economic Development", *Journal of Economic Literature*, 46(3), pp. 607-688.

the economic model does not capture either the medium and long-term benefits associated with the improved external and internal quality assurance and its importance for higher education institutions in Moldova.

**Table 2. Summary of Costs and Benefits**

<b>Benefits</b>	<b>USD</b>
<i>Lifelong increased earnings: males</i>	95,507,3332
<i>Lifelong from increased earnings: females</i>	157,158,036
<i>Employer decreased training costs (10 years)</i>	103,414,797
<b>NPV of total benefits</b>	<b>356,080,167</b>
<b>Costs</b>	
<i>Direct project costs</i>	35,158,693
<i>Indirect project costs (30 years)</i>	49,140,216
<i>Loan servicing and fees</i>	698,269
<b>NPV of total costs</b>	<b>84,904,580</b>
<i>NPV (benefits minus costs)</i>	271,175,586
<b>Benefit to cost ratio</b>	<b>4.19</b>
<b>Internal Rate of Return (IRR)</b>	<b>16.18%</b>

90. The economic analysis is presented in detail in Annex 2. It includes a sensitivity analysis for the following scenarios: (i) different parameters for the impact of the Project on student achievement; (ii) different wage growth rates; and (iii) different discount rates. The sensitivity analysis confirms that the proposed Project is a good investment for Moldova in all the cases considered, contributing to higher earnings for graduates with an improved learning environment and lower training costs for employers.

## **B. Fiduciary**

### **(i) Financial Management**

91. The MoECR with assistance of a specialist of the team of dedicated consultants would be responsible for the project financial management (FM) function. The Project dedicated consultants would oversee the implementation of the HEIP by selected universities and colleges under sub-component 2.2. The transfer of funds, reporting and monitoring mechanisms for these programs would be described in the HEIPOM.

92. A sample of institutions eligible for benefiting from the HEIP was assessed in May and June 2019, and it was concluded that they have adequate systems in place to manage the flow of funds and report back to the MoECR on the use of funds. The project *FM risk is deemed substantial* due to lack of experience of most potential HEIP beneficiaries with the management of donors' funds. To mitigate this risk, an experienced and dedicated team of individual consultants would need to be in place and: (i) provide substantial support to HEIP beneficiaries including



through trainings in FM, reporting and project record maintenance requirements; and (ii) establish a robust monitoring mechanism for HEIP funds allocated to beneficiaries. Moreover, additional fiduciary support for HEIP beneficiaries and for the Project dedicated consultants would be envisaged as necessary, and the HEIP beneficiaries would be required to keep project related records in an adequate accounting software. The Project dedicated consultants would enhance its accounting system and make it capable of keeping accurate and up-to-date project records and generating financial reports according to the World Bank's and GoM's requirements.

93. The Project dedicated consultants would manage a segregated Designated Account (DA) to be opened in the National Bank of Moldova for disbursement of project funds. The funds under HEIP will flow from the DA to the beneficiaries' accounts in tranches (first one as an advance), also opened through the Treasury system, based on payment requests received from beneficiaries and in accordance with criteria and procedures to be stated in the HEIPOM. The beneficiaries may pre-finance the eligible expenditures from their own funds and be reimbursed upon submission of supporting documents.

94. The Project dedicated consultants would prepare quarterly Interim Unaudited Financial Reports (IFR) which would include the transfers and actual expenditures under the HEIP. Annual audits would be supported by the Project dedicated consultants in accordance with the Terms of Reference to be developed and agreed with the World Bank. The audits would be carried out by audit firms acceptable to the World Bank. The audits would also focus on *inter alia* checking the eligibility of activities under the HEIP. Each project audit report would be submitted within six months after the end of calendar year. Further details on the project FM arrangements are provided in Annex 1.

## **(ii) Procurement**

95. Procurement under the proposed Project would be carried out in accordance with the World Bank Procurement Regulations for Investment Project Financing Borrowers – Procurement in Investment Project Financing of Goods, Works, Non-Consulting and Consulting Services, issued on July 1, 2016, revised on November 1, 2016 and August 1, 2018 (hereinafter referred to as “Procurement Regulations”), as well as with the latest Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits.

96. An assessment of the capacity of the MoECR was carried out in July 2019 and duly recorded in the Procurement Risk Assessment Management System. Details on this assessment are provided in Annex 1. The World Bank team assessed the risks to implement procurement processes. The key issues and risks concerning procurement for implementation of the proposed Project include: (i) limited knowledge and experience with procurement regulations; (ii) delays in the development of technical specifications and Terms of References (ToR), as well as limited capacity for developing high quality documents; (iii) delays with the evaluation of bids/proposals; (iv) delays with the implementation of contracts and, more specifically, with the approval of deliverables under consulting contracts; (v) limited capacity of universities and pedagogical colleges to carry out procurement with the budgets envisioned under the HEIP.

97. The following mitigation measures have been recommended to mitigate the risks mentioned above: (i) the World Bank should provide in-depth training on the new approach to procurement and specifically on procurement regulations both to the MoECR and HEIP beneficiaries; (ii) the MoECR and HEIP beneficiaries should employ technical experts to enhance their capacities, particularly in the areas where there is a lack of expertise; (iii) the MoECR and HEIP beneficiaries should establish clear internal procedures on the participation and role of their staff in the procurement processes, define these procedures in the POM and HEIPOM and make both manuals available and



known to all the relevant staff and beneficiaries; (iv) the MoECR and HEIP beneficiaries should closely follow up and monitor the performance of consultants to avoid delays in contract implementation, by establishing a proper contract administration mechanism (regular inspections/meetings), and creating suitable provisions for deliverables linked to payments; (v) the World Bank should conduct more frequent supervision support visits; (vi) the MoECR through the team of dedicated individual consultants should provide regular support and guidance to HEIP beneficiaries; and (vii) HEIP beneficiaries shall provide for fiduciary functions in their proposals (compulsory requirement for proposal approval); if the beneficiary lacks these functions internally, these should be funded either by the program (sub-component 2.2) or other sources.

98. The World Bank would exercise its project procurement oversight through a risk-based approach comprising prior and post review and independent procurement reviews, as appropriate. The MoECR has developed a Procurement Plan (PP) for the entire scope of the proposed Project, and this plan is consistent with the Project Implementation Plan. The PP specifies prior review thresholds. Post reviews would be conducted on the procurement processes undertaken by the MoECR, through the Project dedicated consultants, and by HEIP beneficiaries to determine whether the contracts comply with the requirements of the Project Financing Agreement, POM and HEIPOM. The proposed Project would use the Systematic Tracking of Exchanges in Procurement (STEP) platforms, which is an online tool for procurement planning and tracking to prepare, clear and updated the PP.

**C. Legal Operational Policies**

	Triggered?
Projects on International Waterways OP 7.50	No
Projects in Disputed Areas OP 7.60	No

**D. Environmental and Social**

99. The proposed project components are environmentally harmless, except for the HEIP (sub-component 2.2), which would support minor civil works for renovation of up to 6 pedagogical colleges. The activities to procure goods (and minor civil works, in the case of pedagogical colleges) should be necessarily connected with expected improvements in research, learning and labor market orientation.

100. Project activities would be implemented nationwide, but specific project locations have not yet been identified, at this stage of the preparation. Project beneficiaries would include universities in the areas of pedagogy, information technologies, engineering and health, as well as pedagogical colleges, and would be selected in accordance with some criteria to be defined by the MoECR. Most of these higher education institutions are located in Chisinau. These institutions are located in urban areas, on lands belonging to the state. General problems that usually characterize such areas include inadequate water supply, wastewater, solid waste management, high energy consumption, loss of green and natural spaces, air pollution and noise from traffic, poor public services, lack of job opportunities, and need for better healthcare. These issues are exacerbated by the population density and demands for urban environments.

101. While the proposed Project would not directly finance activities to generate a significant impact (negative or positive) on the mentioned general urban problems, the sub-component that includes minor civil works to improve the learning environments of the selected pedagogical colleges would carefully consider all these aspects during the



implementation phase.

102. The minor civil works in selected pedagogical colleges would take place under the existing footprint. They would not generate adverse environmental impacts on or substantial risks to the human population. *The environmental risks associated with these minor civil works are classified as moderate* under the World Bank Environmental and Social Framework (ESF). The moderate risk rating is proposed because the likely impacts are predictable, and expected to be temporary, reversible, low in magnitude, site specific, limited to the immediate surroundings, and can be managed through the implementation of cost-effective mitigation measures.

103. No adverse impacts such as involuntary land acquisition, as well as impacts on indigenous peoples, biodiversity and habitats are expected. *Social risks related to project activities are deemed low, at this stage.* Issues of social inclusion, especially vulnerable and disadvantaged groups, and inclusive public outreach have been discussed with the counterparts to enable a more equal access to project benefits. The MoECR has prepared a Stakeholder Engagement Plan (SEP), which maps the main stakeholders and project beneficiaries. The SEP will be updated throughout the lifetime of the Project to ensure that it reflects the reality of the implementation.

104. Except for the proposed minor civil works for the renovation of existing pedagogical colleges' learning spaces and purchasing of equipment, other activities proposed under the Project are environmentally harmless. The associated environmental impacts would be limited and typically include: dust, noise, on-site safety and waste management. The expected environmental impacts may include also health impacts related with inadequate handling and disposal of asbestos containing material. Since the use of asbestos is not sufficiently regulated in Moldova, the World Bank will also require application of adequate occupational health and safety practices for this dangerous material. In addition, considering that the envisioned civil works would be mainly undertaken in education institutions, it is critical to maintaining the health and safety of students, teachers, non-teaching staff, vendors, visitors and nearby communities throughout the implementation of the works.

105. Given that the approval of proposals for investments in the infrastructure of pedagogical colleges would be conditional to the fulfilment of the requirements to be defined in the POM, a draft Environmental and Social Management Framework (ESMF), a draft SEP and draft Labor Management Procedures (LMP) have been prepared by the MoECR in line with the Environmental and Social Standards (ESS). The ESMF will provide for the screening of selected colleges during implementation using the checklist to be developed and the development of associated Environmental Social and Health Impact Assessments and Environmental Social Management Plans (ESMP), if required.

106. Detailed analysis of the application of the World Bank standards of the proposed Project has been provided as part of the Environmental and Social Review Summary. The proposed Project would address the needed environmental and social measures through the implementation of an Environmental and Social Commitment Plan (ESCP), which has been prepared by the MoECR. The current version of the ESCP was approved by the World Bank. The following ESS would apply to the proposed Project: ESS1, ESS2, ESS3, ESS4 and ESS10. Consultations on the draft ESMF, SEP, and LMP took place prior to project appraisal.

107. While the MoECR has experience with the preparation and implementation of projects supported by the World Bank, this would be the first Project subject to the World Bank's ESF in Moldova. The MoECR's capacity to apply the new requirements of the ESF and to prepare the environmental and social risk management measures and instruments (like the ESMP) is yet to be enhanced. This institutional capacity enhancement would be done in



accordance with the ESCP.

108. The Project dedicated consultants would have full responsibility for the implementation and supervision of the ESMF and related site-specific ESMP, as well as the SEP and LMP. The Project dedicated consultants would include a Social and Environmental Specialist to ensure compliance with the applicable social and environmental requirements.

109. A summary of the assessment of the environmental and social risks and impacts is presented below.

The proposed Project components are environmentally neutral except for the HEIP Phase 1 (sub-component 2.2), which would support minor civil works for renovation of up to 5 pedagogical colleges. Minor civil works and supply of goods will be required for the expected improvements in research, learning and labor market relevance.

While the proposed Project would not directly finance activities to generate a significant impact (negative or positive) on the mentioned general urban problems, the sub-component that includes minor civil works to improve the learning environments of the selected pedagogical colleges would consider carefully all these aspects and incorporate into the design of works as feasible.

The minor civil works in selected pedagogical colleges would take place within the existing footprint. They would not generate adverse environmental impacts on or substantial risks to the human population. The likely impacts are predictable, and expected to be temporary, reversible, low in magnitude, site specific, limited to the immediate surroundings, and can be managed through the implementation of cost-effective mitigation measures. No adverse impacts such as involuntary land acquisition, as well as impacts on indigenous peoples, biodiversity and habitats are expected.

Social risks related to project activities are generally low at this stage. Issues of social inclusion, especially vulnerable and disadvantaged groups, and inclusive public outreach have been discussed with the counterparts to enable a more equal access to project benefits.

The Project is designed to improve the quality of higher education, improve the labor market relevance of higher education, and promoting lifelong learning opportunities. To address needs in this sector, the Project will aim to support public universities and colleges, and ultimately benefit any students (including from vulnerable and disadvantaged communities) seeking education there.

## E. Climate Vulnerability, Gender and Citizen Engagement

110. *Climate Vulnerability.* The climate vulnerability context relevant to the Project is presented in the first section of this document. To address Moldova's vulnerability to natural disasters, which are aggravated by climate change, the proposed Project would contribute to the GoM's adaptation and mitigation measures through targeted interventions under the HEIP that include financial incentives to selected universities and pedagogical colleges (see Section II.B). The climate co-benefit related to these interventions is currently estimated at 4.9 percent.

111. *Gender.* The first section of this document presents an analysis of a gender gap/issue on the currently segregated employment occupational structure of Moldova. To address this issue, the proposed Project would finance activities through the HEIP to increase the enrolment of women in STEM programs. These activities are well-aligned with the World Bank's gender agenda for Moldova. The project results framework includes an indicator to monitoring the gender gap on occupational segregation.

112. *Citizen Engagement.* The proposed Project's citizen engagement approach is multi-dimensional. It includes activities that would pro-actively engage citizens in planning at the outset and monitoring during implementation,



as well as a continuous feedback mechanism. Specifically:

- *Participatory planning and decision-making* activities would utilize an innovative online interactive tool to engage with and collect suggestions from university and pedagogical college students and teachers, as well as relevant representatives of the labor market. This civic technology platform would be customized to support: (i) the preparation of proposals for financing through the HEIP, and (ii) the engagement of students in the revision of the curricula. Targeted information and awareness building materials would ensure that students with disabilities and from disadvantaged backgrounds are given the opportunity to provide informed inputs and fully participate in the planning and decision-making processes established for the preparation of HEIP proposals and curricula revision.
- *Participatory monitoring* activities such as annual open days and follow-up workshops would empower students and teachers to effectively verify and monitor the progress with the implementation of the HEIP awarded proposals.
- *A feedback mechanism* would be established through annual perception surveys with project beneficiaries, starting in year 2, to obtain their opinion on (i) the effectiveness and utilization of citizen engagement approaches, and (ii) their satisfaction with the civic technology platform established for the Project. Survey findings would be collated and discussed in discussion forums, such that they inform the implementation of the HEIP and the revision to the curricula. These results would be reported in the results framework.

## V. GRIEVANCE REDRESS SERVICES

113. Communities and individuals who believe that they are adversely affected by a World Bank (WB) supported project may submit complaints to existing project-level grievance redress mechanisms or the WB's Grievance Redress Service (GRS). The GRS 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 WB's independent Inspection Panel which determines whether harm occurred, or could occur, as a result of WB non-compliance 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 (GRS), please visit <http://www.worldbank.org/en/projects-operations/products-and-services/grievance-redress-service>. For information on how to submit complaints to the World Bank Inspection Panel, please visit [www.inspectionpanel.org](http://www.inspectionpanel.org).

## VI. KEY RISKS

114. *The overall project risk is rated high* given the volatile political context, the declining economic growth that could hinder investments in higher education, the sensitiveness of the proposed change in higher education financing and the consolidation of universities, as well as the fiduciary risks associated to the HEIP. The volatile political context poses challenges to the preparation and implementation of the proposed Project, as explained in detail below. The possibility that high-level staff of public universities will push back the implementation of the highly sensitive plan to rationalize the network of public universities and the performance-based financial model poses a risk to the launch





and implementation of the HEIP. Measures to mitigate these risk factors are mentioned below.

115. *Political and governance risk is rated high.* Political changes in Moldova have been frequent in the recent past and uncertainty became the new norm. Such fragile political stability poses a high risk to the proposed Project, which would (i) support public universities while their network is being rationalized by the GoM and (ii) finance the implementation of the new higher education financial model. The parliamentary majority and government formed in June 2019 paved the way to de-oligarchizing the country and brought opportunities for reforms, but was ousted from power in November 2019. Institutional memory has been lost due to high staff turnover. Moreover, given the nature of the governing coalition, the risk of early parliamentary elections or re-shuffling of most of the legislative is high. This risk would be mitigated by the GoM together with the World Bank and other development partners and stakeholders to continuously assess the progress with the relevant reforms and the ties holding the political coalition, provide advice on the sequencing and pace of reforms, and provide hands-on support to address capacity limitations through technical assistance.

116. *Macroeconomic risk is rated high* due to declining and highly volatile growth, reflecting the agricultural sector's vulnerability to climate shocks, the economy's heavy reliance on foreign remittances and capital inflows, and low and declining productivity. Slowing or reversing progress on reforms, including under the International Monetary Fund program, or a less prudent fiscal stance could erode the fiscal sustainability. In addition, long-term challenges to economic growth, like ageing, large emigration flows, low productivity, and low or inadequate skills of the workforce, require sustained actions to improve competitiveness and public sector efficiency. Despite the declared determination of the GoM, major efforts and political will are needed to accelerate the implementation of relevant reforms. Fighting corruption, strengthening institutions and leveling the playing field for all market participants, would unleash productivity, currently held back by weak performance of state-owned companies and barriers to market competition. The persistent emigration hinders the country's efforts to develop its human capital currently among the key constraints for private sector to boost its productivity. To mitigate this risk, the GoM and the World Bank will work together to implement programs and Project-supported activities aimed at improving the quality of higher education and the labor market orientation of academic programs to ultimately increase the employability of young graduates and the productivity of workers.

117. *Sector strategy and policies risk is rated high.* While the GoM is committed to rationalize the country's higher education system and make it more efficient and of better quality and relevance, there is a high risk that the envisioned reforms and programs, including the highly sensitive merging and/or closing of public universities and the implementation of a performance-based financial model, will be pushed back by high level staff of some universities and their political allies. To mitigate this risk, the proposed Project would finance a package of interventions (component 1) that would be transformational to improve the higher education system's efficiency and would complement the consolidation of the network of universities that the GoM is conducting while the Project is being prepared. A communications strategy would be also supported by the proposed Project to raise awareness on the interventions that are being designed and/or implemented, as well as on their expected outcomes.

118. *Project technical design risk is rated substantial.* While there is a clear need to advance the fundamental interventions on quality and efficiency (component 1) as much and as soon as possible, there is a risk that the MoECR will put an emphasis on the HEIP (and universities are likely to put pressure on the Ministry for this to happen), which may hinder the plan for sequencing the implementation of the whole set of interventions. There is also a risk associated with the preparation and evaluation of high-quality proposals for financing through the HEIP, as well as the subsequent implementation of the improvement programs. To mitigate this risk, the World Bank and the MoECR have



agreed upon a Project Implementation Plan, which will be part of the POM and establishes the correct sequence for the implementation of the proposed interventions. During the supervision support visits, the World Bank team will follow-up with the MoECR on the execution of this Plan. Capacity building activities would be also financed through component 2 to mitigate the risk with proposals preparation and approval.

119. *Institutional capacity for implementation and sustainability risk is rated substantial.* While the MoECR has experience with the implementation of projects financed by the World Bank and other development partners, substantial shortcomings have been observed during the implementation of the ongoing MERP over the past 12 months. The MoECR's capacity has been affected by staff turnover and cuts from the most recent organizational restructuring. Additionally, there is the overall risky political environment, as mentioned above, which may pose challenges to the implementation of the proposed (and any other) Project. Moreover, there is a risk that not all envisioned HEIP beneficiary institutions would have the adequate capacity to implement the improvement programs. This risk will be mitigated with project support to capacity strengthening activities (components 1 and 2), and World Bank's implementation supervision support (see Annex 1).

120. *Fiduciary risk is rated high.* The procurement risk associated with the implementation of the proposed Project is high because of the: (i) MoECR's limited knowledge and experience with procurement regulations; (ii) delays with procurement activities under the ongoing MERP; and (iii) uneven and overall limited capacity of universities and pedagogical colleges to carry out procurement with the budgets envisioned under the HEIP. The project financial management risk is deemed substantial due to the arrangements and controls related to the proposed HEIP, which would be implemented by selected public universities and pedagogical colleges. To mitigate the risk, the Project dedicated consultants would include qualified Procurement and FM Specialists to (i) be assigned to the proposed Project, (ii) train HEIP beneficiaries on project procurement, FM and disbursement requirements, and (iii) establish a robust monitoring mechanism for the use of funds under the HEIP. Moreover, HEIP beneficiaries would provide for fiduciary functions in their proposals and finance these functions from HEIP or other sources if these capacities are limited or lacking in their institutions.

121. *Environmental and social risk is rated moderate.* The proposed minor civil works for selected pedagogical colleges would take place under the existing footprint. They would not generate adverse environmental impacts on or substantial risks to the human population. *The environmental risk associated with these minor civil works is deemed moderate* under the ESF. The moderate risk rating is proposed because the likely impacts are predictable, and expected to be temporary, reversible, low in magnitude, site specific, limited to the immediate surroundings, and can be managed through the implementation of cost-effective mitigation measures. No adverse impacts such as involuntary land acquisition, as well as impacts on indigenous people, biodiversity and habitats are expected. *Social risks related to project activities are deemed low.* To mitigate this risk, relevant issues such as social inclusion, especially of vulnerable and disadvantaged groups, and inclusive public outreach have been discussed with the counterparts to enable a more equal access to project benefits. The MoECR has also prepared a draft SEP, which maps the main stakeholders and project beneficiaries. The SEP will be updated throughout the lifetime of the Project to ensure that it reflects the reality of the implementation.

122. *Stakeholder risk is rated high.* The MoECR's has mapped the relevant stakeholders for the purposes of the preparation and implementation of the proposed Project. This mapping is included in the SEP, which will be updated over the course of the implementation of the proposed Project. However, there is a high risk that Moldovan public universities, mainly the smallest institutions, will push back the GoM's plans and actions to merge public universities and implement a performance-based financial model. To mitigate this risk, the proposed Project would finance the



implementation of a communications strategy to raise awareness on these important interventions and their expected outcomes. It would also finance a package of interventions aimed at improving the higher education system's efficiency that would complement the consolidation of the network of universities.



VII. RESULTS FRAMEWORK AND MONITORING

Results Framework  
COUNTRY: Moldova  
Higher Education Project

Project Development Objectives(s)

The Project Development Objective is to improve the labor market orientation of selected higher education institutions and the quality assurance mechanisms.

Project Development Objective Indicators

Indicator Name	DLI	Baseline	Intermediate Targets					End Target
			1	2	3	4	5	
<b>To improve the labor market orientation of selected higher education institutions</b>								
Share of students of selected higher education institutions enrolled in Bachelor and Master's programs of government's priority areas (Percentage)		0.00	0.00	0.00	5.00	10.00	15.00	15.00
Perception of employers about the labor market orientation of selected higher education institutions' programs (Percentage)		0.00	0.00	0.00	0.00	0.00	25.00	25.00
<b>To improve the quality assurance mechanisms</b>								
New Master's programs accredited based on the		0.00	0.00	0.00	0.00	5.00	10.00	10.00



Indicator Name	DLI	Baseline	Intermediate Targets					End Target
			1	2	3	4	5	
revised curriculum (Percentage)								
Registration of NAQAER in EQAR (Text)		NAQAER is not registered in EQAR	NAQAER is not registered in EQAR	NAQAER is not registered in EQAR	NAQAER is registered in EQAR	NAQAER is registered in EQAR	NAQAER is registered in EQAR	NAQAER is registered in EQAR

**Intermediate Results Indicators by Components**

Indicator Name	DLI	Baseline	Intermediate Targets					End Target
			1	2	3	4	5	
<b>1 - Improving the Quality Assurance Mechanisms</b>								
Higher education qualification standards developed and revised (Number)		0.00	75.00	175.00	280.00	300.00	300.00	300.00
Bachelor and Master's programs updated in accordance with the qualification standards developed and revised through the Project (Percentage)		0.00	0.00	0.00	10.00	20.00	30.00	30.00
Higher education students benefiting from systemic interventions in quality, information systems and financing (Number)		0.00	44,000.00	56,000.00	69,000.00	80,000.00	91,000.00	91,000.00
of which are female students (Number)		0.00	25,000.00	33,000.00	40,000.00	47,000.00	53,000.00	53,000.00



Indicator Name	DLI	Baseline	Intermediate Targets					End Target
			1	2	3	4	5	
Staff of MoECR, NAQAER and higher education institutions trained in higher education quality assurance through the Project (Number)		0.00	0.00	100.00	230.00	230.00	230.00	230.00
New financial model (Text)		New financial model has been developed, but has not been piloted yet	New financial model is piloted in higher education institutions with financial autonomy	New financial model is piloted in higher education institutions with financial autonomy	New financial model is implemented system-wide	New financial model is implemented system-wide	New financial model is implemented system-wide	New financial model is implemented system-wide
Higher Education Management Information System (HEMIS) (Text)		HEMIS does not exist	HEMIS does not exist	HEMIS is being developed and tested	HEMIS is operational	HEMIS is operational and its data is used for planning or decision-making	HEMIS is operational and its data is used for planning or decision-making	HEMIS is operational and its data is used for planning or decision-making
Unified electronic higher education admission system (e-Admission) (Text)		There is no unified electronic higher education admission information system	There is no unified electronic higher education admission information system	The e-Admission system is being developed and tested	e-Admission system is operational	e-Admission system is operational	e-Admission system is operational	e-Admission system is operational
Labor Market Information System (LMIS) (Text)		LMIS does not exist	LMIS does not exist	LMIS is being developed and tested	LMIS is operational	LMIS is operational and its data is used for planning or decision-making	LMIS is operational and its data is used for planning or decision-making	LMIS is operational and its data is used for planning and decision-making
<b>2 - Improving the Labor Market Orientation through Targeted Interventions</b>								
Laboratories of selected higher education institutions equipped (Number)		0.00	0.00	0.00	3.00	6.00	9.00	9.00
Higher Education Improvement Programs approved in accordance with the criteria established		0.00	0.00	20.00	50.00	80.00	90.00	90.00



Indicator Name	DLI	Baseline	Intermediate Targets					End Target
			1	2	3	4	5	
in the Project Operations Manual (Percentage)								
Students benefiting from direct interventions to enhance learning (CRI, Number)	0.00	0.00	0.00	28,000.00	35,000.00	42,000.00	49,000.00	49,000.00
Students benefiting from direct interventions to enhance learning - Female (CRI, Number)	0.00	0.00	0.00	16,000.00	20,000.00	24,000.00	29,000.00	29,000.00
Partnerships between universities, pedagogical colleges and employers established through the HEIP (Number)	0.00	0.00	0.00	0.00	5.00	9.00	15.00	15.00
Share of women enrolled in STEM programs developed or improved through the HEIP (Percentage)	0.00	0.00	0.00	0.00	0.00	10.00	20.00	20.00
Research or academic programs contributing to climate change adaptation or mitigation developed or improved through the HEIP (Number)	0.00	0.00	0.00	0.00	1.00	3.00	4.00	4.00
<b>3 - Project Management</b>								
Project beneficiaries reporting that effective engagement processes have been established (Percentage)	0.00	0.00	0.00	0.00	0.00	0.00	30.00	30.00



Monitoring & Evaluation Plan: PDO Indicators

Indicator Name	Definition/Description	Frequency	Datasource	Methodology for Data Collection	Responsibility for Data Collection
Share of students of selected higher education institutions enrolled in Bachelor and Master's programs of government's priority areas	This indicator measures the increase in the share of students of selected higher education institutions that are enrolled in Bachelor and Master's programs of government's priority areas. This indicator will capture a shift in the trend of the enrollment of students of selected higher education institutions in Bachelor and Master's programs that are well-oriented towards the labor market. It is meant to provide a quantitative measure of the labor market orientation of selected academic programs. Selected higher education institutions are those benefiting from Component 2 according to the criteria approved by the World	Every six months	HEMIS and LMIS databases when these systems are operational. Additionally and until the start of the implementation of these systems, databases maintained by project-supported institutions, MoECR and the National Bureau of Statistics would be used	The Project dedicated consultants with assistance of staff of selected higher education institutions will analyze data on the enrollment of students on a regular basis. A detailed methodology for data collection would be provided in the POM.	MoECR's Higher Education Department with assistance of the Project dedicated consultants and selected higher education institutions' staff.





	<p>Bank. These institutions should be indicated in the POM and HEIPOM.</p> <p>Priority areas are those identified by the GoM as labor market relevant: engineering, information technologies, health (medicine) and pedagogy. It will measure the increase in the share of enrolled students, so the baseline is zero (zero increase). The end target is 15% increase from the baseline.</p> <p>Given that the selected higher education institutions are currently unknown, the baseline cannot be determined now. However, the baseline shall be determined in the 1st year of the implementation of the Higher Education Improvement Program or as soon as the selected higher education institutions are known, so the increase from the baseline could be measured and monitored.</p>		as data sources.		
Perception of employers about the labor market orientation of selected higher	This indicator measures the increase of employers'	In alignment with the	Data will be collected	The MoECR will hire a firm to carry out	Firm to be selected for carrying out the



<p>education institutions' programs</p>	<p>perception about the labor market orientation of selected higher education institutions' programs. It is meant to provide a qualitative measure of the labor market orientation of selected academic programs.</p> <p>Selected higher education institutions are those benefiting from Component 2 according to the criteria approved by the World Bank. These institutions should be indicated in the POM.</p> <p>This indicator measures an increase in the perception of employers about the labor market orientation of programs, so the baseline is zero (zero increase). The end target is 25% increase from the baseline.</p>	<p>methodology for the collection of data through surveys with employers. At least two surveys would be carried, one in year 1 or 2, and the 2nd survey in year 5 of the project implementation.</p>	<p>through at least two surveys with employers.</p>	<p>surveys with employers. These can be the same surveys to be carried out with project beneficiaries (see intermediate indicator of Component 3) or separate surveys. The methodology for these surveys should be proposed by the firm to be selected by the MoECR, but the surveys should include questions able to capture the perception of employers about the labor market orientation of academic programs (example: on the extent to which the skills of graduates has been becoming closer to employers' needs). At least two surveys should be carried out: one in year 1 or 2 (for the baseline), and another in year 5 (for the end target) of the project implementation.</p>	<p>surveys. This firm will report to the MoECR.</p>
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<p>New Master's programs accredited based on the revised curriculum</p>	<p>This indicator measures the increase in the share of new Master's programs accredited based on the revised curriculum. The curriculum of Master's programs will be revised based on the qualification standards to be developed/revised through the Project. Thus, this indicator will measure an important outcome of the project interventions in higher education quality.</p> <p>The baseline is zero because this indicator will measure the increase in the share of programs. The end target is 10% increase from the baseline. The end target was estimated as 10% increase because of the time needed to first develop the qualification standards, which will be followed by the also time consuming revision of the curriculum and the accreditation</p>	<p>Every six months.</p>	<p>Documents prepared by (i) the MoECR's NQF Directorate on the development of qualification standards, (ii) MoECR's Higher Education Department and universities on the revision of the curriculum, and (iii) NAQAER on the accreditation of Master's programs.</p>	<p>The Project dedicated consultants will analyze the mentioned documents on a regular basis</p>	<p>MoECR's through the Project dedicated consultants</p>
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	process per se. These are three lengthy processes, hence the end target.				
Registration of NAQAER in EQAR	This indicator measures the status of the registration of the NAQAER in EQAR. The registration of NAQAER in EQAR is fundamental for the recognition of diplomas issued by Moldovan universities in Europe. Thus, this indicator captures a quintessential feature of the quality assurance mechanisms applicable to higher education in Moldova.	Every six months	NAQAER's reports and documents	The MoECR through the Project dedicated consultants will analyze documents and reports prepared by the NAQAER to monitor the progress with the registration in EQAR	MoECR's Higher Education Department with assistance of the Project dedicated consultants

**Monitoring & Evaluation Plan: Intermediate Results Indicators**

Indicator Name	Definition/Description	Frequency	Datasource	Methodology for Data Collection	Responsibility for Data Collection
Higher education qualification standards developed and revised	This indicator measures the number of higher education qualification standards developed and revised through the Project	Every six months	MoECR NQF Directorate's documents and reports	The Project dedicated consultants will analyze documents and reports on the development and revision of qualification standards prepared by the NQF Directorate on a regular basis. These documents	MoECR's NQF Directorate with assistance of the Project dedicated consultants



				and reports will be prepared based on the outputs delivered by the organization(s) selected by the MoECR for the development and revision of the standards.	
Bachelor and Master's programs updated in accordance with the qualification standards developed and revised through the Project	This indicator measures the percentage of Bachelor and Master's programs updated in accordance with the qualification standards developed and revised through the Project. The development/revision of qualification programs is time consuming, hence the end target of 30%.	Every six months.	Documents and reports prepared by the NQF Directorate and universities on the development and revision of qualification standards and updating of Bachelor and Master's programs	The Project dedicated consultants with assistance of staff of academic departments of universities will analyze the data from the sources mentioned above on a regular basis	MoECR's NQF Directorate and Higher Education Department with assistance of the Project dedicated consultants and universities' academic departments
Higher education students benefiting from systemic interventions in quality, information systems and financing	This indicator measures the number of higher education students benefiting from systemic interventions in	Every six months	HEMIS database, when this system is	The Project dedicated consultants with assistance of staff of universities'	MoECR's Higher Education Department with assistance of the Project dedicated



	quality, information systems and financing over the course of the implementation of the Project		operational. Otherwise, databases maintained by Moldovan public universities, MoECR and the National Bureau of Statistics.	departments responsible for student registration will analyze data from the mentioned sources on a regular basis	consultants and staff of universities' departments responsible for student registration
of which are female students	This indicator measures the number of female higher education students benefiting from systemic interventions in quality, information systems and financing over the course of the implementation of the Project	Same as for the parent indicator	Same as for the parent indicator	Same as for the parent indicator with a remark that data disaggregated by gender will be analyzed	Same as for the parent indicator
Staff of MoECR, NAQAER and higher education institutions trained in higher education quality assurance through the Project	This indicator measures the number of staff of the MoECR, NAQAER and higher education institutions trained in higher education quality assurance through the Project.	Every six months	Documents and reports (e.g. list of participants in training activities) on the training of staff of the MoECR, NAQAER and higher	The Project dedicated consultants will analyze data from the mentioned sources on a regular basis	MoECR's Higher Education Department and NAQAER with assistance of the Project dedicated consultants and universities' staff



			education institutions in higher education quality assurance during the implementation of the Project.		
New financial model	This indicator measures the progress with the implementation of the new higher education financial model	Every six months	Documents prepared by the MoECR's Higher Education Department and Ministry of Finance	The Project dedicated consultants will analyze documents prepared by the MoECR and the Ministry of Finance on the implementation of the new higher education financial model on a regular basis	MoECR with assistance of the Project dedicated consultants
Higher Education Management Information System (HEMIS)	This indicator measures the status of the development and implementation of the HEMIS. The measurement of the implementation of the HEMIS includes the utilization of its data for planning or decision-making.	Every six months	Documents prepared by the MoECR's Higher Education Department on the development and implementation	The Project dedicated consultants will analyze documents prepared by the MoECR on the development and implementation of the HEMIS on a regular basis	MoECR's through the Project dedicated consultants



			on of the HEMIS		
Unified electronic higher education admission system (e-Admission)	This indicator measures the status of the development of the unified electronic higher education admission (e-Admission) system	Every six months	Documents prepared by the MoECR's Higher Education Department on the development of the e-Admission system	The Project dedicated consultants will analyze documents (e.g. outputs prepared by the firm to be hired by the MoECR for the development of the system) on the development of the e-Admission system on a regular basis	MoECR through the Project dedicated consultants
Labor Market Information System (LMIS)	This indicator measures the status of the development and implementation of the LMIS. The measurement of the implementation of the LMIS includes the verification of the utilization of its data for planning or decision-making.	Every six months	Documents prepared by the NEA on the development and implementation of the LMIS. Additional data sources are documents prepared by universities and the MoECR on	The Project dedicated consultants with assistance of the NEA will analyze the data from the mentioned sources on a regular basis. Focus group discussions with staff of universities should be organized to verify the utilization of LMIS's data by universities.	MoECR with assistance of the Project dedicated consultants and NEA





			the modernization or adaptation of strategies and programs based on LMIS's data.		
Laboratories of selected higher education institutions equipped	<p>This indicator measures the number of laboratories of selected higher education institutions equipped through the HEIP. Selected higher education institutions are those benefiting from the HEIP according to the criteria approved by the World Bank. These institutions should be indicated in the POM and HEIPOM. It is expected that at least one laboratory would be equipped in each beneficiary university by the Project Closing Date.</p>	Every quarter after the launch of the HEIP	Documents on the implementation of HEIP-funded activities including progress reports	The Project dedicated consultants with assistance of the teams responsible for the implementation of the HEIP will analyze the data from the mentioned source on a regular basis	MoECR's Higher Education Department with assistance of the Project dedicated consultants and teams responsible for the implementation of the HEIP
Higher Education Improvement Programs approved in accordance with the criteria established in the Project Operations Manual	This indicator measures the share of Higher Education Improvement Programs approved in accordance	Every quarter after the launch of	HEIP implementation documents	All approved HEIP shall be in full compliance with the requirements and criteria defined in	MoECR's Higher Education Department with assistance of the Project dedicated



	with the criteria established in the HEIPOM. All approved HEIP shall be in full compliance with the requirements and criteria defined in the HEIPOM. However, it is expected that some programs submitted for evaluation would not be approved according to the HEIPOM, hence the end target of 90%.	the HEIP	mainly reports on the evaluation of proposals prepared by eligible applicants	the HEIPOM. However, it is expected that some programs submitted for evaluation would not be approved according to the HEIPOM, hence the end target of 90%. The Project dedicated consultants will analyze the documents on the implementation of the HEIP on a regular basis.	consultants
Students benefiting from direct interventions to enhance learning		Every quarter	Databases and documents of HEIP's beneficiaries. HEMIS database when this system is operational	Analysis of documents and databases of HEIP's beneficiaries to be done by the Project dedicated consultants. Analysis of HEMIS database when this system is operational.	MoECR's Higher Education Department with assistance of the Project dedicated consultants; HEIP's beneficiaries through the teams responsible for the implementation of the improvement programs
Students benefiting from direct interventions to enhance learning - Female		Every quarter	Same as for the parent indicator	Same as for the parent indicator, but with data disaggregated by gender	Same as for the parent indicator
Partnerships between universities, pedagogical colleges and employers established through the HEIP	This indicator measures the number of partnerships between universities,	Every quarter after the	HEIP implementation	Analysis of HEIP implementation documents to be done	MoECR's Higher Education Department with assistance of



	pedagogical and employers that are established through the HEIP. It is estimated at at least one partnership would be established by HEIP beneficiary institution by the Project Closing Date.	launch of the HEIP	documents such as memorandum of understanding and partnership agreement	by the Project dedicated consultants	the Project dedicated consultants. HEIP's beneficiaries through the teams responsible for the implementation of the improvement programs would also collect data to measure this indicator
Share of women enrolled in STEM programs developed or improved through the HEIP	This indicator measures the increase in the share of women enrolled in STEM programs developed or improved through the HEIP. This indicator will measure the increase in the share of enrolled women, so the baseline is zero (zero increase). The end target was estimated based on the assumption that it will take some time to change women's behavior towards enrollment in STEM programs.	Every quarter after the launch of the HEIP	HEIP's documents and HEIP beneficiaries' documents (such as enrollment/registration reports). HEMIS database when this system is operational	Analysis of HEIP's documents and HEIP beneficiaries' documents. Analysis of HEMIS's reports when this system is operational. Once the baseline is available, the increase will be measured in comparison with this baseline. Example: baseline = 40% in 2022 with a subsequent measurement of 44% in 2023 would represent a 10% increase	MoECR's Higher Education Department with assistance of the Project dedicated consultants; HEIP's beneficiaries through the teams responsible for the implementation of the improvement programs
Research or academic programs contributing to climate change adaptation or mitigation developed or improved through the HEIP	This indicator measures the number of research or academic programs in technologies, processes or policies contributing to	Every quarter after the launch of the HEIP	HEIP implementation documents such as	Analysis of HEIP implementation documents to be done by the Project dedicated consultants	MoECR's Higher Education Department with assistance of the Project dedicated consultants; HEIP's



	climate change adaptation or mitigation, which are developed or revised through the HEIP. It is expected that at least 4 research or academic programs would be developed or revised by universities that are eligible for financing under the HEIP (the end target represents programs of around 50% of the total number of eligible universities).		reports from universities' academic departments		beneficiaries through the teams responsible for the implementation of the improvement programs
Project beneficiaries reporting that effective engagement processes have been established	This indicator measures the increase in the share of project beneficiaries who report that effective engagement processes have been established through the Project. Beneficiaries to be considered for the measurement of this indicator include university and pedagogical college students, their teachers, staff of their institutions, and representatives of firms from the major sectors that employ graduates from their institutions. Effective engagement processes	Two surveys with project beneficiaries, one for the baseline and another for the end target.	Surveys with beneficiaries to be carried out by a firm to be selected by the MoECR.	The methodology for the two surveys will be developed by the firm to be hired by the MoECR.	Firm to be hired by the MoECR. The Project dedicated consultants will oversee the implementation of the tasks defined in the contract with this firm.



	require participatory approaches to involve beneficiaries in.				
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## ANNEX 1: Implementation Arrangements and Support Plan

### I – Implementation Arrangements

1. The proposed Project would be implemented by (i) the MoECR for components 1 and 3, as well as sub-component 2.1, and (ii) selected public universities and pedagogical colleges for sub-component 2.2 (HEIP).
2. *MoECR's Capacity.* The capacity of the MoECR's needs to be supplemented for the implementation of the proposed Project, as showed by the capacity assessment that was carried out during the project preparation. Therefore, a team of dedicated key individual consultants shall be maintained throughout the project implementation to supplement the technical and fiduciary capacity of the MoECR without establishing any additional units or duplicating functions. The team of dedicated key individual consultants would include a Project Coordinator and specialists in procurement, financial management and monitoring and evaluation among others.
3. The MoECR has experience with the implementation of projects financed by international development organizations, including the World Bank. At present, the MoECR is implementing the MERP with assistance of a team of individual consultants who are knowledgeable about the World Bank's procedures and policies. The MoECR has decided to build on the capacity of MERP's team of consultants for the purposes of the proposed Project, while also supplementing this capacity with additional functions to ensure an adequate implementation.
4. The Project dedicated consultants would be responsible for day-to-day project management activities including the fiduciary functions (financial management, disbursement and procurement) and monitoring and evaluation. They would oversee the implementation of the HEIP, under which each beneficiary would be responsible for its own compulsory fiduciary functions. In addition to the fiduciary functions of the Project dedicated consultants, the proposed Project would finance specialized fiduciary assistance for the implementation of the HEIP under sub-component 2.1, so that there would be two Procurement Specialists (the one of the team of dedicated consultants and one specific for the HEIP) and two Financial Management Specialists (similarly) supported by the Project. Moreover, each HEIP beneficiary shall provide for fiduciary functions in its proposal (compulsory requirement for proposal approval), which could be funded either by the program (sub-component 2.2) or other sources. These arrangements comprise a multi-layer fiduciary approach for the proposed Project: (i) team of dedicated consultants' fiduciary functions, (ii) HEIP-wide specialized fiduciary assistance, and (iii) mandatory HEIP beneficiary-specific fiduciary functions. Detailed information about the financial management, disbursement and procurement arrangements for the HEIP would be defined in the HEIPOM.
5. The Project dedicated consultants shall include the following specialists: one Project Coordinator, one Financial Management Specialist, one Procurement Specialist, one Monitoring and Evaluation Specialist, one HEIP Officer and one Social and Environmental Specialist. The HEIP Officer and the Social and Environmental Specialist are necessary because of the nature of the proposed package of interventions to be funded by the Project and the new Environmental and Social Framework applicable to it. The HEIP Officer would play a technical and supervisory, rather than fiduciary role for the implementation of the program. The Social and Environmental Specialist would be also responsible for all matters related to citizen engagement and grievance redress under the Project. The selection of these consultants shall be done based on the Terms of Reference acceptable to the World Bank. The responsibilities of each of these individual consultants shall be described in the POM and the respective Terms of Reference shall be included as Annexes to this manual. The effectiveness of the proposed Project will be conditional to the hiring of the Project Coordinator, Procurement Specialist, Financial Management Specialist and



Monitoring and Evaluation Specialist.

6. The Project Coordinator would be the liaison officer between the MoECR and the World Bank. He or she should report to the Project Director (MoECR's staff) that will be appointed by the Minister of Education, Culture and Research. MoECR's departments that would play a clear role in the implementation of the proposed Project include those responsible for (i) higher education, (ii) NQF, and (iii) information, communication and technologies.

7. The MoHLSP through the NEA would benefit from the implementation of sub-component 1.2. Individual consultants would be hired through the proposed Project to (i) assist the NEA with the management of the LMIS and (ii) liaise with the Project dedicated consultants, MoECR and MoHLSP. Representative(s) of the MoHLSP/NEA would take part in evaluation committees to be established for procurement activities related to the development of the LMIS. These arrangements would allow for both representing MoHLSP/NEA's interests in the implementation of the activities in reference, as well as enabling a regular flow of information between the two ministries.

8. In addition to the core dedicated consultants mentioned above, the MoECR is encouraged and would be allowed to hire as many individual consultants as need to assist with the implementation of specific project activities and fiduciary control over the course of the implementation.

### ***Financial Management***

9. The overall FM functions under the Project, including budgeting and planning, accounting and reporting, internal control procedures, flow of funds and external audit would be handled by the Project dedicated consultants working with the MoECR. A full FM assessment was carried out for the Project in May – July 2019 and it indicates that the existing FM arrangements in the MoECR satisfy the World Bank's fiduciary requirements and financial management operational policies. *The overall project FM risk was assessed as substantial*, given that most of the potential HEIP beneficiaries have no experience in managing donors' funds and reporting on their use, including funds managed by the World Bank. To mitigate this risk, the following actions should be undertaken by the Project dedicated consultants:

- extensively train HEIP beneficiaries in FM and disbursement procedures;
- establish a robust monitoring and control mechanism for HEIP funds;
- keep an updated and detailed description of HEIP financial arrangements (including internal control mechanisms, accounting and reporting procedures, funds flow and auditing) in the HEIPOM;
- enhance its automated accounting system and make it capable of keeping accurate and up-to-date project records and generating financial reports to meet the World Bank's and GoM's requirements.

10. Additional measures include the provision of specialized fiduciary support to HEIP beneficiaries and the Project dedicated consultants as necessary, and the requirement for HEIP beneficiaries to keep the project related records in their individual accounting software.

11. The management team for the ongoing MERP has experience with implementing World Bank financed projects and it is staffed with a qualified FM Specialist. Its FM performance has been assessed as satisfactory over time. The financial reports and audits are up to date and acceptable to the World Bank.



12. *Budgeting and Planning.* The Project dedicated consultants would be responsible for the preparation of the annual project budget based on the Project Implementation Plan and Project Procurement Plan. Project budgeting would follow the budget framework of the Ministry of Finance. Overall, project budget would form the basis for allocating funds to project activities. The budget would be prepared in enough detail, by activities and account codes, and broken down by quarters. The approved project's annual budgets would be entered into the accounting system to be used for project FM (see more information on this system below) and used for periodic comparison with actual results as part of the interim reporting.

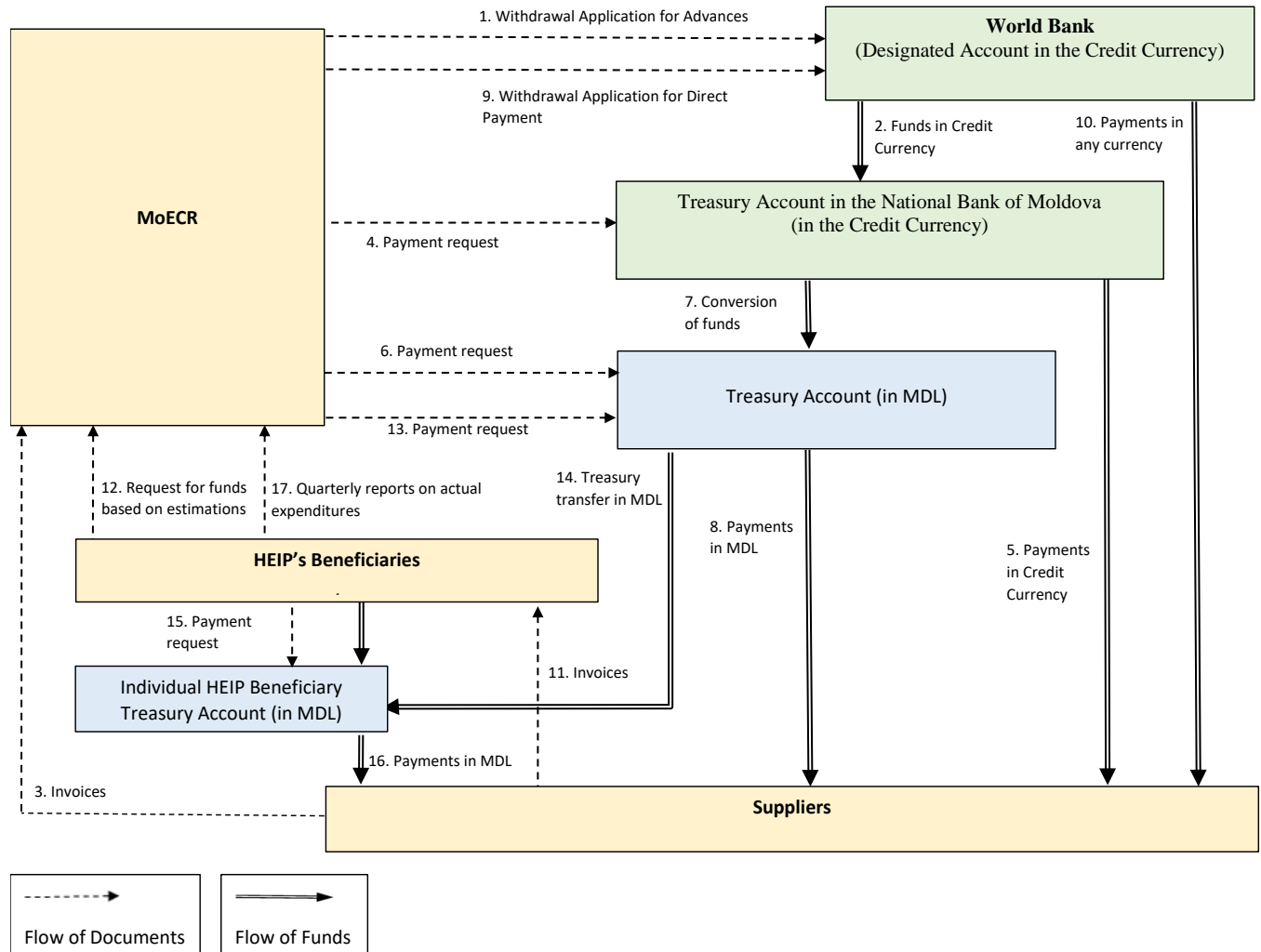
13. *Accounting.* For financial reporting and accounting purposes, the Project dedicated consultants would use cash basis International Public Sector Accounting Standards for the project reporting. The accounting policies and procedures would be documented in the POM and HEIPOM. The Project dedicated consultants would operate the 1C accounting software, and project accounting would be tracked through this system. The software would produce Interim Unaudited Financial Reports (IFR) in accordance with formats agreed with the World Bank. HEIP beneficiaries would also be required to use automated accounting systems for keeping records in relation to the project financing.

14. *Internal Controls.* The internal control system for the proposed Project would be described in the POM and HEIPOM. The HEIPOM shall include the related flow of funds flow, reporting, monitoring and accountability functions, as well as internal control mechanisms over the use of funds by selected universities and colleges.

15. *Flow of Funds.* The diagram below presents the flow of project funds for both the centralized and decentralized (related to the HEIP) implementation approaches. It also shows the flow of documents related to the disbursement of project funds.



**Figure 2. Flow of Funds (and Documents)**



16. *Financial Reporting.* The Project dedicated consultants would submit quarterly IFR that would be generated by the accounting system based on formats agreed with the World Bank. The reports, to include Statement of Sources and Uses of Funds, Uses of Funds by Project Activities (Components & Expenditure Categories), Statement of the Designated Account (DA), and Breakdown of Transfers and Actual Expenditures per Beneficiary of the HEIP, would be submitted to the World Bank within 45 days of the end of each quarter, with the first reports under the proposed project being submitted after the end of the first full quarter following initial disbursement. Draft formats of these IFRs would be agreed upon with the MoECR and defined in the POM. The HEIP beneficiaries would be required to report quarterly to the Project dedicated consultants on the execution of their budgets according to the terms defined in the HEIPOM.

17. *External audits.* The audits of the proposed project would be conducted: (i) on an annual basis; (ii) by independent auditors and on terms of reference acceptable to the World Bank; and (iii) according to the



International Standards on Auditing (ISA) issued by the International Auditing and Assurance Standards Board of the International Federation of Accountants (IFAC). The terms of reference for the project audits would be prepared by the Project dedicated consultants and sent for World Bank's approval. The audit scope for the proposed Project would be extended and would focus, inter alia, on verifying the compliance of HEIP with the requirements established in the POM and HEIPOM. The annual audited project financial statements together with the audit opinion and a Management Letter would be submitted to the World Bank within six months after the end of the calendar year and at the project closing. In accordance with "The World Bank Policy on Access to Information" dated July 1, 2010, the project financial audit reports would be published within sixty days after their receipt. The reports would be published on the MoECR's web-site. The World Bank would also publish them on its external site.

### ***Disbursement***

18. The Project dedicated consultants would manage a DA opened specifically for the Project in the National Bank of Moldova. The expenditures paid from the DA would be documented to the World Bank through Statements of Expenditure (SoE). Withdrawal applications documenting funds utilized from the DA would be sent to the World Bank at least every three months. DA ceiling would be provided in the Disbursement and Financial Information Letter (DFIL).

19. Transfers to selected universities and colleges under the HEIP would be centralized at the MoECR level and would be made in tranches (first one as an advance), based on payment requests received from beneficiaries and in accordance with criteria and procedures that would be stipulated in the Agreements and the HEIPOM.

20. In addition to the DA, the project funds would flow from the World Bank through direct payment method, reimbursement method and/or special commitments. Detailed instructions on withdrawal of grant proceeds with respect to these methods would be provided in the DFIL.

### ***Procurement***

21. *Project Procurement Strategy for Development (PPSD)*. The PPSD has been developed by the MoECR and agreed with the World Bank. The strategy describes how the procurement approach would support the achievement of the PDO and deliver the best value for money. The proposed Project would finance the procurement of goods, minor civil works, non-consulting and consulting services. Based on the nature, size and complexity of procurement to be financed under the Project, the PPSD suggests the most appropriate methods to be applied in order to achieve value for money.

22. Procurement under project components 1, 2.1 and 3 would be managed by the Project dedicated consultants. Procurement of goods and non-consulting services is envisaged to be of small value for which mainly Request for Quotations approach would be adopted. These are, but not limited to: procurement of logistical services for various training activities, procurement of information and technology equipment for the unit responsible for implementing e-Admission system; procurement of information and technology equipment for the operation of the LMIS; procurement of furniture and procurement of equipment and statistical package for the graduate tracer study. Procurement of consulting services are of various sizes and nature and would follow either open national or open international market approach. All the envisioned consulting contracts have been categorized as low value and low risk. These are, but not limited to: development of e-Admission system and training of users; HEMIS



development, maintenance and training of users; and LMIS development - for which Quality and Cost Based Selection following international market approach has been recommended. Given the strong supply of information and technology services in Moldova, it is expected that both national and international companies would participate in the planned selections. There are several small value consulting contracts for which national market approach would be adopted as there are sufficient capacities in the private sector to undertake these assignments.

23. Procurement under the HEIP would be managed by HEIP beneficiaries within the scope of their approved proposals. This would include procurement of goods, minor civil works (for pedagogical colleges only), consulting, non-consulting services and training. Goods to be procured would be mainly for equipping the laboratories and learning spaces. The MoECR estimates that the cost to equip one university laboratory with modern and appropriate resources is EUR 1.35 million on average. It is expected that procurement of these goods will follow the international market approach. Procurement of minor civil works would be limited to the renovation of existing learning spaces and the respective cost is not expected to be high. For these contracts, the Request for Quotations modality would be applied. Consulting services are of various nature, but of small value and for which the national market approach would be adopted given that existing capacities in the private sector. It is also expected that HEIP beneficiaries, when developing their proposals, accurately assess their procurement capacities and provide for funds to strengthen these capacities with additional expertise to ensure that procurement is carried out in line with the agreed procedures. Detailed procurement arrangements under HEIP would be provided in HEIPOM.

24. *Public Procurement in Moldova.* The Public Procurement Law Number 131, which entered into effect on May 1, 2016, is somehow adjusted to the European Union (EU) Directives. While this law provides good basis for the public procurement system and properly draws the legal framework for a sound public procurement system, it has not been implemented/applied at full. Some of the remaining challenges are to develop and adjust all the necessary secondary legislation and adjust the Standard Bidding Documents to the law and amendments to it. An assessment of the National Procurement Procedures has been carried out in July 2019 as part of the assessment of the implementing agency to conduct procurement under the proposed Project. This assessment concluded that given the ongoing and planned reforms in the public procurement sector and various technical issues encountered by the implementing agency and other parties involved in the proposed project implementation in the use of the electronic procurement system, the World Bank procurement procedures would apply both for procurement under international and national market approaches, with specific arrangements for the national approach procurement.

25. As a central public authority, the MoECR applies the Public Procurement Law and other relevant regulations to conduct procurement for its own needs. There is a Financial and Administrative Section within the Ministry which employs 15 people, but with only 2 staff working on procurement. Generally, procurement for the Ministry's needs is limited to small-value contracts for procurement of supplies, minor works, goods and non-consulting services. In many cases, procurement conducted by the Ministry is not subject to the Public Procurement Law given that contracts are below the thresholds defined in this law, but rather subject to the Government Regulation on Small-Value Procurement. Given the size of the budget of the Ministry, consulting services are not normally procured, and the procurement staff do not have much experience with this type of services.



26. *Procurement Capacity Assessment.* As part of the assessment of the MoECR's capacity carried out for the purposes of the proposed Project, the organizational structure and staffing within the Ministry has been reviewed. The World Bank noted that the implementation of the MERP is struggling with major delays in procurement due to either lack of technical capacity within the MoECR or limited commitment of some staff for working on project-funded activities. There were delays in the preparation of ToRs for consulting services or technical specifications for procurement of goods. Evaluation processes lasted longer than it would generally take for the respective selection method, due to either unavailability of Ministry's staff or reluctance to undertake this task on top of their existing responsibilities. The World Bank recorded these delays and repeatedly made recommendations to improve the process during each project implementation support visit. This issue has been discussed with the Ministry as part of the preparation of the proposed Project and the Ministry assured that relevant staff would be appointed and monitored for a timely implementation.

27. *Capacity Assessment of Universities (Potential Beneficiaries of the HEIP).* As part of the project preparation, the World Bank team assessed three public universities that could be conducting procurement under the HEIP: the Pedagogical University, the Technical University and the Medical University. All these universities apply the public procurement procedures to conduct procurement. However, the complexity and value of procurement is directly linked to the available budget of each university. Detailed information on this assessment is presented below.

28. *USMF "Nicolae Testemitanu" (Medical University).* Given its large procurement budget, this university employs a wide team of professionals in its Procurement Department; all with extensive knowledge of public procurement. This university uses the current e-procurement system for all procurement activities, including those which are outside the Public Procurement Law, i.e. of small-value. There is a well-established internal process with respect to procurement and there are no delays at any stage of the procurement cycle, including contract management and payments. Given the budget, this university procures goods, works, consulting and non-consulting services. This university also has extensive experience with donor-funded projects.

29. *UPS "Ion Creanga" din Chisinau (Pedagogical University).* This institution seems to manage a limited procurement budget. It does not have a dedicated procurement division, nor a Procurement Specialist. Procurement is conducted by the Accounting Unit. Given the budget limitations, this university generally purchases very small value goods and minor civil works. This University benefited from some funding from international institutions, but procurement has been either conducted centrally by the MoECR or by the donor institution. The procurement capacity of an university like this one would have to be strengthened for the implementation of the HEIP.

30. *Technical University of Moldova.* This university has good procurement capacity. It applies public procurement for its procurement and the existing e-procurement system for tendering. This university has good experience with procurement of goods and works, but not of a complex nature and large value. No consulting services have been procured so far. There is a well-established internal system for procurement purposes and generally no delays in the procurement cycle.

31. Given the findings of the assessment mentioned above, the following risks and mitigation measures, as well as responsible parties have been identified:



Matrix 1. Procurement Risks and Mitigations Measures

Risk	Mitigation Measure	Responsible Party	Timeline
Limited knowledge and experience with procurement regulations	More in-depth training on the new approach to procurement and specifically on regulations	World Bank	After project effectiveness
Delays on the MoECR's side to develop technical specifications and ToR, and limited capacities of Ministry's staff to develop high quality documents	Project dedicated consultants to employ technical experts to enhance the MoECR's capacity, particularly in the areas where they lack expertise  Offer continuous support to the MoECR in needs assessment to ensure that these are accurately defined especially given the extensive experience of Project consultants with similar projects	MoECR and Project dedicated consultants	Throughout the project implementation period
Delays on the MoECR's side to evaluate bids/proposals	Establish clear internal procedures on the participation and role of MoECR's staff in the procurement process, define these in the POM and HEIPOM, and make sure that the POM is known and available to all the relevant staff  Employ technical experts where required	MoECR and Project dedicated consultants	At the POM and HEIPOM preparation stage  Throughout the project implementation period
Delays in implementation of contracts and approval of deliverables under consulting contracts due to internal processes	Closely follow up and monitor the performance of consultants to avoid delays in contract implementation through a proper contract administration mechanism (regular inspections/meetings), suitable provisions for deliverable linked to payments where appropriate and timely action in giving notice to consultants for remedying the delays and defaults	MoECR and Project dedicated consultants	Throughout the project implementation period
Limited capacities of universities and colleges to carry out procurement given the complexity and value of planned procurement under the	In-depth training on the new approach to procurement procedures of the World Bank  Procurement supervision conducted on an annual basis and more often if	World Bank  World Bank	After project effectiveness  Throughout the project



HEIP, compared to their existing experience	needed to ensure that procurement is carried out in line with the agreed procedures		implementation period
	Offer ongoing support and guidance throughout the procurement cycle	MoECR and Project dedicated consultants	Throughout the project implementation period
	Procurement function to be strengthened to ensure that two Procurement Specialists provide support to both the MoECR and HEIP beneficiaries. There would be the Procurement Specialist of the dedicated team of Project consultants and the Procurement Specialist to be supported through sub-component 2.1	MoECR and Project dedicated consultants	Throughout the project implementation period
	Procurement function strengthened by employing qualified experts in procurement	HEIP Beneficiaries	Throughout the HEIP implementation period

32. Given the risks mentioned above, the existing MoECR’s capacity and its experience with the World Bank funded projects, as well as the capacity of universities included in the assessment, *the overall procurement risk for proposed Project is deemed high*. The assessment report has been recorded in the Procurement Risk Assessment Management System (PRAMS).

33. *Procurement Documents for the Proposed Project*. World Bank’s Standard Procurement Documents shall be mandatorily used for procurement that would follow the international market approach under the proposed project. For procurement that would follow the national market approach, it has been agreed that the MoECR and HEIP beneficiaries would use either the World Bank’s Standard Procurement Documents or other procurement documents agreed with the World Bank that would be defined in the POM and HEIPOM.

34. *Procurement Plan (PP)*. The MoECR developed a PP, which is consistent with the Project Implementation Plan, for the entire scope of the proposed Project. The PP provides information on procurement packages, selection methods, procurement approach and evaluation methods to be adopted for each contract to be financed under the proposed Project (see table below on Major Procurement Packages). Since HEIP beneficiaries would play a fiduciary role and would individually manage procurement with support from the team of dedicated Project consultants and the specialist financed through sub-component 2.1, each beneficiary would develop a PP in accordance with the approved proposal and upload it in the Systematic Tracking of Exchanges in Procurement (STEP) platform. Each PP developed under the Project and any updates to it shall be submitted to the World Bank



for review and approval. The Textual Part of the PP would provide details on procurement arrangements under the proposed Project. Once approved, all PPs and their updates will be published on the World Bank’s website.

Matrix 2. Major Procurement Packages (as per PP)

Contract Title, Description and Category	Bank Oversight	Market Approach	Selection Method	Expected Announcement Date	Expected Contract Completion Date
Elaboration of Qualification Standards (multiple contracts)	Post review	Open National	CQS	2021	2025
Development of e-Admission System and Training of Users	Prior review	Open International	QCBS	2021	2024
Development and Implementation of Communication Campaigns on e-Admission System	Post-review	Open National	CQS	2021	2025
Development of HEMIS and Training of HEMIS Users	Prior review	Open International	QCBS	2021	2023
Development of the LMIS	Prior review	Open International	QCBS	2021	2023
Implementation of HEIP	Procurement based on submitted and approved proposals			2021	2025

Notes:

- (i) It is envisioned that the elaboration of qualification standards would be done through multiples contracts throughout the project implementation.
- (ii) The remaining contracts are of small value and non-complex nature and relate to the selection of dedicated individual consultants for the Project, procurement of small-value equipment (including information technology equipment), various technical assistance (including assistance with preparation of proposals under HEIP), training and logistical services, communication campaigns, audit and others.

35. *Record Keeping.* All documentation with respect to each procurement would be retained by the MoECR and HEIP beneficiaries according to the requirements of the Project Financing Agreement. The Project dedicated consultants would furnish such documentation to the World Bank upon request for examination by the World Bank or by the auditors. Documents with respect to procurement subject to post review would be furnished to the World Bank upon request and prior to the World Bank visit to conduct the post-review.

36. *Procurement Prior Review Thresholds.* These thresholds were set by the World Bank based on the Project procurement risk level. All contracts at or above the set thresholds are subject to the World Bank’s prior review. The thresholds would be specified in the PP. While currently, Best and Final Offer, procurement processes involving contract negotiations, competitive dialogue and sustainable procurement are not foreseen under the



proposed Project, these would be subject to the World Bank's prior review, if the decision is taken to apply them during project implementation.

37. *World Bank's Procurement Oversight.* The World Bank would exercise its project procurement oversight through a risk-based approach comprising prior and post review and independent procurement reviews, as appropriate. The post reviews would be conducted on the procurement processes (on a sample of 10 percent of post-review contracts) undertaken by the MoECR and HEIP beneficiaries to determine whether they comply with the requirements of the Project Financing Agreement, POM and HEIPOM. Procurement supervision would be carried out at least once in 12 months, or more often, especially for the HEIP. These would include special procurement supervision post-review.

## II – Implementation Support Plan

38. The strategy for supporting the implementation of the Proposed Project is based on the following three approaches: (i) provision of systematic fiduciary oversight throughout the implementation period, (ii) joint review of project implementation progress, and (iii) constant dialogue with MoECR, HEIP's beneficiaries and other relevant institutions.

- *Fiduciary oversight* would enable the World Bank to fulfill its fiduciary obligations and ensure compliance with the applicable fiduciary standards through the ongoing supervision of the Project.
- *Joint reviews*, which would occur semiannually, are aimed at reviewing the progress and achievement of agreed targets and results, as indicated in the Project's Results Framework. The World Bank task team would participate in such reviews with MoECR's and HEIP beneficiaries' representatives and other relevant stakeholders. During each review, the implementation support plan may be adjusted.
- *Constant dialogue with MoECR* would facilitate early identification of problems and obstacles which could potentially delay implementation and would enable timely provision of technical advice and support to remove such obstacles. This approach would contribute to a "just-in-time" identification of issues, without the need to raise these during joint reviews.

39. *FM implementation support and supervision* would include: (i) desk reviews of the Project's quarterly IFRs as well as reviews of Project's audited annual financial statements and annual auditor's report and management letter; and (ii) on-site supervision (twice per year) to review the continuous adequacy of the Project's FM and disbursement arrangements. This would include monitoring and reviewing any agreed actions, issues identified by the auditors, randomly selected transactions, as well as other issues related to project accounting, reporting, budgeting, internal controls, and flow of funds. The on-site reviews may include visits to selected beneficiaries, depending on the level of risk and findings identified throughout the implementation.

40. *Procurement supervision* would be provided through prior reviews in accordance with procurement thresholds. Procurement supervision would be carried out twice per year, through both desk and on-site reviews of procurement arrangements and results, including post review of contracts randomly selected. As needed, on-site procurement training may be provided to the Project dedicated consultants and HEIP beneficiaries' staff upon request.

41. *Implementation Support Plan.* The Implementation Support Plan for the proposed Project is presented in the matrix below.





Matrix 3. Project Implementation Support Plan

Year	Areas of Support	Resource	
		Team Member	Time
Year 1	Technical support: (i) development/revision of qualification standards; (ii) improvement of quality assurance mechanisms; (iii) development and implementation of information systems; (iv) implementation of new financial model; (v) design of a system-wide tracer study; (vi) design of HEIP	Higher Education Specialist	10 weeks
		Operations Officer	10 weeks
	Technical support: (i) development and implementation of information system	Information and Technologies Specialist	6 weeks
	Financial management support	Financial Management Specialist	4 weeks
	Procurement support	Procurement Specialist	4 weeks
Years 2-4	Technical support: (i) development/revision of qualification standards; (ii) improvement of quality assurance mechanisms; (iii) development and implementation of information systems; (iv) implementation of new financial model; (v) design and implementation of a system-wide tracer study; (vi) implementation of HEIP	Higher Education Specialist	20 weeks
		Operations Officer	20 weeks
	Technical support: (i) development and implementation of information system	Information and Technologies Specialist	12 weeks
	Financial management support	Financial Management Specialist	8 weeks
	Procurement support	Procurement Specialist	8 weeks
Year 5	Technical support: (i) development/revision of qualification standards; (ii) implementation of information systems; (iii) implementation of a system-wide tracer study; (iv) implementation of HEIP	Higher Education Specialist	8 weeks
		Operations Officer	8 weeks
	Financial management support	Financial Management Specialist	4 weeks
	Procurement support	Procurement Specialist	4 weeks



## ANNEX 2: Economic and Financial Analysis

1. This Annex presents the rationale for human capital investment and the World Bank's involvement in the proposed Project, followed by the cost-benefit analysis that justifies said investment.
2. The economic analysis confirms that the Project's investments of EUR 35.7 million (US\$ 39.4 million equivalent)<sup>33</sup> planned for 2020 - 2025 is well justified and that the proposed interventions are likely to bring private and public benefits and savings far exceeding the Project's initial costs. The benefits of the Project are driven by the development and revision of qualification standards and the improvement of the quality assurance system (component 1), and the improvement of the labor market orientation of the higher education system (component 2). As a result of the proposed interventions to enhance quality and labor market orientation, the Project would have a positive influence on skill development and upgrading, the skill mismatch between firms and graduates, and Moldova's labor market performance as a whole in the medium and long term.
3. **Expected development impact.** The proposed Project is to be implemented over a five-year period between 2020 and 2025. By enhancing the labor market orientation of degrees and programs, a reduction in the skill gap is expected and thus an improvement in firm-graduate matching, which would lead to better labor market outcomes in terms of employment, worker fulfilment, and income tax revenue. Internal and external quality assurance would improve the functioning of the Moldovan higher education system to ensure effective improvements in the future. The economic analysis takes into consideration the declining number of enrolled students and graduates from higher education institutions.<sup>34</sup>
4. **Rationale for human capital investment.** From an economic perspective, accumulating human capital improves labor productivity; facilitates technological innovations; increases returns to capital; and makes growth more sustainable, which, in turn, supports poverty reduction.<sup>35</sup> Although investment in economic infrastructure is often a popular choice when it comes to economic development and poverty reduction, studies increasingly show that investment in social infrastructure and human capital is even more effective).<sup>36</sup> The following briefly outlines the various benefits of investing in human capital and evidence for the same:
5. **Benefits to economic growth (enterprises).** Economic growth is due mainly to growth in labor productivity and employment, and investment in human capital is directly linked to both.<sup>37</sup> Skills have been found to explain a substantial part of the difference in growth rates among OECD countries. Therefore, accumulating human capital through education and training leads to economic growth and poverty reduction, particularly when the skills acquired are those currently needed in the labor market.<sup>38</sup> A mismatch between skills acquired through education and skills needed in the labor market can result in highly educated workers doing low-productivity jobs or being excluded from

<sup>33</sup> The economic and financial analysis considers the project costs and amounts in US Dollar, rather than Euro.

<sup>34</sup> Estimating the number of beneficiaries from the MHEP requires forecasting the number of students enrolled in higher education in Moldova. This is particularly challenging in Moldova as there is a significant decline in the number of enrolled students in higher education institutions. In 2006, there were almost 130,000 students enrolled in higher education. By 2018, higher education enrollment declined to 60,608 students.

<sup>35</sup> Son, H., (2010). Human capital development; ADB economics working paper series

<sup>36</sup> Atolia, M. Grace, Li, B. Marto, R., Melina, G., (2017). Investing in public infrastructure: Roads or Schools, IMF working paper. Washington DC.

<sup>37</sup> Son, H., (2010). Human capital development; ADB economics working paper series

<sup>38</sup> Son, H., (2010). Human capital development; ADB economics working paper series



the labor market entirely. This is a particularly important observation for economies in emerging Europe, where this mismatch of skills increasingly constrains the growth and productivity of firms.<sup>39</sup>

**6. Benefits to poverty reduction (individuals).** Empirical research shows that building skills (whether cognitive, socioemotional, or technical) can drastically improve employment and social outcomes, as well as civic engagement. In almost all countries worldwide, individuals with higher levels of education enjoy higher employment rates, are more often formally employed, and have higher earnings, with positive changes in earnings being the largest contributor to poverty reduction.<sup>40</sup>

**7. Benefits to the government (efficiency and accountability).** In many countries, education and training are, to a large extent, financed with public funds. Additionally, public expenditures in education and training often make up a large share of the national budget. This economic investment makes it particularly important for these funds to be allocated as efficiently as possible: increases in the efficiency and accountability of education expenditures allow the sector to achieve higher, or even additional, objectives, which can result in: (i) larger number of individuals with better skills for the same amount of financing achieving higher or additional objectives within the education sector; and/or (ii) savings being redirected.

**8. Rationale for World Bank involvement.** The World Bank has been actively engaged in supporting projects in the Republic of Moldova for over 25 years. During this time, it has acquired extensive knowledge of the country's specific challenges and opportunities. Meanwhile, the World Bank has been a worldwide leader in the strengthening of education systems, having assisted in the development of such systems in more than 70 countries. In the Europe and Central Asia region, the World Bank has supported operations to help governments address education sector governance, equity, efficiency, orientation, and sustainability. As such, the World Bank is well-positioned to add value to the higher education system in the Republic of Moldova through the proposed Project.

**9. Rates of return and benefit-cost ratios from interventions elsewhere.** Examples of World Bank projects with similar interventions to those proposed in Moldova, as well as the estimated results they have yielded, or are expected to yield, can be found in Table 2 below. The principal benefits displayed are those suitable to cost-benefit analyses, i.e. actions that create measurable results which can be credibly attributed to the proposed Project in the short and medium term. Such actions are improvements in employment, earnings, and value added to the economy due to interventions in higher education.

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<sup>39</sup> World Bank (2012). Golden Growth – Restoring the Lustre of the European Economic Model. World Bank, Washington DC, USA.

<sup>40</sup> World Bank (2013). World Development Report 2013. Jobs. World Bank. Washington DC, USA.



**Table 3. Rates of Return and Benefit-cost Ratios from Interventions in other Countries**

Project	Results	Principal benefits
	<b>Rate of Return</b>	
<b>Uzbekistan Modernizing Higher Education Project (\$42.2 mln, FY17-23).</b> <i>Financing to modernize laboratories; Higher Education Market Information System, industry-university partnerships to improve higher education.</i>	26%	Increased earnings of graduates; added value to economy from innovation
<b>Nepal Second Higher Education Project (\$60 mln, FY08-14)</b> <i>Includes grants to universities, capacity building (quality assurance and accreditation, EMIS)</i>	35%	Efficiency gains (higher student retention); higher wage-premium
<b>Vietnam Higher Education Project II (\$59 mln, FY08-12)</b> <i>Includes: grants to universities to support teaching and research, capacity building for universities and policymakers</i>	34%	Productivity gains of graduates, efficiency gains in universities, and return from R&D investments
	<b>Benefit-Cost ratio</b>	
<b>Armenia Education Improvement (\$15 mln, FY15-20)</b> <i>For Innovation and Higher Education Fund to improve quality, relevance, efficiency, equity and access of programs.</i>	> 3.5 to 1	Efficiency gains (lower drop-outs); increased earnings of graduates, higher firm productivity
<b>Belarus Tertiary Education Project (\$50 mln, FY20-25)</b> <i>Higher Education Project to improve teaching and learning environment, and fostering quality through a quality assurance system</i>	4.23	Efficiency gains (skill gap reduction); increased earnings of graduates, lower firm training costs
	<b>Other</b>	
<b>Chile Tertiary Education Finance for Results III (\$40 mln, FY13-17)</b> <i>Improved quality and relevance via accountability and financing mechanism</i>	Net Present Value: > \$114 mln	Efficiency gains (student retention and graduation); higher earnings



## COST-BENEFIT ANALYSIS

10. The economic analysis uses a cost-benefit economic model that accounts for the cash flow generated by a person over the course of his or her productive lifetime. The underlying assumption is that an enhanced learning environment at the university level has a positive impact on student achievement.<sup>41</sup> In turn, higher student achievement leads to higher earning for individuals over the course of their lifetimes and faster economic growth for nations (component 1).<sup>42</sup> Moreover, the model takes into account the reduction in the training cost that firms need to undertake due to the skills mismatch between the skill supply—provided by the higher education system—and the skills demanded in the labor market by firms (component 2).

11. The parameters used in the model are drawn from the empirical microeconomic literature, policy research conducted by the World Bank, as well as labor market indicators from Moldova. The economic analysis would review the impact of the Project Components I and II over a period of time from the proposed project launch in 2020, would calculate a net present value (NPV) of the increased earnings, and firm mismatch costs reduction associated to the Project. Different parameter estimates would be used in a sensitivity analysis to check the robustness of the findings.

12. **Expected benefits from Project Component I.** Component I aims to enhance the higher education system's capacity for quality management and monitoring through three sub-components with activities in higher education quality, financing, and information systems. If the quality of higher education improves and skill levels of graduates improve—and also match better the skills demanded by firms— wage premiums for higher education graduates may increase as well since employers would be willing to pay higher wage premiums. The number of enrolled students in higher education has declined over the last decade but the graduation rate has first improved and the remained stable. While in the early 2000s about 12% of enrolled students graduated, the graduation rate has remained constant at around 30% from 2011 onwards. Estimating the number of beneficiaries requires forecasting the number of students who would be enrolled in and would graduate from higher education in Moldova. In 2006, there were almost 130,000 students enrolled in higher education. By 2018, higher education enrollment decline led to 60,608 students enrolled in higher education. The economic analysis takes into consideration the declining number of graduates from higher education institutions and uses the average yearly decline rate since 2011 (-5.41%).

13. **Expected benefits from Project Component II.** Employers would benefit from this component by being able to access and hire a more qualified workforce. Moreover, the increased labor market orientation associated with this component would reduce the gap between the skills supply and demand. Firms incur substantial costs training new employees, and the more sophisticated the required skills are, the higher the costs. For young workers in the United States of America, the average duration in apprenticeships was 63 weeks while on-the-job training averaged 32 weeks.<sup>43</sup> The proposed Project aims to reduce the training period needed to prepare recent hires for their new jobs which is reflected in the benefits. Reducing the training period would lower the amount of time spent by experienced workers training their new colleagues. Figure 4 below shows that only 70% of the labor force in Moldova had a job matching their qualifications in 2010. This finding suggests that there exists a substantial skill gap.

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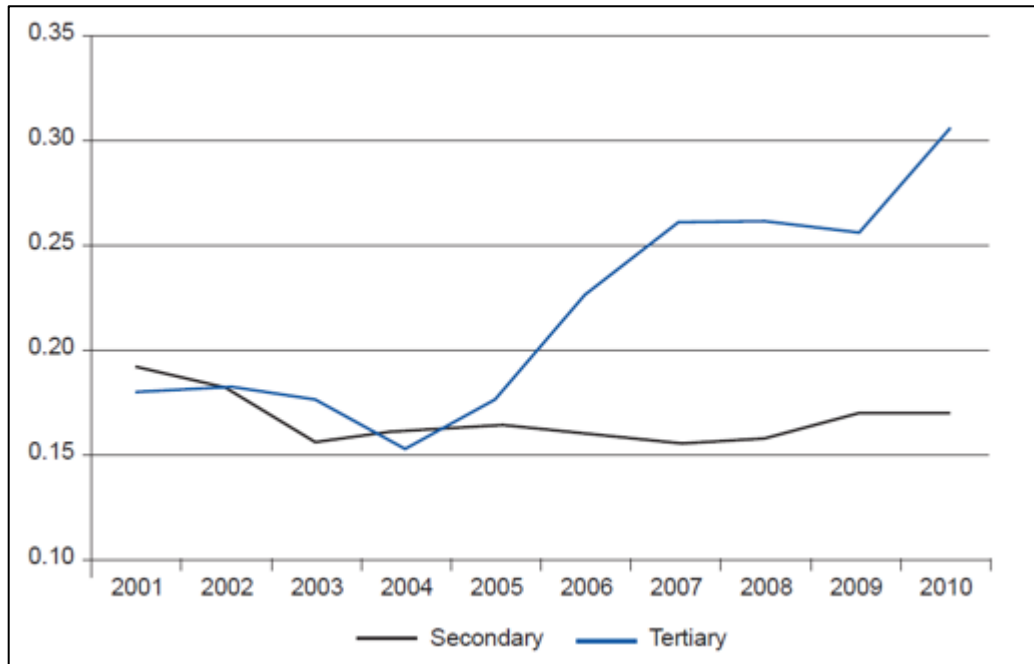
<sup>41</sup> Brooks, D. C. (2011). "Space matters: The impact of formal learning environments on student learning." *British Journal of Educational Technology* 42 (5):719-726

<sup>42</sup> Hanushek E.A. & L. Woessmann (2008) "The Role of Cognitive Skills in Economic Development", *Journal of Economic Literature*, 46(3), pp. 607-688.

<sup>43</sup> Lynch, Lisa M. "Private-sector training and the earnings of young workers." *The American Economic Review* 82, no. 1 (1992): 299-312



Figure 3. Skill Gap by Education Level (in %)



Source: Popa et al. (2013) – Calculations using LFS data

14. The benefit-to-cost ratio calculation follows from an economic model that accounts for the cash flow generated by a person in his or her productive lifetime. The underlying assumption is that an enhanced learning environment (including school infrastructure, equipment, technology, and learning materials) has a positive impact on student achievement.<sup>44</sup> Student learning, in turn, leads to higher earnings for individuals throughout their lifetime and faster economic growth for nations.<sup>45</sup> The parameters used in the model are drawn from the empirical microeconomic literature, as well as Moldovan labor market indicators. The model also accommodates gender differences in lifetime earnings. Table 3 below lists some of the parameters used in the model, defined as the difference between the gains under the proposed project and what would be expected to happen in its absence. A discount rate of 3% is used to calculate the net present value of the cash flows in the baseline model.

<sup>44</sup> Brooks, D. C. (2011). "Space matters: The impact of formal learning environments on student learning." *British Journal of Educational Technology* 42 (5):719-726

<sup>45</sup> Hanushek E.A. & L. Woessmann (2008) "The Role of Cognitive Skills in Economic Development", *Journal of Economic Literature*, 46(3).

**Table 4. Parameters for the Estimation of Discounted Cash Flows**

	<b>Base Case</b>	<b>Low-High</b>
<i>Student achievement – Returns to improved environment (SD)</i>	0.12	0.06-0.15
	<b>Male</b>	<b>Female</b>
<i>Lifetime Earnings – Returns to 1 SD increase in achievement<sup>46</sup></i>	11.04%	13.21%
	<b>Male</b>	<b>Female</b>
<i>Higher Education Enrolment (2018)</i>	25,517	35,091
<i>Number of graduations (2018)</i>	7,638	10,503
	<b>Base Case</b>	<b>Low-High</b>
<i>Annual earnings growth</i>	3%	0-5%
<i>Earnings per year (November 2018)</i>	\$4,403.48	-
<i>Exchange rate (MDL/USD)</i>	0.057	-

Sources: National Bureau of Statistics of the Republic of Moldova;  
Author's calculations of the Programme for the International Assessment of Adult Competencies.

15. Table 4 below displays the NPV of the total quantifiable benefits and costs associated with the proposed Project. The analysis accounts for the project direct costs and loan servicing fees, and the long-term indirect costs such as maintenance and depreciation expenses that the Republic of Moldova would incur to safeguard the benefits associated with the Project.

16. The number of beneficiaries yearly is estimated to decrease at the average yearly decline in enrollment rates in Moldova since 2011 (-5.41%). Thus, the number of beneficiaries is estimated to be over 65,000 new higher education students in 2020, declining at 5.41% yearly. At the current graduation rate, this decline translates to 18,000 new graduates in 2020 declining to 4,200 by 2049.

17. The benefits are derived from the increased lifelong earnings associated with a better set of skills of those who benefit from the project's impact, adjusted for year of implementation, graduation and employment rates. The benefits for the employers are the decreased training costs for new hires as we have assumed the training duration for new hires to be reduced by 8 weeks as a result of the proposed Project. The length of the benefit stream for the increase in lifelong earnings is 30 years, and 10 years for the decreased training costs incurred by the firms recruiting new hires. The length of the cost stream is 30 years for the maintenance and sustainability costs, and 5 years for the direct project costs and fees.

18. The baseline scenario presents a NPV of USD 271.18 million, and a benefit-to-cost ratio of 4.19—an equivalent internal rate of return of 16.18%— which indicates that the proposed project is a promising investment in higher education. It is important to note that the model utilized in the analysis captures only part of the project's benefits and therefore underestimates overall gains. The analysis does not capture the improved outcomes in the labor market

<sup>46</sup> Author's calculations using the Programme for the International Assessment of Adult Competencies.



and adult life indicators such as better health, lower criminality or better-informed voters, which are associated with better cognitive and non-cognitive skills that the Project would enhance. By the same token, the economic model does not capture either the medium and long-term benefits associated with the improved external and internal quality assurance and its importance for higher education institutions in Moldova.

**Table 5. Summary of Costs and Benefits**

<i>Benefits</i>	<b>USD</b>
<i>Lifelong increased earnings: males</i>	95,507,3332
<i>Lifelong from increased earnings: females</i>	157,158,036
<i>Employer decreased training costs (10 years)</i>	103,414,797
<b>NPV of total benefits</b>	<b>356,080,167</b>
<i>Costs</i>	
<i>Direct project costs</i>	35,158,692
<i>Indirect project costs (30 years)</i>	49,140,216
<i>Loan servicing and fees</i>	698,269
<b>NPV of total costs</b>	<b>84,904,580</b>
<i>NPV (benefits minus costs)</i>	271,175,586
<b>Benefit to cost ratio</b>	<b>4.19</b>
<b>IRR</b>	<b>16.18%</b>

**SENSITIVITY ANALYSIS**

19. Table 5 below displays the results of the sensitivity analysis for the following scenarios: (i) different parameters for the impact of the Project on student achievement; (ii) different wage growth rates; and (iii) different discount rates.



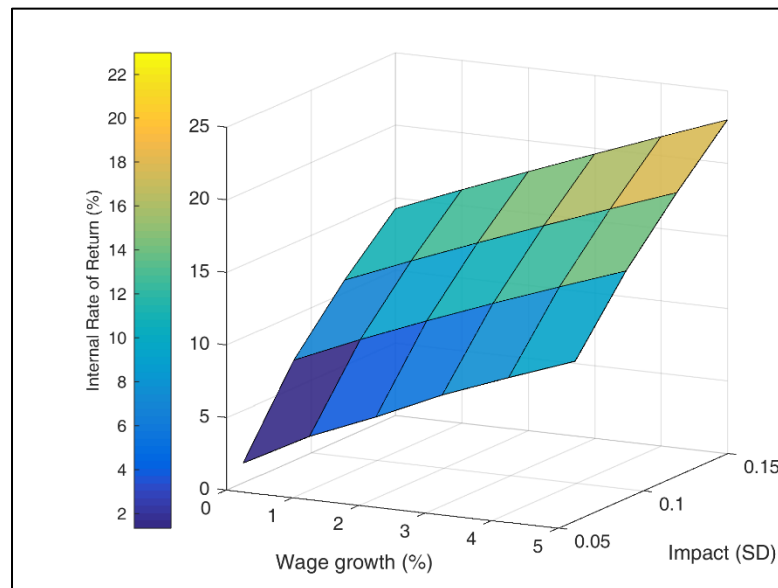


**Table 6. Sensitivity Analysis (millions of USD)**

	<b>Net benefit (NPV \$M)</b>	<b>IRR (%)</b>
<b>Baseline</b>	<b>271,18</b>	<b>16.18</b>
<i>Low estimate for student achievement (0.06 SD)</i>	144.84	7.61
<i>High estimate for student achievement (0.15 SD)</i>	334.34	19.57
<i>Low estimate for earnings growth rate (0%)</i>	154.79	10.86
<i>High estimate for earnings growth rate (5%)</i>	393.26	19.50
<i>Discount rate 5%</i>	190.23	14.98
<i>Discount rate 1%</i>	398.74	17.77

20. Figure 5 below displays a graphical representation of the sensitivity analysis plotting the benefit-to-cost ratio as a function of different parameters for the policy impact on student achievement, and earnings growth rates. This Figure shows that higher values of earnings growth rate and student achievement are complementary and positively associated with a higher benefit-to-cost ratio.

**Figure 4. Internal Rate of Return (Sensitivity Analysis)**



21. The sensitivity analysis confirms that the proposed Project is a good investment for Moldova in all the cases considered, contributing to higher earnings for graduates with an improved learning environment and lower training costs for employers.



### ANNEX 3: Details on the Higher Education Improvement Program

1. The Project Component 2 would finance the design and implementation of the HEIP, which aims at improving the labor market orientation of Moldova's higher education institutions, as well as their research capacity.
2. The proposed project design was informed by feedback provided by a wide range of stakeholders including representatives of Moldovan public higher education institutions. This feedback was collected through a brainstorming with various stakeholders that was held in December 2018, as well as targeted meetings with higher education institutions' representatives from January to June 2019. Stakeholders' feedback was also collected through the public consultations on the environmental and social documents for the proposed Project, which included information on the project design, in November 2019.
3. *Targeting Mechanism.* The GoM has informed/confirmed to the World Bank that academic programs in engineering, information technologies, pedagogy and health (medicine) are fundamental for addressing key education system's issues (e.g. shortage of teachers) and for economic growth. Based on these principles, the GoM<sup>47</sup> has informed the World Bank that nine public higher education institutions that currently offer academic programs in these four priority areas would not be closed, and some of them would integrate other higher education institutions into their structures as a result of the network consolidation. While the GoM has not informed the World Bank about the names of these nine public higher education institutions yet, it is known that the HEIP would target them as well as the existing six pedagogical colleges, given the mentioned issue with the shortage of teachers in the country.
4. The criteria for the selection of public higher education institutions to benefit from the HEIP shall be submitted for approval of the World Bank and included in the HEIPOM (a document distinct from the POM). Upon World Bank's approval of the criteria for the selection of HEIP beneficiaries, the MoECR would invite eligible public higher education institutions and pedagogical colleges to prepare proposals for addressing their needs in labor market orientation, research and learning. The program design principles that are presented below should be followed by the MoECR and beneficiaries (the final list should be included in the HEIPOM):
  - each higher education institution can benefit from up to EUR 2.15 million (see information on the cost of equipment for laboratories below, which helps to clarify this funding amount);
  - each pedagogical college can benefit from up to EUR 0.9 million;
  - co-financing with institutions' funds would be encouraged;
  - improvement programs can be prepared by each institution separately or in partnerships (consortium);
  - *participatory planning and decision-making:* the engagement of university (or pedagogical college) students (including students with disabilities and from disadvantaged backgrounds), representatives of students associations, faculty, university (or college) leaders, representatives of relevant economic sectors, and relevant representatives of the civil society in the preparation of the improvement programs would be required. A platform/application for engaging stakeholders in and collecting their suggestions on the HEIP would be established through sub-component 2.1 and be used for participatory planning and decision-making. The genuine engagement of stakeholders is needed to ensure that the proposed improvement programs meet their needs;

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<sup>47</sup> Including the Government that was appointed in November 2019. The World Bank team in charge of the preparation of the proposed Project met this Government on December 2 to 10, 2019.



- each higher education institution can prepare one or more improvement programs not to exceed EUR 2.15 million in total;
- categories of eligible activities to be financed by the HEIP are as follows:
  - for higher education institutions: goods, consulting services, non-consulting services, training and operating costs;
  - for colleges: goods, minor civil works, consulting services, non-consulting services, training and operating costs;
- the limits for allocation of HEIP funds per type of beneficiary and cluster of expenditure categories are as mentioned below. According to the MoECR, the cost to equip one university laboratory with modern and appropriate resources should not be less than EUR 1.35 million, which explains the cost breakdown presented below as well as the total allocation of funds for this sub-component:
  - for higher education institutions: (i) up to 80 percent for goods, and (ii) at least 20 percent for consulting services, non-consulting services, training and operating costs;
  - for colleges: (i) up to 80 percent for goods and minor civil works, and (ii) at least 20 percent for consulting services, non-consulting services, training and operating costs;

Table 7. HEIP Funds Allocation Scheme

<b>Higher Education Institutions</b>	<b>Maximum Allocation (Ceiling)</b>	<b>EUR 2,150,000</b>	
	Maximum Allowed for Goods	80%	EUR 1,720,000
	Minimum Allowed for Services, Trainings and Operating Costs	20%	EUR 430,000
<b>Pedagogical Colleges</b>	<b>Maximum Allocation (Ceiling)</b>	<b>EUR 900,000</b>	
	Maximum Allowed for Goods and Minor Civil Works	80%	EUR 720,000
	Minimum Allowed for Services, Trainings and Operating Costs	20%	EUR 180,000

- the activities to procure goods (and minor civil works, in the case of colleges) should be necessarily connected with expected improvements in labor market orientation. Otherwise, the improvement programs (proposals) will not be approved for financing;
- *compulsory fiduciary functions*: each applicant would be responsible for its own compulsory fiduciary functions. In addition to the fiduciary functions of the Project dedicated consultants, the proposed Project would finance specialized fiduciary assistance for the implementation of the HEIP under sub-component 2.1. Moreover, each HEIP beneficiary shall provide for fiduciary functions in its proposal (compulsory requirement for proposal approval), which could be funded either by the program (sub-component 2.2) or other sources. The applicant should specify how its fiduciary functions would be funded;
- a multi-disciplinary committee will evaluate the improvement programs submitted by the institutions and only those programs that pass the minimum qualification requirements will be approved. This evaluation committee will include representatives from the MoECR, Ministry of Finance, other representatives of the GoM, as needed, and national/ international experts in the four priority areas;
- the committee will evaluate the improvement programs in accordance with the agreed upon evaluation criteria, which shall be defined in the HEIPOM. Funds will be allocated to each approved improvement program according to the number of points given to the proposal, i.e. the higher the number of points, the higher the amount of funds available for the applicant;



- there may be a second call for proposals, if there are funds available from any residuals or proposals that were rejected in the first call.

5. The activities presented below are eligible for financing through the HEIP (the final list should be included in the HEIPOM):

- purchase of goods to equip laboratories and learning spaces;
- minor civil works (applicable only to pedagogical colleges) to renovate learning spaces. The definition of minor civil works should be provided in the HEIPOM and consider the current assessment of the environmental risks and the related safeguards documents;
  - the proposed Project would not finance any minor civil works that may be needed for the implementation of proposals prepared by universities. The budget that the Ministry of Finance allocates to these institutions every year should be used in such cases;
- training of university teachers and management focused on the improvement of the labor market orientation of academic programs;
- assistance to increase the participation of employers in academic-related activities;
- *gender gap*: awareness raising campaigns to increase the participation of women in STEM academic programs and help to address the gender gap (bonus points would be given for this activity during the evaluation; mechanism to be described in the HEIPOM);
- *gender gap*: assistance for establishing and implementing effective career guidance services, including approaches to ensure that these services are inclusive and gender unbiased;
- enhancement of university's capacity to provide career guidance services;
- improvement of internships in alignment with international good practices;
- summer bridge programs for upper secondary education students;
- institution-level graduate tracer studies;
- *climate change adaptation and mitigation*: technical assistance for the improvement or development of research or academic programs in technologies, processes or policies contributing to climate change adaptation or mitigation (bonus points would be given for these types of activities during the evaluation; mechanism to be described in the HEIPOM);
- *compulsory fiduciary functions*: assistance in procurement and financial management for each beneficiary to perform its fiduciary functions.



**ANNEX 4: Team Members**

<b>World Bank Staff</b>	
Aimonchok Tashieva	Social Development Specialist, Safeguard Policies
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Tamara Ursu	Program Assistant
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Ion Gonta	Education Consultant
Miguel Ruiz	Economist, Consultant
Peter Eckel	Education Consultant
Sharanya Vasudevan	Education Consultant
<b>Advisers</b>	
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Igor Kheyfets	Senior Economist
Jason Weaver	Senior Education Specialist
Roberta Bassett	Senior Education Specialist
Yoko Nagashima	Senior Education Specialist



**Map**

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