Annex IV.B Environment and Social Management Framework

DEFINITIONS

CMU	Cabinet of Ministers of Ukraine
EIA	Environmental Impact Assessment
ESCP	Environmental and Social Commitment Plan
ESF	Environmental and Social Framework
ESHS	Environmental, Social, Health and Safety
ESIRT	Environmental and Social Incident Reporting Toolkit
ESIA	Environmental and Social Impact Assessment
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
ESS	Environmental and Social Standard
GBV	Gender-based violence
GIIP	Good International Industry Practice
GRM	Grievance Redress Mechanism
HEI	Higher Education Institution
HEMIS	Higher Education Management Information System
HVAC	Heating, ventilation and air conditioning
ICT	Information and Communication Technologies
LMP	Labor Management Procedure
MEEP	Ministry of Energy and Environmental Protection
MOES	Ministry of Education and Science
NAHEQA	National Agency for Higher Education Quality Assurance
OHS	Occupational Health and Safety
PBCs	Performance-based conditions
PIU	Project Implementation Unit
RAP	Resettlement Action Plan
RCA	Root Cause Analysis
RPF	Resettlement Policy Framework
SCAP	Standards Corrective Action Plan
WB	World Bank

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1. INTRODUCTION

1.1 Purpose of the ESMF

Under the World Bank's Environmental and Social Framework (ESF) an Environmental and Social Management Framework (ESMF) is required when a project consists of a program and/or a series of subprojects, and the specific environmental and social risks and impacts cannot be determined until the details of the program or subprojects are identified. This typically occurs when subproject locations, designs, or activities are not known at the time of project appraisal. This ESMF sets out the principles, rules, guidelines, steps and procedures to assess the environmental and social risks and impacts of future subprojects, ensuring that all activities are screened and managed in accordance with the World Bank's ESF and relevant national laws. In addition, this ESMF provides a systematic process for environmental and social screening of subprojects, categorization of risks, and guidance for preparing site-specific instruments such as Environmental and Social Impact Assessments (ESIAs) and Environmental and Social Management Plans (ESMPs). This ESMF is complemented by other instruments such as the Stakeholder Engagement Plan (SEP), Labor Management Procedures (LMP), Resettlement Policy Framework (RPF), and Environmental and Social Commitment Plan (ESCP).

This Environmental and Social Management Framework (ESMF) will guide the project activities that will be identified during implementation of the Project to ensure that environmental and social issues are considered and managed in a manner that is consistent with the ESF and the Ukraine's national E & S laws. This involves but not limited to identifying the risks associated with the various project interventions and defining the mitigation and management procedures and measures that will have to be implemented during the project's implementation. The ESMF will serve as a tool for MoES/PIU and activities implementing partners (HEIs) to identify, mitigate and manage potential environmental and social impacts that may arise as a result of (1) HEI buildings retrofitting/renovation; (2) financing the retrofit/renovation of HEI buildings; and (3) operating those HEI buildings.

The ESMF clarifies, assesses and establishes (i) environmental and social impacts and benefits commonly associated with HEI project implemented activities, (ii) mitigation measures to be undertaken, (iii) monitoring and reporting framework and the institutional arrangements to be made during the implementation of the Project.

As part of the project activities under components 1, 2, and 3, the World Bank's environmental and social standards that are relevant are: ESS 1 "Risk assessment and management and environmental and social impacts", ESS 2 "Labor and working conditions", ESS 3 "Resource efficiency and pollution prevention and management", ESS 4 "Community health and safety", ESS 5 "Land acquisition", ESS 8 "Cultural Heritage", ESS 10 "Stakeholder engagement and Information Disclosure".

This ESMF is being updated as a result of the restructuring of the project to cover the potential environmental and social risks and impacts resulting from the installation and use of solar panels (additional and new activities to the original project design). The ESMF also covers environmental and social risks and impacts associated with refurbishment, rehabilitation, and reconstruction works, installation of equipment and all related activities (minor repairs/construction work for the installation/placement of new equipment) , and feasibility studies, including occupational health and safety risks, community health and safety, waste management, and temporary disruptions to HEI operations.

1.2 Approach and Methodology for the preparation of ESMF

The methodological approach adopted for the development of the ESMF is structured around the phases of research and consultation and presented in Table 1 below.

Table 1: Implementation of the Framework Requirements

Phase	Content
Meeting and consulting with the MoES team, WB team	Meeting with the WB team and MoES team to discuss the project activities and the context. The project documents were made available. The MoES submitted the response to the questionnaire, provided additional information upon request, and reviewed the draft ESMF.
The collection of primary data and review of the documents (project documents, law, regulations and other requirements)	The desk review of documents and other relevant information, legal framework, WB ESF and ESSes. Data request. The preliminary analysis of this information made it possible to identify the relevant issues to be studied further and to proceed with a categorization of the impacts.
Baseline data	The collection of baseline data provided a description of the environmental and socio-economic country background (the background of the sites and its immediate surroundings need are specified. The collection of these data facilitated the identification and analysis of potential impacts and the definition of major environmental issues to be considered and further developed during this study.
Processing, analysis and synthesis of information	Identification and assessment of the environmental and social impacts of the project and the required ESSes to be met.

1.3 Project Description

The proposed Ukraine Improving Higher Education for Results Project Development Objective (PDO) is to improve efficiency, conditions for quality, and transparency in higher education system of Ukraine.

The achievement of the Project's PDO is expected via implementation of four components, as described in more detail below:

Part 1 - Sectoral Improvement in Governance, Financing, Quality, and Transparency

The aim of this part is to support the activities of the Government of Ukraine in implementing and monitoring sectoral reforms that impact governance, financing, quality, and transparency in higher education. This part includes two complementary sub -parts:

- Sub-part 1.1: Financing of strategic sector-wide investments to support autonomy, transparency, and monitoring, including, in particular: (a) development of information systems to engage stakeholders, enhance transparency, and ensure informed policy in the higher education sector of the Borrower; (b) development of standardized digital tools for assessing learning outcomes in higher education institutions; and (c) conducting communication campaigns.

- Sub-part 1.2: Support for the introduction and use of performance-based incentives in the higher education system of the Borrower.

Part 2 - Consolidation and Partnerships for Enhanced Efficiency and Quality

The aim of this part is to support the Government in improving financial efficiency in the higher education sector and to support the creation of preconditions for university mergers, including the development and implementation of technical and economic justifications for university mergers and partnerships, as well as the development of guiding principles and a "roadmap" for carrying out university mergers and partnerships. This part may also finance merger support packages on a pilot basis following the above measures.

Improving conditions for quality teaching and learning at individual state HEIs that have started the merger process, including: (a) equipping modern basic educational laboratories and advanced research laboratories; (b) equipping information technologies; (c) conducting minor repair and restoration works; and (d) conducting research and necessary technical assistance for planning merger processes.

Sub-part 2.1. Strategic Investments for Successful University Consolidation ($3 million) Under this sub-part, the Project may finance investment packages as a pilot project for implementation in consolidated (reorganized) HEIs of the following measures related to key priorities in higher education: (i) improving the quality of teaching, learning, and research activities while ensuring digital transformation in the sector; (ii) implementing national reforms in governance and financial autonomy; and (iii) ensuring successful implementation of consolidation at the institutional and/or program level (i.e., unique to each consolidation). A key aspect of development is that this investment package should facilitate the consolidation process and support quality enhancement measures that would otherwise be unlikely, or that institutions could not implement independently without additional initial funding provided under the Project. The list of pre-defined investment packages for reorganized HEIs will consist of goods and small-scale repair works. They will be selected by the Ministry of Education and Science to facilitate the successful implementation of governance reforms and financial autonomy, as well as to improve quality and relevance. The consolidation support packages will include, in particular, laboratories for teaching, research and/or training, laboratory equipment, learning support tools and other educational facilities, modern digital infrastructure to support distance learning, and small-scale repair works. New construction will not be supported.

Part 3: Capacity Building and Enhancing the Educational Environment and Research Potential of Individual State HEIs including, in particular: a) development of change management plans; b) provision of digital educational resources, digital devices, multimedia equipment, and software, as well as modern digital infrastructure to ensure continuity of learning through remote and distance learning methods; c) provision of modern basic educational laboratories and advanced research laboratories; d) training of management staff to support higher education reforms; e) conducting refurbishment, installation and use of solar panels, rehabilitation, reconstruction, equipment installation, pre-feasibility; f) providing support to the Ministry of Education and Science and selected state HEIs for strengthening academic innovations, labor market links, strategic planning and change management, engaging entrepreneurs and businesses, human resources management, financial management, and taxation.

The Project will finance pre-defined categories of goods and services, including modern digital infrastructure for distance learning, digital devices, multimedia equipment and software, electronic learning management systems, and similar IT investments to enhance the quality of distance learning. Investments will also include modern basic educational and research laboratories, related equipment, targeted training of management for reform support, refurbishment, installation and use of solar panels, rehabilitation, reconstruction, equipment installation, pre-feasibility, and targeted assistance, among others, for the development of change management plans, academic innovations, labor market linkage, strategic planning and change management, business and entrepreneur engagement, human resources management, and financial management/taxation.

Part 4 - Project Management, Monitoring, and Evaluation

The purpose of this part is to support the effective management and implementation of the proposed project. As this is a complex and long-term development project, activities within the project require support from a special group of individual consultants, hereinafter referred to as the Project Implementation Unit (PIU). These consultants will enhance the Ministry of Education and Science's capacity for project implementation, providing expertise in project management, procurement, financial, legal management/control, monitoring and evaluation, as well as environmental and social management and safeguards, etc. The PIU will be engaged to support the implementation of the project on a regular basis throughout the project period under the leadership and supervision of the Coordinator/Co-Coordinator.

Part 5 - Support for Academic and Social Scholarships for Students of Higher Education Institutions

This part will support academic scholarships provided by the Ministry of Education and Science, and social scholarships provided by the Ministry of Social Policy of Ukraine. The Ministry of Education and Science administers academic scholarships, according to a well- established legislative and regulatory base, described in Appendix 10 of this Guide. The basic amount of the academic scholarship for students in HEIs averages 2000 UAH per month (approximately $67 USD) as of 2022. The basic amount of the academic scholarship, appointed by the Government of Ukraine, is the same across different regions and HEIs, although institutions may assign additional awards to students. The number of scholarship recipients is determined based on semester performance, controlled by the Academic Council of the HEI. In 2022, the average annual beneficiaries are approximately 172,000 students enrolled in academic full-time programs. Under Part 5, the Project will reimburse the Ministry of Education and Science for academic scholarships paid during the 2021 -2022 academic year, starting from the date of signing the amendments to the Loan Agreement at least until the end of April 2022, for students of professional pre-higher and higher education institutions. The Ministry of Social Policy of Ukraine assigns social scholarships to HEI students from vulnerable segments of the population, as described in Appendix 11 of this Guide. The law defines categories of students eligible for social scholarships, for example, students who are orphans or internally displaced persons, with special educational needs, or from low-income families. These scholarships range from 1180 to 3720 UAH (about $40 - $125 USD) depending on the category. The annual number of students receiving social scholarships is about 50,000. Under Component 5, the Project will reimburse social schola rships paid during the 2021-2022 academic year, starting from the date of signing the amendments to the Loan Agreement at least until the end of April 2022, for students of professional pre -higher and higher education institutions.

Part 6 - Emergency Response Component

The Emergency Response Component (CERC), outlined in Appendix 12 of this Guide, aims to support the country's future response in case the current emergency persists, or if a new unexpected emergency arises, following procedures regulated by paragraph 12, Section III of the Bank's Policy on Investment Project Financing (IPF) for projects in situations of urgent assistance needs or limited capacity. There is a possibility that the current emergency situation in Ukraine will continue for some time, requiring further changes in project design to provide urgent interventions. There is also the possibility that a natural disaster, epidemic, or other emergency situation may arise during implementation, causing serious negative economic and/or social consequences. Anticipating such an event, this CERC with zero allocation allows the Government of Ukraine to reallocate project funds to response measures in response to the relevant crisis or emergency.

1.3.1. Country and sector context/ Project Concept

Ukraine has been facing with economic, demographic and political challenges since its independence in 1991 that shape the policy space for education reform. The failure to introduce structural economic and institutional reforms, curb corruption and reduce dependency on external energy resources has made the country vulnerable to external shocks and hampered economic growth.

Its population of 45.4 million (2014) has declined significantly in recent decades and, owing to falling fertility rates, it is projected to decline further to 35.1 million in 2050 (UN, 2015). Also, emigration has increased substantially in recent years and it is estimated that 3 million of Ukrainians are permanently abroad and 7-9 million people leave for seasonal work.

More than two decades after independence, Ukraine engaged in wide-scale reforms spurred by the Euromaidan Revolution of 2014. Its reform initiatives now cover a broad range of policy areas including: anti-corruption, public procurement, decentralization, law enforcement, deregulation and private sector development, healthcare, taxation, state administration, the financial sector, education, the energy sector, state-owned enterprises, agriculture, the justice system and national security. Anti-corruption and education sector reforms have focused on the adoption of new legislation, and the implementation of these and other reforms has proceeded slowly.

Education is a critical part of the public sector in Ukraine, whether measured in expenditure, public employment or citizens served. Public education expenditures comprised 5.9% of Ukraine's GDP in 2014, and public and private spending on education together equal to 6.9% of GDP or USD 9.211 million (SSSU, 2014). Millions of Ukrainians participate in education as students, teachers or parents. The programmes, the school's students go to, and the HEIs they attend have an important impact on the lives of Ukrainians, opening opportunities for social inclusion and entry to the labour market[1].

The COVID-19 pandemic has forced a sudden slowdown in activity and has significantly affected teaching and learning in Ukrainian universities, with many ill -equipped to make the transition to effective distance education. After all schools and universities were closed in March 2020, the switch to online modes of teaching and learning has revealed significant challenges. HEIs have used various e-learning platforms, videoconferencing platforms, and social media networks to maintain learning continuity, but HEIs have largely operated independently in determining how to organize study processes. Access to technical and digital infrastructure, competences and pedagogies for distance learning remains a major constraint.

In this context, the Government of Ukraine recognizes human capital development as a key priority. Since the Euromaidan revolution in 2014, the Government of Ukraine has been engaged in an ambitious and transformative reform of the education sector to promote human capital development as a strategic priority of the Government. In 2020, President Zelenskyy issued Decree No. 210/2020 ("On the improvement of higher education in Ukraine") which elevates strategic planning for higher education and supports state programs for higher education and research in Ukraine. The Government Action Program from June 2020 identifies higher education reform as one of the priorities.

Ukraine's education sector is undergoing ambitious and challenging reforms in several sub -sectors that can unleash and maximize the human potential of the Ukrainian n society and translate it into higher economic growth and welfare. Important new laws have been passed in recent years that set the framework for modernization in several education sub -sectors: The Law on for Higher Education in 2014, the Law on Research and Scientific Activity in 2015, and the 'Law on Education' in 2017.

At the same time the Russian invasion on February 24, 2022, has led to a sudden and severe deterioration of the macroeconomic situation in Ukraine. The ongoing war is also imposing several human costs, causing a growing number of civilian casualties, interrupting livelihoods, and damaging critical infrastructure, including homes, water and sanitation, schools and universities, and health

[1]OECD Review s of Integrity in Education: Ukraine 2017

facilities. Large numbers of people have fled to neighbouring countries or been internally displaced.

The war has incited extreme vulnerability that may remain a threat to the country's development in the future and necessity to develop a broader range of various channels for the feedback uptake. According to the UN, war in Ukraine risks seeing 90 per cent of the country "freefall into poverty" and extreme vulnerability. Ukraine now faces an unanticipated financing gap driven by the ongoing war. As a response to the fast -evolving emergency and deteriorating fiscal situation, on February 28, 2022, the Government of Ukraine (GoU) requested a project restructuring to provide immediate support to protect the scholarships programs while also adjusting the project design in recognition that some activities (on university mergers) will no longer be viable.

Given the current circumstances in Ukraine, the project has been restructured and an additional component has been added. The restructuring means relocation of loan proceeds from Component 2 and 3 to the new Component 5 on supporting academic and social scholarships for students. Also, technical Contingency Emergency Response Component (CERC) was created.

1.4 Project Institutional and Implementation Arrangements

1.4.1. Implementation Arrangements

The Ministry of Education and Science (MoES) will create the Project Implementation Unit (PIU) and engage group of Consultants. Also, the MoES will continuously build the capacity of the staff of participating HEIs and other entities at the MoES' discretion.

Since the PIU would provide operational and management support for the proposed Project for its full duration, it needs to make sure that the Environmental and Social Specialist position is properly reflected on the budget of the Project. The budget should also include a line to support targeted technical assistance to the PIU on Bank-specific processes related to procurement, financial management, and environmental and social risk management, in addition to the project-specific Grievance Redress Mechanism (GRM). The PIU will monitor and coordinate Project implementation. The MoES/PIU is responsible for revisiting and approving ESMF and monitoring its implementation as well as advising the contractor on environmental and social issues.

The Environmental Specialist and Social Specialist will monitor compliance with ESSes provisions and report to the WB Social and Environmental staff. The tasks of the Environmental and Social Specialist may include the following:

- screening the HEI project implemented activities,
- identifying potential risks and impacts on natural and social environment, necessary mechanisms/documents on environmental and social provisions as well as assisting HEI project implemented activities in drafting of the ESMPs;
- providing support in ensuring compliance with ESSes objectives and addressing issues related project activities implemented by HEIs (renovation/rehabilitation and construction activities);
- providing support to HEI project implemented activities on baseline data collection;
- ensuring, prior to the commencement of works, the availability of all necessary permits to perform such works in accordance with the design documentation;
- ensuring the availability of the necessary documentation (checklist for screening (Annex D), ESMP (Annex E), incident Register form (Annex B), ESIRT (Annex F) and Framework requirements for emergency preparedness and response (Annex

G) for each HEI project implemented activities (project activities);

- conducting a check of the ESMP for compliance with the requirements of ESSes and

Ukrainian legislation for protection of natural and social environment and the identification of aspects not covered by impact mitigation measures / actions;

- ensuring that all necessary measures for monitoring and impact mitigation are properly considered in the civil works budgets (procurement plans) of HEI project implemented activities;

- monitoring the proper organization of public discussions on each HEI project implemented activities (if applicable) and the availability of the results of such discussions to the public;

- providing contractors with a complete list of mandatory requirements to mitigate the impact on natural and social environment, which should be met before the start of works under the relevant HEI project implemented activities;

- monitoring the implementation of measures to mitigate the impact identified in the ESMP for each HEI project implemented activities, and informing the head of the PIU / WB / the Ministry of Education of any identified incompliances;

- ensuring implementation of the monitoring plan within each HEI project implemented activities, including determination of baseline indicators and the effectiveness of impact mitigation measures;

- ensuring establishment and operation of a grievance redress mechanism (GRM) at the project level and submission of quarterly reports on consideration of complaints received in connection with implementation of the Project;

- ensuring the relevant updating of the ESMF and HEI project implemented activities ESMPs to reflect the needs of the Project and changes in the World Bank's environmental and social policy (if applicable);

- in case of an incident, ensuring timely notification to the Bank, investigation (using RCA approach), developing a corrective action plan (SCAP), monitoring of SCAP and reporting to the Bank on its implementation (as per ESIRT in Annex F).

- performing other tasks within the Project as necessary.

The Environmental and Social Specialist will report to the Coordinator of Consultants and to the head of the PIU. Visits to the HEI project sites will be authorized by the head of the PIU. The PIU is in charge of overseeing the organization and conduct of public discussions on individual HEI project implemented activities of individual education institutions. The PIU will closely cooperate with HEIs to ensure access to HEI project activities' information for general public and stakeholders in accordance with the national legislation and the Bank ESF. The coordination between the PIU and HEIs will be required for individual HEI project activities' ESMPs drafting and disclosure.

Capacity building

Environmental and social training will help ensure that the requirements of the ESSs and related social aspects are clearly understood and complied with by all project personnel throughout the entire project implementation period. The PIU/MOeS, in cooperation with higher education institutions, will ensure the delivery of these trainings for all Project staff.

Training will be provided to PIU specialists, higher education institution staff, contractors, and other personnel involved in the Project. The training will cover all levels of personnel, from managerial and supervisory staff to skilled and unskilled workers. The scope of the training will include general environmental and social awareness and the requirements of the ESSs, with particular emphasis on raising the Project personnel's sensitivity to social and gender-related aspects relevant to the Project area.

Various training programs will be initiated and subsequently adapted and reformatted based on identified needs. All contractor personnel and higher education institution staff will be required to undergo training on emergency response procedures to be followed in the event of emergency or area bombardment, as well as on procedures and protocols to be followed in case of discovery of unexploded

ordnance or explosive remnants of war (UXO/ERW).

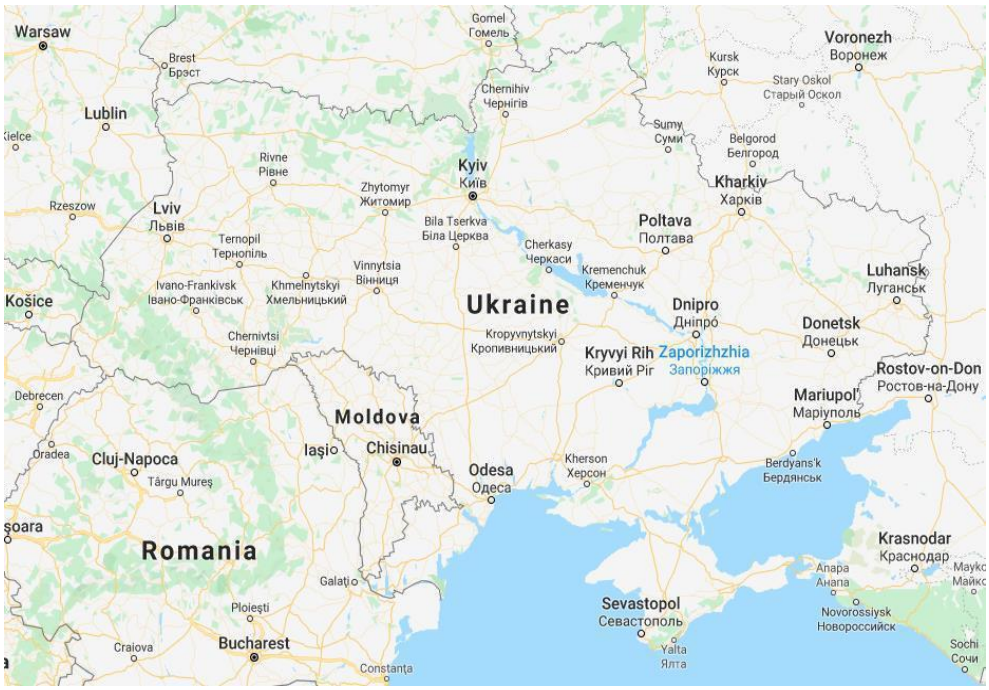
2. BASELINE DATA

2.1 Location and Size

Ukraine, located in Eastern Europe, has a total area of 603,550 sq. km. It is bordered in the southwest by Romania and the Republic of Moldova, in the west by Hungary, Slovakia and Poland, in the northwest by Belarus, in the northeast and east by the Russian Federation, and in the south by the Black Sea, where the Crimea peninsula is located. Administratively, Ukraine is divided into 24 provinces (oblasts), 1 Autonomous Republic (Crimea) and 2 municipalities with oblast status (Kiev and Sevastopol).

The predominant lowland is interrupted by several regions of modest elevation, such as the Volyn-Podolsk plateau (also called the Podolian plateau) in the west, the Dnipro (Dnieper) ridge in the center, and the Donets ridge in the southeast. The Carpathian Mountains (with their highest peak, Hoverla, at 2,062 m above sea level) and their foothills in the southwest, together with the Crimean Mountains (1,545 m above sea level) along the southern coast of the Crimean Peninsula, constitute the only mountainous sections of Ukraine.

The agricultural area, which is the sum of arable land, permanent crops and permanent meadows and pasture, is estimated at 41 million ha, which is 68 percent of the total area of the country. In 2014, the total physical cultivated area was estimated at 33.4 million ha, of which 97 percent (32.5 million ha) consisted of temporary crops and 3 percent (0.9 million ha) of permanent crops[2].



2.2. Physical Environment and Climate

The climate of Ukraine is temperate continental. The only exception is the southern coast of Crimea, where the climate is subtropical of the Mediterranean type. Warm low-snow winters and rainy summers are specific to the mild climate of the Zakarpatye region. Average winter temperatures in Ukraine vary from -8 to -12°C. The temperature in the southern regions approaches 0°C. The average summer temperature ranges from 18 to 25°C. Clear, sunny weather is typical for Ukraine (up to 230

[2] http://w w w.fao.org/nr/water/aquastat/countries_regions/UKR/index.stm

sunny days per year). Precipitation falls unevenly across Ukraine. The most rainfall is recorded in the Crimean Mountains and the Ukrainian Carpathian Mountains.

There are four agro-climatological zones in Ukraine:

The humid zone covers 35 percent of the country in the northwest. It is moderately warm in summer and cold in winter. The average annual precipitation is 600 mm, concentrated between May and October, but can reach 1600 mm. in the highest part of the Carpathian Mountains, with to up 300 mm. falling as snow. In these areas, the snow cover generally lies for 70-90 days, from early or mid-December to the end of February but can last until April and even mid-May. Average temperatures vary between -4°C in January and 17°C in July.

The warm zone covers 25 percent of the country and comprises the eastern and central forested steppe. The average annual precipitation is 500 mm., concentrated between February and April. Average temperatures vary between -6°C in January and 21°C in July.

The semi-arid zone covers 25 percent of the country and comprises the so - called northern steppe (central part of the country) and the far east of the country (Donets highplain). The average annual precipitation is 450 mm., concentrated between April and October. Average temperatures vary between -6°C in January and 21°C in July.

The arid zone in the south covers 15 percent of the country, including the Crimean Peninsula. It is characterized by mild winters, with an average annual precipitation of about 360 mm, concentrated between December and May. Average temperature varies between 0°C in January and 23°C in July. The average annual precipitation over the country is estimated at 565 mm. This figure includes snowfall, which is an important source of water, particularly in the west.

2.3 Topography and Drainage

The landscape of Ukraine is predominantly flat (93%). The rest of the territory (7%) has a mountainous landscape.

Over 73,000 rivers flow through Ukraine. Ukrainian rivers mostly belong to the basins of the Black and Azov seas. Only the Western Bug and other right influxes of the Vistula River flow to the Baltic Sea basin. The major rivers are the Dnieper (in Ukrainian - "Dnipro") (third longest in Europe), the Dniester, Southern Buh, Siverskiy Donets, and Prut. The mouth of the Danube is situated in Ukraine. There are over 3000 natural lakes (mostly situated in Polesye, Prichernomorskaya lowland, and the Crimean steppe) and about 22,000 artificial water reservoirs.

Though much of Ukraine's original plant cover has been cleared for cultivation, three main zones of natural vegetation are still distinguishable. From north to south, they are the Polissya (woodland and marsh), the forest-steppe, and the steppe. Forests cover about 14% of Ukraine's territory. Recreational landscapes occupy an area of 9.4 million hectares. Approximately 30,000 species of plants grow in Ukraine. More than 400 of them are included in the Red Data Book. Almost 19 mln. ha (nearly one third of Ukraine's territory) has natural vegetation. Approximately half of all ordinary and almost 30% of all rare and endangered species are concentrated in the Crimean and Carpathian Mountains. The animal life of Ukraine is diverse, with about 350 species of birds, more than 100 species of mammals, and more than 200 species of fish. A network of 11 natural national parks, 4 biosphere conservation areas, 16 wilderness areas, and more than 100 wildlife refuges has been established to protect wildlife.

2.4 Socio-Economic Background

In 2015, the total population was about 45 million, of which around 31 percent was rural. Average population density in the country is 74 inhabitants/km², varying from 164 inhabitants/km² in the Donetsk oblast to 33 inhabitants/km² in the Chernihiv oblast. The average annual population growth rate in the 2005-2015 period has been estimated at minus 0.4 percent.

In 2017, the Human Development Index (HDI) rank Ukraine 88, while the Gender Inequality Index (GII) ranks 61 among 189 countries. Life expectancy is 76,9 years for women and 67,1 for man with no significant distinction between boys and girls, around 100 percent of the children in 2017 are enrolled in primary education and 97 percent for secondary education. Adult literacy is 100 percent in 2017 (UNDP, 2018).

Inequities in Ukraine's education system start early and limit the potential of learners and the system. Access to preschool education has been unequal over a long period, particularly in rural areas and for poor families. These inequities persist over time, preventing many students from acquiring the foundation skills needed to succeed in higher education or the labor market. Evidence from external learning assessments (national and international) indicate that inequality is driven by (a) clustering of poor students in poor schools; (b) inadequate learning environments in small-sized and rural schools; and (c) practice of selectivity which took place until 2018 creating between-school inequality such as the difference in performance between selective, "elite" schools (gymnasiums, lyceums, specialized schools) and regular non- selective schools. Rural schools have substantially less access to learning materials and information and communication technologies (ICTs) and are more likely to have shortages of subject teachers. Such inequality in opportunity means that many students are not adequately prepared to enter higher education, even though this is the top objective and most common path for most young Ukrainians.

Although there is no significant gender gap in access to education for males or females, the review of Ukraine's education system (2019) by the Bank shows that male students perform statistically significantly worse than female students across the board on both the Ukrainian language and literature exam and the mathematics exam in Grade 11, although the size of the effect is much larger on the language exam. In fact, for language, gender is a main determinant of performance.

Apart from the above, the Russian invasion to Ukraine in 2022 has also had a significant impact on the education sector, resulting in internal displacement of students, teachers, and institutions. The Ukrainian Government had to evacuate and move a lot of state universities, and research institutions from the temporarily occupied or active clashes territories. Because most of their assets remained in the temporarily occupied territories, the displaced institutions have been suffering from major infrastructural, financial and organizational losses.

The Government education reform agenda include resource allocations for developing educational and scientific resources for strengthening the capacity of educational institutions to overcome the consequences and counter the risks caused by military aggression from the Russian Federation. All those unfairly affected, and the project aims at supporting these initiatives.

3. DESCRIPTION OF THE ADMINISTRATIVE, POLICY AND REGULATORY FRAMEWORK

3.1 The Legal, Regulatory and Policy Framework

In order to minimize the potential negative environmental and social risks and impacts of the Project, the MoES acts in accordance with the following relevant standards, legislation, and guidelines:

- Regulatory and legal acts of Ukraine;

- International law, including conventions and treaties ratified by Ukraine related to the Project;

- World Bank Environmental and Social Standards (ESS);

- World Bank Group Guidelines on Occupational Health and Safety, including:

➢ General Guidelines on Occupational Health and Safety, Waste Disposal , and Construction and Decommissioning)

- ➢ Health and Safety Guidelines for Healthcare Facilities
- ➢ Core Conventions of the International Labour Organization (ILO)

3.1.1 Standards and requirements of Ukrainian legislation

Applicable legislation in the field of environmental protection

The Law of Ukraine "On Waste Management" came into force on July 9, 2023. According to this document, in Ukraine:

- a waste management hierarchy is being introduced, with priority areas being waste prevention, reuse and recovery (recycling), and only then – disposal, including burial in landfills that meet environmental safety requirements,

- planning a waste management system at the national, regional, and local levels,

- introducing a system of extended producer responsibility, - gradually creating modern infrastructure and facilities for waste collection and treatment,

- improvement of waste management processes, including the licensing and permitting system, and information provision in the field of waste management.

This law aims to introduce regulatory and legal regulation in the field of waste management that meets the requirements of the relevant EU directives, in particular. Its main goal is to improve the state of the environment and create the necessary infrastructure for waste management.

Law of Ukraine on the Public Health System. Revised on February 11, 2024:

In technological processes and during construction and installation works at any facilities, the production and use of asbestos, regardless of type, as well as asbestos-containing products and materials, is prohibited. Safety measures and protection against the harmful effects of asbestos and asbestos-containing products and materials are determined by state sanitary rules and regulations.

Law of Ukraine "On Environmental Protection" Revised on October 8, 2023. The law defines the legal, economic, and social foundations for organizing environmental protection.

Order of the Ministry of Health No. 1013 dated June 5, 2023, on the approval of State Sanitary Norms and Rules "On the Safety and Protection of Workers from the Harmful Effects of Asbestos and Materials and Products Containing Asbestos." Requirements are specified for the prevention of risks associated with the impact of asbestos on the health of workers in all types of activities in which workers are or may be exposed to the harmful effects of asbestos dust or dust emitted from asbestos-containing materials and products. The production and use of asbestos, regardless of its type, and asbestos-containing products and materials in technological processes and during construction and installation works is prohibited, except for the processing of asbestos and asbestos-containing materials and products for the purpose of their removal.

Materials and products containing asbestos that are already in use may continue to be used until they are replaced or removed. Asbestos-containing insulation materials and products with low density (1 g/cm3) must be replaced and removed.

The Land Code of Ukraine, revised on January 26, 2024, and the Law of Ukraine "On Land Protection," revised on May 18, 2023, and "On Flora," revised on December 31, 2023. Issues related to the protection of land resources, soils, and green spaces are regulated by these laws.

Law of Ukraine "On Air Protection" Revised on October 1, 2023. The law defines the legal and organizational framework and environmental requirements in the field of air protection.

Law of Ukraine "On Alternative Energy Sources" No. 555-IV dated 20 February 2003 defines the basic principles for the use of alternative energy sources in Ukraine.

National Waste Management Strategy in Ukraine until 2030:

The strategy defines the state policy in the field of waste management for the coming decades. It is based on European approaches to waste management, which are based on the provisions of the following directives:

- Directive 2008/98/EC of the European Parliament and of the Council of November 19, 2008, on waste and repealing certain directives (Waste Framework Directive);
- Council Directive 1999/31/EC of 26 April 1999 on the landfill of waste;
- Directive 2006/21/EC of the European Parliament and of the Council of 15 March 2006 on the management of waste from extractive industries and amending Directive 2004/35/EC;
- Directive 94/62/EC of the European Parliament and of the Council of 20 December 1994 on packaging and packaging waste;
- Directive 2012/19/EU of the European Parliament and of the Council of July 4, 2012 on waste electrical and electronic equipment (WEEE);
- Directive 2006/66/EC of the European Parliament and of the Council of September 6, 2006 on batteries and accumulators and waste batteries and accumulators.

Law of Ukraine on Ensuring Sanitary and Epidemiological Well-being of the Population[3], #4004-XII, adopted on February 4, 1994;

Law of Ukraine on Urban Planning Activities[4], #3038-VI, adopted on February 17, 2011;

Law of Ukraine on Access to Public Information, #2939-VI, adopted on January 13, 2011;

Law of Ukraine on Environmental Impact Assessment, #2059-VIII, adopted on May 23, 2017;

Law of Ukraine on Strategic Environmental Impact Assessment, #2354-VIII, adopted on March 20, 2018.

Cabinet Resolution No. 667 of June 30, 2023 approved the Procedure for the development and approval of regional waste management plans.

Order No. 325 of the Ministry of Environmental Protection dated May 11, 2023, approved the Rules for the Protection of Groundwater, which establish requirements for the protection of groundwater, ensuring: protection of water from pollution, contamination, depletion, exhaustion, and other actions that may worsen water intake conditions; the implementation of measures to protect the natural environment when carrying out any type of human activity that may adversely affect groundwater indicators, reduce its ability to recover, disrupt the hydrogeological regime of groundwater, or cause harm to human health.

Occupational health and safety

The Law of Ukraine on Labor Safety defines the basic provisions for the implementation of the constitutional right of employed citizens to ensure occupational health in the course of their employment, as well as to proper, safe and healthy working conditions. In addition to many other provisions of the law, employees must receive training in occupational health and safety, as well as personal protective equipment. In the case of industrial accidents, the law provides that the employer is obliged to organize investigations and keep records in accordance with the procedure established by the CMU Resolution (No. 1232 of 30.11.2011).

Code Of Civil Protection of Ukraine defines the organizational and legal bases of protection of citizens of Ukraine, foreigners and stateless persons who are in the territory of Ukraine, protection of objects of industrial and social purpose, environment from of man -made and natural emergencies.

Law of Ukraine “On Regulation of Urban Development Activities”, the Law of Ukraine “On the

[3] https://zakon.rada.gov.ua/law s/show /4004-12

[4] http://zakon.rada.gov.ua/law s/show /3038-17

Fundamentals of Urban Planning", DSP 173-96 "State Sanitary Rules for Planning and Development of Settlements", and DBN B.2.2-12:2019 "Urban Planning. Planning and Development of Urban and Rural Settlements".

In addition, the various building codes, sanitary standards and norms should be taken into account when the renovation of HEI buildings is considered. Some of the relevant state building codes of Ukraine, sanitary rules and industry regulations are listed below:

DBN A.3.2-2-2009 OSBP "Occupational Safety and Industrial Safety in Construction. Substantive provisions";

DBN B.2.6-33:2008 Construction of buildings and structures. Construction of Envelope with exterior heat insulation. Requirements for Design, Installation and Operation

DBN B.2.6-31:2006 Construction of buildings and structures. Thermal Insulation of Buildings DBN B.2.2-3:2018 Buildings and structures. Educational Institutions

DBN A.2.2-3: 2013 "Composition and content of project documentation for construction";

DBN B.1.2-7-2008 "Basic requirements for buildings and structures. Fire Security";

DBN B.1.2-9-2008 "Basic requirements for buildings and structures. Safety of operation"; DBN B.1.2-10-2008 "Basic requirements for buildings and structures. Noise protection"; DBN B.1.1-31: 2013 "Protection of territories, buildings and structures from noise";

DSTU-N Б В.1.1-27: 2010 "Building climatology";

DSTU-N Б В.1.1-33: 2013 "Guidance on the calculation and design of noise protection of rural areas" - NAPS A.01.001-14 "Rules for fire safety in Ukraine";

DSN 3.3.6.039-99 "State sanitary standards of industrial general and local vibration";

DSanPiN 2.2.4-171-10 "Hygienic requirements for drinking water intended for human consumption".

Electrical works related to the installation and operation of solar panels shall comply with the Rules for Safe Operation of Electrical Installations of Consumers (NPAOP 40.1-1.21-98) and the Rules for Electrical Installations (NPAOP 40.1-1.07-01).

Fire safety measures in accordance with the requirements of the Rules for the Construction of Electrical Installations (PUE), the Rules for the Safe Operation of Electrical Installations and SOU-N EE 40.1-21677681-88:2013 "Rules for the Construction of Electrical Installations. Fire Safety of Electrical Installations. Instructions". Personnel allowed to perform hot work (welding, gas cutting) must meet the established qualification requirements and comply with fire safety requirements in accordance with paragraph 8 of the NAPB A.01.001-2014 "Fire Safety Rules in Ukraine".

Law of Ukraine "On the Organization of Labor Relations under Martial Law" Revised on December 24, 2023.

Law of Ukraine "On Compulsory State Social Insurance" (last updated on January 1, 2021)

The Code of Administrative Offenses (as amended on 01.01.2024) and the Criminal Code (as amended on 01.01.2024) provide for penalties for violations of laws and regulations relating to occupational safety and health.

Relevant legislation on Social Safety

- The Law Of Ukraine On Access To Public Information (2939-VI dated 13.01.2011).
- The Law of Ukraine on Information (2657-XII dated 02.10.1992).
- The Law of Ukraine about Citizens' Appeals (393/96-BP dated 02.10.1996)

3.2 Relevant Institutions

According to the Cabinet of Ministers' Order 630 adopted on October 16, 2014, the Ministry of Education and Science of Ukraine (MoES) is the central governmental institution responsible for developing and implementing the state policy on education and science, supervising education institutions and organizations that provide educational services. The same Order covers MoES' main tasks, which include, among others: determines prospects and priorities for higher education development, develops strategy and development programs for higher education, conducts analytical and prognostic activities in higher education sector, identifies trends in its development, provides conditions to acquire all levels of education including higher education and lifelong learning.

4. RELEVANT WORLD BANK ENVIRONMENTAL & SOCIAL STANDARDS

The World Bank's Environmental and Social Framework (ESF) includes the Sustainable Development Concept, which reflects the Bank's commitment to achieving environmental and social sustainability and implies the implementation of ten World Bank Environmental and Social Standards (ESSs): ESS1 - ESS10.

The ESSs are designed to help MoES and PIU to manage the risks and impacts of a project, and improve their environmental and social performance, through a risk and outcomes -based approach. The desired outcomes for the project are described in the objectives of each ESS, followed by specific requirements to help Borrowers achieve these objectives through means that are appropriate to the nature and scale of the project and proportionate to the level of environmental and social risks and impacts.

The MoES may not be the entity directly implementing the changes in HEIs project activities. Nevertheless, the MoES is responsible for ensuring that project activities are prepared and implemented so that they meet all applicable requirements of the ESSs in a manner and timeframe agreed with the Bank. The MoES will ensure that any entity involved in implementing HEI project activities adopts all obligations and commitments of the Project in accordance with the requirements of the ESSs and the specific conditions of the legal agreement, including the ESCP. This is also applicable to Associated Facilities[5] [7] to the extent of the control and influence that the MoES and HEIs have over such Associated Facilities. Contractors retained by or acting on behalf of the MoES and HEIs will be under the direct control of the MoES/PIU.

The MoES is required to manage environmental impacts and social risks of the project throughout the project life-cycle in a systematic manner, proportionate to the nature and scale of the project and of the potential risks and impacts.

The Ukraine Improving Higher Education for Results Project activities that will be financed by the World Bank are subject to meet ESSs of the World Bank ESF. The relevance of each of the standards will be verified in relation to the project and its HEI project activities during scoping and further analysis of environmental and social impacts. The initial analysis of the Project activities suggests that the following ESSes are required to be met:

ESS1 Assessment and Management of Environmental and Social Risks and Impacts;

ESS2 Labor and Working Conditions;

ESS3 Resource Efficiency and Pollution Prevention and Management; ESS4 Community Health and Safety;

ESS8 Cultural Heritage;

[5]Associated Facilities means facilities or activities that are not funded as part of the project and, in the judgment of the Bank, are:(a) directly and significantly related to the project, and(b)carried out, or planned to be carried out, contemporaneously with the project; and(c)necessary for the project to be viable and would not have been constructed, expanded or conducted if the project did not exist. P. 5, ESF, World Bank

ESS10 Stakeholder Engagement and Information Disclosure.

ESS 5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement.

The Project does not finance higher education institutions that require land acquisition, restrictions on land use, or involuntary resettlement.

It is determined that the ESS6 Biodiversity Conversation and Sustainable Management of Living Natural Resources is not currently relevant given the project's context and timing. The potential risks associated with planned activities (renovation of HEIs) have been screened and determined not to have an impact on biodiversity of living nature resources. The sub-projects will be in modified landscapes and modified environment i.e. already existing educational facilities of HEIs.

Also, ESS7 Indigenous People/Sub-Saharan African Historically Underserved Traditional Local Communities is not relevant. There are no indigenous peoples identified in Ukraine.

The ESS9 Financial Intermediaries is not applicable to the Project.

The standards relevant at this stage of the project are discussed below.

4.1 ESS 1 - Assessment and Management of Environmental and Social Risks and Impacts

ESS 1 sets out the Implementing Entities' responsibilities for assessing, managing and monitoring environmental and social risks and impacts associated with each stage of a project supported by the Bank through Investment Project Financing, in order to achieve environmental and social outcomes consistent with the Environmental and Social Standards (ESSes). The MoES will apply the ESS 1 to identify and assess the environmental and social risks and impacts associated with each stage of the Project (HEI project activities whenever participating HEIs are identified) in a manner consistent with the ESSes in its area of influence. The ESS1 will also be used as guidance to address potential impacts on environment (air, water and land), human health and safety, social aspects, etc. through a planning and mitigation hierarchy approach. Application of the required risk mitigation measures will be ensured by their inclusion into the Environmental and Social Commitment Plan (ESCP) prepared by the Borrower/MoES in cooperation with the Bank.

To meet the requirements of ESS 1, the MoES will use the Environment and Social Incidents Response Toolkit (ESIRT), which is intended to assist implementing parties (HEI project activities) to address incidents that occur during implementation and to advise implementation agencies on their response to such incidents.

Environmental and social screening will explicitly consider risks associated with refurbishment, rehabilitation, reconstruction works, installation of equipment, and feasibility studies, including site-specific OHS risks, community exposure to construction-related impacts, waste generation, and energy efficiency measures. Site-specific ESMPs will be prepared proportionate to the scale and risk level of activities.

The Investment Project has a country wide coverage and will include renovation works inside and outside selected HEI (this would include, *inter alia*, laboratories, digital tools to support teaching and learning, and related instructional equipment). The renovation of HEIs will take place in existing facilities and involve civil works, contractors, and rehabilitation of existing facilities. Based on the current understanding of the Project activities, potential environmental risks and impacts are predictable, expected to be temporary and reversible, low in magnitude, and site-specific. The ESMF refers to a list of HEI project activities that will not be eligible for financing, i.e., the ones with a potential substantial/high risk (e.g. in critical habitats or ecosystems) given that the overall project risk is Moderate. The activities implemented by HEIs and Associated Facilities/Activities that are to be identified under the Project most probably will not require preparation of ESIA. Instead, the MoES/PIU and HEIs should be responsible for the development of ESMP for each sub-project that is to be identified under the Project. The

Resettlement Action Plans (RAPs) may be required in compliance with ESS 1 and ESS 5. The MoES should develop and maintain half-annualy reporting on activities identified under the Project (this will be reflected on the ESCP). The proposed template for Project Activity Report can be found on Annex A. Furthermore, the current ESMF and an RPF will be disclosed by the MoES in line with the requirement of relevant ESSs before Appraisal.

This Environmental and Social Management Framework (ESMF) has been prepared for the Project in accordance with the requirements of ESS1.

4.2 ESS 2 – Labor and Working Conditions

The ESS2 promotes basic principles and rights in the field of work, as well as issues related to child and forced labor, freedom of association and collective bargaining. The ESS2 also promotes safety and health at work and requires that all works should be carried out with the observation of construction safety measures: mandatory wearing of personal protective equipment and safe use, handling, storage and transportation of hazardous substances (e.g. paint, solvents, glues, petroleum products, disinfectants, lead containing materials, etc.). The same applies to the operational period for all new equipment installed (laboratories, wind turbines, solar panels etc.). While reflecting the requirements for occupational safety and health, the Standard also provides a grievance mechanism for employees working on the Project (including activities to be implemented by HEIs). Environmental and social risks/impacts related to labor rights and Occupational Health and Safety (OHS) are expected to be low. While the Project will not involve large-scale construction, refurbishment, rehabilitation, reconstruction works and equipment installation may require engagement of contractors, subcontractors, and temporary workers, which necessitates proportional application of ESS2 requirements. This ESS has several dimensions of application. The proposed Project calls for improved working and study environments, so all parties involved in the Project (PIU, HEI project activities, other implementing entities, contractors) are expected to follow the Labor Management Procedure (LMP) that MoES has drafted for the project. The LMP covers workers' rights and freedoms, as well as requirements of working conditions for conducting civil works, and describes (i) procedures relevant to each category of workers involved; (ii) terms and conditions of labor; (iii) overview of key potential labor risks (if any); (iv) overview of Ukraine's labor legislation; and iv) grievance redress mechanism or mechanisms available to all workers (and if relevant, to their organizations). The LMP will be updated during implementation when more details about the HEI project activities are known (in particular, the types and scale of civil works).

While tendering of civil works, bidders will be required to submit an Environment, Social, Health and Safety (ESHS) Code of Conduct prepared in line with the Environment, Health and Safety Guidelines of the World Bank Group[6]. Contractors engaged in civil works will develop OHS measures (as part of ESMP), which will have a special focus on handling potentially dangerous or toxic materials, such as asbestos, lead-containing paints, and will include procedures on incident investigation and reporting (as per ESIRT in the Annex F. Incident Report in Annex B can also be used for reporting incidents and how they were addressed). Contractors will be contractually required to monitor and enforce safety plans.

A locally based HEI project activities-specific GRM, proportionate to the potential risks and impacts of those activities, will be established as a part of ESMP. In addition, a GRM specifically for direct and contracted workers will be provided. The HEI project implemented activities- specific GRM and workers' GRM will be designed at an early stage and will be formally established before the start of

[6]The EHS Guidelines are technical reference documents w ith general and industry -specific examples of Good International Industry Practice (GIIP) and are referred to in the World Bank's Environmental and Social Framew ork and in IFC's Performance. The EHS Guidelines contain the performance levels and measures that are normally acceptable to the World Bank Group, and that are generally considered to be achievable in new facilities at reasonable costs by existing technology. The EHSG can be accessed at https://ww.ifc.org/wps/wcm/connect/Topics_Ext_Content/IFC_External_Corporate_Site/Sustainability-At- IFC/Policies-Standards/EHS- Guidelines/

any civil works[7]. Complaints received and resolved will be reviewed during the implementation support missions.

All workers engaged under refurbishment, rehabilitation, reconstruction works, equipment installation, and feasibility studies, including contracted and subcontracted workers, will be managed in accordance with the LMP. Contractors will be required to prepare site-specific OHS measures and Codes of Conduct prior to commencement of works.

4.3 ESS 3 – Recourse and Efficiency, Pollution Prevention and Management

This ESS 3 sets out the requirements to address resource efficiency and pollution prevention and management throughout the project life cycle consistent with Good International Industry Practice (GIIP). The applicability of this ESS is established during the environmental and social assessment described in ESS 1.

The overall level of environmental risks associated with the project is considered to be moderate The Project's physical activities are limited to small-scale improvements/rehabilitations of education infrastructure within existing sites. The expected environmental risks are associated with handling and storage of construction material, waste, excessive noise and vibrations, dust emissions, and disposal of asbestos-containing material, if present. The ESMF includes a section on Pollution Prevention and Management, with a focus on those issues which might arise while conducting civil works for facilities rehabilitation activities. Assessment of associated activities with civil works risks and impacts and proposed mitigation measures related to relevant requirements of ESS 3, including raw materials, water use, air pollution, hazardous materials, and hazardous waste are clearly specified in the ESMF and requested to be included in the ESMPs as relevant, and further being part of bidding documents.

Air emissions will include exhaust from heavy vehicles and machinery, and fugitive dust generated by construction activities. Those most likely to be affected are students, teachers, and people living in areas close to the construction sites. Mitigation measures such as dust suppression, vehicle maintenance etc. will be applied to minimize the impacts and residual impacts are expected to be limited in scope and duration.

Noise will likely be generated from use of construction machinery and vehicle movements. The relatively short-term and small-scale nature of the works suggest that noise levels will not be excessive. Construction works will be scheduled to take place mainly during vacation periods, to the extent possible, in order to limit the impact on students and persons in the respective buildings.

Liquid and solid waste will mainly include oils from construction machinery, concrete blocks, metal and glass pieces from demolished walls etc. Waste will be segregated, stored and disposed at approved sites.

Due to the nature of proposed renovation works, it is not expected that the project will have significant water and energy use.

There is also a potential of rehabilitation activities that could involve demolition or replacement of existing infrastructure containing hazardous materials such as asbestos. The ESMF includes measures to consider for removal and disposal of hazardous materials such as asbestos.

To the extent possible, designs for rehabilitation of the existing premises of education facilities will include feasible elements of insulation (window frames, roofs, etc.) aimed at heating energy savings and introduction of energy-efficient lighting.

HEIs involved in the implementation of project activities will be required to prepare an ESMP, which will specify the risks/impacts and proposed mitigation measures related to relevant requirements of ESS 3. Those ESMPs will have detailed waste management comprehensive procedures (covering sorting, storage, transportation and utilization of hazardous, construction and household waste), as well

[7]More details on GRM establishment is provided in the Stakeholder Engagement Plan developed for the Project

as dust, noise and vibration mitigation measures. To the extent possible, design for rehabilitation of the existing premises of EIs will include feasibility elements of insulation (window frames, roofs, etc.) aimed at heating energy savings and introduction of energy-efficient lighting.

Activities involving refurbishment and equipment installation may generate construction and electronic waste, including packaging materials, obsolete equipment, and hazardous materials. ESMPs will include waste management measures covering segregation, temporary storage, transportation, recycling, and disposal in accordance with national legislation and GIIP. Energy-efficient solutions, where feasible, will be prioritized during rehabilitation works.

Specifically, impact of the installation and use of solar panels include: (i) Construction Phase - the facilities. Dust, noise, soil/water pollution; (ii) Operation - Resource use, microclimate, waste; (iii) Decommission - Hazardous waste, recycling.

4.4 ESS 4 – Community Health and Safety

ESS 4 focuses on the risks and impacts of projects on communities' health and safety. The MoES/PIU is responsible to address the health, safety, and security risks and impacts on project-affected communities by avoiding or minimizing such risks and impacts, with attention to people who, because of their circumstances, may be vulnerable.

The application of this ESS 4 is multidimensional. Community health and safety issues are associated with the typical risks / impacts of construction sites (renovation works planned under Components 2 and 3) such as dust, noise and vibration, waste and influx of labor. The project finances the rehabilitation of renovation/construction of HEI (laboratories) (component 3) that will be accessible to students, teachers and sometimes other people. Some risks / impacts are identified regarding the potential exposure of the public to operational accidents or natural hazards, including extreme weather events. The project will also apply the concept of universal access to the design and construction of these renovated HEI buildings when it is technically and financially feasible to accommodate the needs of persons with disabilities or who are mobility impaired and have access to HEIs and other facilities.

In addition, MoES will follow ESIRT procedure to comply with ESS 4. The Incident Register form template provided in Annex B to this document can be adapted to report different type of accidents that occur in HEIs during construction and operation phases.

Project-supported activities will take place under conditions of significant instability, beyond the direct control of the MoES, and will involve health, safety, and protection risks associated with the Russian military invasion. Primarily, this concerns the risks posed by Russian missile strikes across Ukraine, including areas far from the front line. Therefore, there is a risk that project facilities could become targets of bombardments, endangering nearby communities and facility staff.

Occupational health and safety (OHS) hazards may arise during construction, maintenance, and operation of new facilities and equipment, and must be carefully managed. The Contractor will prepare a **Health and Safety Method Statement (** See Annex H) before the commencement of construction works at the site, which will be approved by the MoES. This document explains the proper procedures, safety measures, and project requirements. It is an essential tool for mitigating risks and protecting visitors, construction workers, and other individuals exposed to project activities.

The comprehensive document will include information about the Contractor's equipment and team resources, such as personal protective equipment (PPE), detailed work steps, emergency procedures, and contact information for health and safety personnel. If the project requires additional measures, such as proper waste disposal, hazard removal, or site cleaning, these details must also be included in the document. The Health and Safety Method Statement may also cover:

- First aid and emergency response protocols;
- Required safety training and procedures;

- Necessary work permits and authorizations;
- Lockout and shutdown procedures for machinery and equipment;
- Access points to the construction site;
- Instructions for proper handling of construction materials;
- Scaffold installation;
- Key locations on the construction site, such as sanitary facilities and waste storage areas.

The Health and Safety Method Statement should also address hazards related to incidental waste. For example, if any waste is generated, the document must specify how to safely manage and dispose of it. The Health and Safety Method Statement must be reviewed and updated whenever tasks are carried out at a new location or using new equipment. If factors affecting health and safety change, the document must be revised to ensure the continued relevance of safety measures.

Many workers will be primarily exposed to OHS risks, including but not limited to:

- Insufficient awareness of OHS requirements, such as proper use of PPE and safe workplace practices;
- Electrical installation work;
- Exposure to chemicals (paints, solvents, lubricants, and fuels);
- Road traffic accidents;
- Hazards during earthworks;
- Lifting of heavy structures;
- Exposure to construction aerosols (dust, silica, and asbestos);
- Hazards during welding work (fumes, burns, and radiation).

Specifically, preventive and control measures must ensure that only trained and certified personnel have access to facilities or any areas that may pose OHS risks, with the necessary protective devices and adherence to minimum distance requirements.

4.5 ESS 5 – Land Acquisition, Restrictions on Land Use, and Involuntary Resettlement

The project will not finance activities that would require land acquisition, access rights (short-term or long-term), or physical or economic displacement. The project's civil works consist of small-scale rehabilitation/ repairs within the premises of existing education institutions. There are no specific target locations of project activities as institutions benefiting from them will be nationwide but located on lands owned by the state or local municipalities. Risks and impacts will be identified through a social screening process (checklist) and appropriate mitigation measures will be included in the site specific ESMPs or RAP, if necessary. The draft ESMF and RPF, prepared by the MoES, describe the process for

screening of potential construction- induced social risks and impacts including land and resettlement-related impacts, as well as actions/steps and mitigation measures to be employed if such impacts are identified. ESMF and RPF also include supervision and monitoring requirements regarding ESS 5 - relevant impacts.

4.6 ESS 6 – Biodiversity Conservation and Sustainable Management of Living Natural Resources

The HEI project activities are not anticipated to have impacts on biodiversity or living natural resources. The project implementation sites will be in modified landscapes i.e. already used for educational facilities, training centers and universities.

ESS 6 recognizes the importance of maintaining core ecological functions of habitats, including forests, and the biodiversity they support. Habitat is defined as a terrestrial, freshwater, or marine geographical unit or airway that supports assemblages of living organisms and their interactions with the non-living environment.

4.7 ESS 7 - Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities

The ESS 7 is not applicable for the Project. There are no identified indigenous people in the country.

4.8 ESS 8 – Cultural Heritage

The HEI project activities might, in some cases, include rehabilitation of facilities which are in the list of national or local Cultural Heritage sites. It is expected that these rehabilitation and restoration works will mainly include repair and upgrading of buildings and may also cover some interior utility networks (electricity, water, heating, a/c, etc.) and landscaping. As required by the ESS 8 and national legislation, rehabilitation of each such site will be developed and managed in accordance with principles of good practice in the cultural heritage field. In such a case, the PIU would include an ES specialist knowledgeable in aspects of heritage preservation. Site- specific ESMPs under the project will address cultural resources preservation measures in detail.

Additionally, civil works may require undertaking of earth works that involve the likelihood of chance finds. To address this issue, ESMPs of all HEI project activities will have special clauses in all contracts for civil works on “chance finds procedure” which will set out how chance finds associated with project activities will be managed.

4.9 ESS 9 – Financial Intermediaries

No FI involvement is envisaged in the project.

4.10 ESS 10 – Stakeholder Engagement and Information Disclosure

Through the ESS 10 the WB recognizes the importance of open and transparent engagement between the implementing entity (MoES/PIU) and project stakeholders as an essential element of good international practice. Effective stakeholder engagement can improve the environmental and social sustainability of projects, enhance project acceptance, and make a significant contribution to successful project design and implementation.

ESS 10 applies to all projects supported by the Bank. The MoES/PIU/EIs will engage with stakeholders as an integral part of the project's environmental and social assessment and project design and implementation, as outlined in ESS 1.

The MoES have prepared a Stakeholder Engagement Plan (SEP) prior to the assessment in accordance with the requirements of the ESS 10. The stakeholder engagement plan (SEP)[8] includes interested parties, various beneficiaries and those directly affected by the project (project affected persons – PAPs), including disadvantaged and vulnerable groups. The main stakeholders of the project are: (i) the Ministry of Education and Science (MoES); (ii) HEIs authorities at national, regional and local levels; and iii) HEIs administration and pedagogical staff; (iv) students.

The SEP draft will be released as early as possible prior to the assessment to allow meaningful consultation and input from stakeholders before it is finalized for evaluation. The MoES/PIU will put in place, within the framework of the SEP, external communication procedures on environmental and social issues proportionate to the risks and impacts of the project activities, in accordance with the requirements of the ESS 10.

MoEs will build upon the existing Grievance Redress Mechanism (GRM) as the project will also design a project-wide GRM which will enable stakeholders to channel concerns, questions, and complaints to the PIU (and where necessary to other actors at the local level). The GRM will be multi-faceted, to receive inputs from communities and external stakeholders, and be able to respond to issues related to a broad range of project implementation issues. A channel for confidential reporting and redress mechanisms for gender-based violence (GBV) issues will also be laid out. Given that project locations will be dispersed geographically, the project will identify local actors, including local government agencies as well as specific liaison officers at the PIU to help coordinate and implement the SEP.

The PIU will assist HEIs to include a HEI-level GRM to respond to inquiries and public concerns.

The PIU will also assist civil works contractors to establish workers GRM.

Chapter 8 of this ESMF discusses public consultation, disclosure and GRM further and refers to SEP for more details on methodologies to apply, particularly with regards to ongoing COVID-19 crisis.

5. DETERMINATION OF POTENTIAL ENVIRONMENT AND SOCIAL IMPACTS

Generic assessment demonstrate that environmental and social impacts will be limited, small to moderate, reversible and easy to control and manage.

Environmental and social impacts related to refurbishment, solar panels installation and operation, rehabilitation, reconstruction works, and installation of equipment are expected to be site-specific, temporary, and reversible, and manageable through standard mitigation measures reflected in site-specific ESMPs.

The main environmental and social risks and impacts are related to the activities to be financed under components 2 and 3 (the renovation/rehabilitation of HEIs, installation of labs, etc.)

All renovation/construction works will be carried out exclusively at the existing facilities of HEIs:

reconstruction and modernization of buildings of selected higher education institutions.

Since the HEI project activities[9] will be identified in the course of the Project implementation, the identified environmental and social impacts are generic. To comply with the WB ESF, each identified HEI implementing project activities will develop an ESMP following the proposed template in the Annex E. The ESMP will account for each activity specific environmental and social impacts and benefits.

[8] SEP is available as a separate document and will be disclosed jointly with the ESMF.

[9] The ESMF provides a template for Project Activity Plan on Annex A

If the renovation works have a small scale, the PIU, in cooperation with HEIs, will assess potential impacts using a ESMP checklist the attached Annex E.

For activities limited to equipment installation only, without any civil works, environmental and social impacts are expected to be minimal, site-specific, temporary, and manageable through standard mitigation measures and the use of an additional ESMP checklist developed for equipment installation and facility conditions (Annex E).

5.1 Potential positive social and environmental impacts

Program activities will have a significant positive impact on the quality of educational services in Ukraine, influencing on safety of educational environment, directly and indirectly, temporarily and permanently. The maintenance costs of buildings of the selected educational institutions will be reduced meanwhile safety conditions will be increased. The following positive impacts are anticipated on the environment and social aspects of the project during renovation (refurbishment) and the operational phase:

- *Improved infrastructure of HEI for learning*. The HEI buildings, classrooms, libraries, shelters and their accessibility for persons with disabilities are crucial elements for better learning outcomes.

- *Improved quality of educational services in HEIs* with modern digital infrastructure for distance learning, digital devices and equipment, basic teaching laboratories and advanced scientific research laboratories, equipment, targeted managerial and faculty training, minor refurbishment and rehabilitation.

- Reduced maintenance cost due to energy and other resources (water consumption) efficiency measures implemented during renovation.

- Improve conditions for students to achieve academic success and equal opportunities in safety conditions;

- Create jobs and temporary incomes (contractors), then improve the incomes of employees;

- Establish a participatory system to hold public consultations on HEI renovation and adequately manage the grievances of students and parents or others directly or indirectly affected by the project activities.

- Due to the ongoing war in Ukraine the public consultations and stakeholder engagement should emphasize on virtual methods for participation (virtual meeting, tv, social media publications, posters in public places);

- Improve citizen participation by strengthening access to information mechanisms, consulting citizens, handling complaints and introducing measures to establish the right to petition and monitor user satisfaction.

5.2 Potential adverse social and environmental impacts

Potential environmental and social impacts for the renovation of HEIs are described below for design/bidding, construction works, and the operation phases. All the environmental and social impacts associated with renovation/rehabilitation of HEI campuses under Sub-component 2.1 and Component 3 described below will be temporary (short -term), reversable and site specific (local), from low to moderate in magnitude and manageable. However, the listed below impacts could cause inconvenience to students, teachers, workers and general public. Particularly during the ongoing war in Ukraine, presence of contractors' workers on a campus can present an additional workload for shelters during air alarms and increase risks of accidents.

Expected negative impacts:

During the design phase

- neglect of environmental and social aspects, including cultural heritage (e.g. historical buildings) during preparation of HEI renovation design and bidding documents.

- disruption of HEI programs and academic activities due to wrong timing of renovation work.

- The overall design/technical plan on renovation/rehabilitation includes outdated technics for heating, ventilation and air conditioning (HVAC), other engineering solutions (underutilized energy efficient, water efficient etc. solutions), neglect of appropriate fire alarm and fire emergency escape plans and hazardous components in construction materials.

During the construction (renovation) phase

- air pollution (dust, concrete dust, particulate matters, exhausts) caused by extractions of materials, transport of equipment and trucks/machinery can have negative impacts on both human and environmental health;

- soil pollution due to stock piled construction materials, construction waste, oil leakage from machinery and the event of an uncontrolled spills;

- uncontrolled releases of hazardous materials (e.g. glues, petroleum products, solvents, paint, etc.) and waste (asbestos-containing roofing material, possibly, lead-containing paints in demolition debris due to their improper use, handling, storing and transporting;

- water pollution in the event of the release of pollutants (oils, oil products, etc.) into the HEI yards (temporary construction side), nearby streams and other water bodies loss of flora and fauna habitats. The HEI project activities are not likely to be within sensitive areas, habitats for any threatened or rare species. However, the cleaning of vegetation during renovation activities is possible on HEIs backyards for storage of construction materials, equipment, and waste storage or some infrastructure improvement works (e.g. water pipes replacement, heating boiler installation, etc.)

- other nuisances like noise and vibration, the movements of vehicles (delivering construction materials, removing wastes, operation of cranes, lifts, front loaders etc.) and construction machinery may cause some nuisance in terms of noise and vibration of the machinery to which people will be exposed;

- health impact on teachers and students if rehabilitation of HEI premises happens during the educational period. Disruption of academic activities that may be temporarily shifted to another building while premises are being renovated.

- occupational health and safety hazards, the risk of construction site accidents for workers, teachers and students. Work related accidents such as burns, falls and cuts may also occur due to human errors, workers not wearing appropriate PPEs required for their assignments, and mechanical faults of equipment. Accidents may also result from improper storage of equipment, paints and other solvents and construction materials as well as poor management of construction waste. Another source of accidents during the construction phase of the project is human-vehicular conflicts as equipment and supplies are transported to the site and waste is hauled from the construction site to designated disposal site. Accidents of this nature can result in spills, destruction of property, injuries and fatalities on site. Several OHS risks may occur from the activities, processes, materials and equipment involved in the construction phase of the project;

- traffic accidents due to construction-induced traffic (incoming and outgoing trucks, workers, students and other pedestrians);

- fire risks since construction areas prone to spontaneous fire combustion activities especially at the fuel storage, mechanical workshop (welding and steel cutting), smoke from burning garbage, cigarette smoking sections and carpentry shops.

- Risks associated with the danger of shelling, detection of explosive devices or their components, and hazardous objects.

During operation phase

- health risk for students and safety hazards in case of exposure to toxins in construction materials (e.g. lead based pain, asbestos). It is expected that during HEI rehabilitation/renovation all major health hazards/toxic materials will be removed, so no major hazards are expected in renovated HEI. However, proper maintenance (e.g. sanitation system and cleaning services, repair services), internal communications and fire safety systems must be insured;

- Risks for students associated with the danger of shelling, detection of explosive devices or their components, and hazardous objects.

- health impacts, injuries and infrastructure/equipment damage due to lack of safety rules and instructions on laboratory equipment and chemical materials in use;

- management of municipal waste, as well as the generation and management of electronic waste.

5.3 Potential Environmental and Social Risk and Impacts of Solar Panels

The environmental and social risks and impacts of solar panels, as assessed under the World Bank Environmental and Social Framework (ESF)with direct reference to ESS1, ESS3, ESS4, and related standards. The impacts span installation, through operation, maintenance, and decommissioning:

Soil, Water, and Air Pollution:

Solar PV construction/ installations and maintenance activities can cause soil erosion, dust, and water pollution from spills of fuels, lubricants, and hazardous materials. Improper storage or disposal of chemicals and waste (including e-waste and batteries) can contaminate soil and water resources

Hazardous Materials and Waste Management:

Solar panels and associated batteries may contain hazardous substances (e.g., lead, cadmium, lithium). End-of-life disposal and recycling pose significant risks if not managed according to international best practice. Countries with limited recycling infrastructure face heightened risks of environmental contamination.

Resource Efficiency and Climate Change:

Solar PV projects generally reduce carbon emissions compared to fossil fuels, but require water for panel cleaning and may have minor microclimatic effects (localized temperature changes, shading). ESS3 requires projects to minimize resource use and pollution, and to consider climate resilience in design.

Noise and Visual Impacts:

Construction and operation may generate noise and alter the visual landscape, potentially affecting local communities and property values.

Social Risks and Impacts:

Labor and Working Conditions:

Risks include unsafe working conditions (falls, electrical hazards, chemical exposure), use of child or forced labor in supply chains (notably in polysilicon manufacturing), and lack of adequate grievance

mechanisms. ESS2 and project ESMPs require robust labor management and OHS plans.

Community Health and Safety:

Construction and operation can increase risks of communicable diseases (e.g., STIs,), traffic accidents, and gender-based violence (GBV/SEA/SH) due to labor influx. ESS4 requires assessment and mitigation of these risks, including codes of conduct and community engagement.

Social Exclusion and Stakeholder Engagement:

Vulnerable groups may be excluded from project benefits or consultations. ESS10 requires inclusive stakeholder engagement and accessible grievance mechanisms .

Mitigation Hierarchy and Implementation Guidance:

- The ESF requires application of the mitigation hierarchy: avoid, minimize, mitigate, and compensate/offset residual impacts (ESS1, para 27) 15.
- Site-specific ESMPs, WMP, ACMP and stakeholder engagement plans must be prepared, disclosed, and implemented, with regular monitoring and adaptive management .

Summary Table of Key Risks and Impacts:

Phase	Environmental Risks	Social Risks
Construction	Dust, noise, soil/water pollution	Labor influx, GBV, exclusion
Operation	Resource use, microclimate, waste	Community health/safety, access
Decommission	Hazardous waste, recycling	OHS

5.4 Impacts and mitigation measures

Table 5.1 below summarizes the potential environmental and social risks that were identified during ES impact screening of the Project, and the corresponding mitigation measures. The environmental and social impacts associated with the Project during design, construction and operation phases include air pollution, water pollution, soil pollution, noise, dust, removal of trees, destruction of existing structures, generation and handling of construction and other waste, health and safety concerns, etc. Mitigation measures are required to minimize the environmental and social impacts. When the participating HEIs are identified, the ESMP will be required for each HEI implementing project activities. The screening of environmental and social risks can be done by following the checklists offered in Annex D. The ESMP in **Annex E** also offers a comprehensive checklist for environmental and social impacts and mitigation measures.

Table 5.1. Summary of risks associated with HEI project implemented activities project implemented activities compliance with ESSs and mitigation measure

When and why	What (description of Impact)	What to do about it (mitigation measures)
Design Phase		
Preparation of Call for tenders (bidding documentation) and Contracting	Ignorance of environmental and social requirements,	Preparing TOR with ES provisions (for contractors) Including Part 2 and Part 3 of Environmental and Social Management.

	including cultural heritage (e.g. historical buildings) during preparation of bidding documents	Plan - Generic ESMP (Annex E) Adding contract clause on ES risks management as per national and WB ESF ESSs (requirement to comply with OHS provision, waste Management, dust Management, noise and vibration provisions). Including requirements on supplying non-toxic materials.
Inappropriate timing of renovation works	Interruption of teaching process; increase in magnitude of adverse impacts on students/teachers.	Scheduling renovation works during summer vacation as much as possible.
The overall design/technical plan on renovation/ rehabilitation, with considerations of cultural heritage status of the HEI building	Ignorance/lack of knowledge of modern energy efficiency techniques, water saving, HVAC, neglect of appropriate fire alarm and fire emergency escape plans Incorporation of outdated materials with hazardous components, building technics, materials, not confirming cultural/historical value.	Ensuring that HEI infrastructure (entrance, class rooms, canteen, bathrooms, drinking water stations, fire alarm system, comprehensive evacuation plan, etc.) design provides unimpeded access to all, including persons with disabilities; Procurement of construction materials without hazardous components. Confirming cultural heritage value of buildings and renovating accordingly with the requirements.
Construction Phase		
Construction phase pollution, noise, traffic	Risks related to excavations; digging trenches for laying extension and pipes; bringing down internal walls and plastering, exterior walls insulation, etc.	Selecting of specialized companies Conducting of prior technical studies; preparing a detailed specification. ESMP to comply with ESSes.
Air Pollution	The main sources of atmospheric pollution during construction work are exhaust gases from construction machinery, vehicles, and other mechanisms, dust formation processes during the use of loose materials, emissions of pollutants from the use of paints and varnishes, emissions into the atmosphere during welding work, and dust emissions during earthworks and demolition.	Dust and vehicle emissions should be minimized through proper operation and site supervision. During prolonged dry periods, dust suppression measures (e.g., water irrigation) should be implemented. If necessary, workers should be provided with protective masks. The technical condition of diesel fuel equipment should be monitored regularly. During project activities, contractors should use modern

		construction methods and energy-efficient technologies as far as possible. Regular monitoring of air pollution should be carried out throughout the entire period of repair work.
Soil Pollution	Spills of oil from heavy machinery, paint, other chemicals (during renovation works)	Technical compliance of machinery; compliance with operation instructions, wastewater stored properly and disposed at approved sites, etc.
Water Pollution	Release of pollutants (oils, oil products, etc.)	The septic tanks to be placed in the construction camp(s) must be made of impermeable material and will be emptied in accordance with applicable rules. The wastewater will be stored appropriately and transported by a special truck to a centralized wastewater collector or to other approved site, based on the agreement reached with the local authorities during the design phase.
Loss of Flora and Fauna	Risk of cutting or removing vegetation (trees, shrubs) and the reduction or green areas around EI buildings for construction purposes	Establishment of a green areas, search for alternative solutions (to avoid tree cutting), planting trees to compensate for the possible destruction of green spaces and the shortfall in terms of CO2 sequestration capacities.
Construction waste	Generation of construction waste (soil, concrete, packaging, etc.), which may cause temporary site pollution, dust generation, and health and safety risks if not properly managed.	Separate construction waste into recyclable, hazardous, and non-hazardous categories. Collect, store, and transport construction waste to appropriately designated/controlled landfills. Ensure daily cleaning, including of premises, and maintain appropriate means of disposal for construction waste. Waste generated from the demolition of existing structures should be reused as much as possible in the proposed construction. The storage site for waste prior to

		final disposal should be located at least 50 meters away from rivers, streams, lakes, and wetlands. After each construction site is decommissioned, all debris and waste must be cleaned up and recycled or disposed of at an approved location. Burning construction waste is prohibited.
Asbestos/asbestos-containing materials (ACM)	Asbestos/ACM waste poses health risks to workers and the environment if not handled, stored, and disposed of properly.	If the construction site is expected to contain, or there is a suspicion of, hazardous materials (asbestos/ACMs) in the debris of demolished buildings, the Contractor is required to prepare an **Asbestos/ACM Waste Management Plan** using the existing Plan template, which will be approved by the MoES. The Plan must also be made available to all personnel involved in production and transportation activities.
Hazardous Waste (solid and liquid)	Construction waste accumulation; demolition debris, washing of equipment on site, inappropriate waste disposal	Separate waste collection and removal (designated areas); identifying and Contracting waste removal companies (specified in contracting waste removal); provision of mobile toilets for both male and female workers. The demolished wooden (with paint) elements of insulation (window frames, roofs, etc.) are properly discarded, stored and transported to an approved location for further utilization and are not used for heating purposes.
Noise and vibration	Movements of vehicles and construction machinery.	Regular maintenance of machinery and equipment using equipment with noise Suppressing technologies. Providing workers with personal protective equipment against noise e.g. ear plugs. Placing signs around the site to

		notify people about the noisy conditions. Regular maintenance of equipment to ensure they remain efficient and effective. Complying with the noise/vibration regulation of Ukraine and WB standards
Occupational health and safety issues	Health hazards (injuries and accidents), shelling, UXO findings	OHS provisions of ESMP, ESIRT Procedure and Framework requirements for emergency preparedness and response Ensuring all potential hazards are labeled. Educating workers on risks from equipment, providing adequate personal protective equipment and enforcing its usage. Providing safe storage for equipment and hazardous materials.
Fire risk	Construction areas prone to spontaneous fire combustion	Providing firefighting equipment in easily accessible areas as well as ensuring site personnel are well trained to use them and maintaining them regularly. Creating safe and adequate fire and emergency assembly points and making sure they are well labeled. Providing training.
Shelling, detection of explosive devices or their components, and hazardous objects.		Organization of relevant safety trainings. Familiarizing with Framework requirements for emergency preparedness and response (Annex G).
Operation Phase		
Toxins	Sourcing poor quality (uncertified) construction materials	Adding specific requirements (to use non-toxic materials) during tendering.
E-waste	Generation of electronic waste from obsolete or damaged electrical and electronic equipment, which may contain hazardous components and, if improperly managed, can pose risks to human health and the environment.	Where possible, higher education institutions should adopt electronic equipment buy-back options with suppliers as part of their producer responsibility and green procurement policies. Electronic waste collection containers should be placed in all higher education institutions. Consumables, consumable materials, and other supplies (ink cartridges,

		parts, lighting fixtures, batteries, used parts from repairs or damage, etc.) should be collected for disposal separately from other waste. Any electronic waste that is recyclable must be separated for collection and reuse by recyclers. Any equipment or parts that cannot be separated must be placed separately from ordinary solid waste in a separate electronic waste container and stored in a secure electronic waste storage facility. Arrangements for the collection and final disposal of electronic waste must be made with established hazardous waste collection or recycling companies. An **E-waste Management Plan** is in place to guide and ensure proper handling, storage, and disposal of all electronic waste generated by the project.
Safety risks	Harm, injury, death, or illness of a student/teacher in chemistry, physics, biology laboratories and workshop of HEIs	Preparing safety guidance/instruction (behavior, chemicals, equipment to be used, etc.). Labelling all chemicals, equipment that are in use and could expose users to health and safety risks. Training student/teacher to follow the safety guidance and prevent potential Exposure, including framework requirements for emergency preparedness and response Equipping labs and workshops with protective gears and materials.

Mitigation Measures are Recommended for Managing Hazardous Waste from Solar Panels

Mitigation measures for managing hazardous waste from solar panels under the World Bank Environmental and Social Framework (ESF) are guided primarily by ESS3 (Resource Efficiency and Pollution Prevention and Management) and ESS4 (Community Health and Safety), as well as Good International Industry Practice (GIIP) and relevant EHS Guidelines. The following summarizes recommended measures, with direct references to ESF requirements and recent project examples:

1. Waste Management Planning and Hierarchy

- Prepare and implement a site-specific Waste Management Plan (WMP) as part of the ESMP, covering hazardous and non-hazardous waste streams, including solar panels, batteries, and associated e-waste. The WMP must apply the mitigation hierarchy: avoid, minimize, reuse, recycle, and, as a last resort, dispose of hazardous waste in an environmentally sound manner.

2. Segregation, Safe Storage, and Handling

- Hazardous waste (e.g., damaged panels, batteries containing lead, cadmium, lithium) must be segregated from non-hazardous waste and stored in secure, ventilated, covered facilities to prevent leaks, spills, and exposure. Storage areas should be on impermeable surfaces, away from water bodies, and regularly inspected for integrity.

3. Licensed Disposal and Recycling

- Hazardous waste must be transferred only to licensed hazardous waste handlers and authorized recycling facilities. Chain-of-custody documentation is required for all transfers and final disposal. Open dumping, burning, or informal dismantling is strictly prohibited.

4. Take-Back and Extended Producer Responsibility

- Contracts with suppliers/manufacturers should include take-back agreements for end-of-life panels and batteries, ensuring retrieval and recycling. Producers/suppliers must establish collection points and publicize authorized recyclers.

5. Training and Awareness

- Provide training to workers and communities on safe handling, storage, and disposal of hazardous materials from Solar Panels. Awareness campaigns should inform end-users about the risks of improper disposal and the importance of using authorized channels.

6. Occupational Health and Safety (OHS)

- Implement OHS measures for workers handling hazardous waste, including use of PPE (gloves, masks, goggles), engineering controls (ventilation, containment), and regular risk assessments. Emergency response plans for spills, leaks, and fires must be in place.

7. Monitoring and Reporting

- Regularly monitor waste storage, handling, and disposal practices. Maintain records of waste generation, transfer, and disposal, including manifests and certificates from authorized facilities. Audit third-party recyclers and disposal companies for compliance.

8. Country-Specific Requirements

- Align with national hazardous waste regulations and international conventions (e.g., Basel Convention). Where local disposal/recycling capacity is limited, consider temporary storage and export to authorized facilities.

9. Decommissioning Phase

- Develop a decommissioning plan that addresses hazardous waste management, spill control, and safe dismantling of panels and batteries. Use drip trays and containment during removal and transport.

- Solar panel manufacturers must register on the national e-waste portal, establish take-back mechanisms, and ensure panels are sent to authorized recyclers.

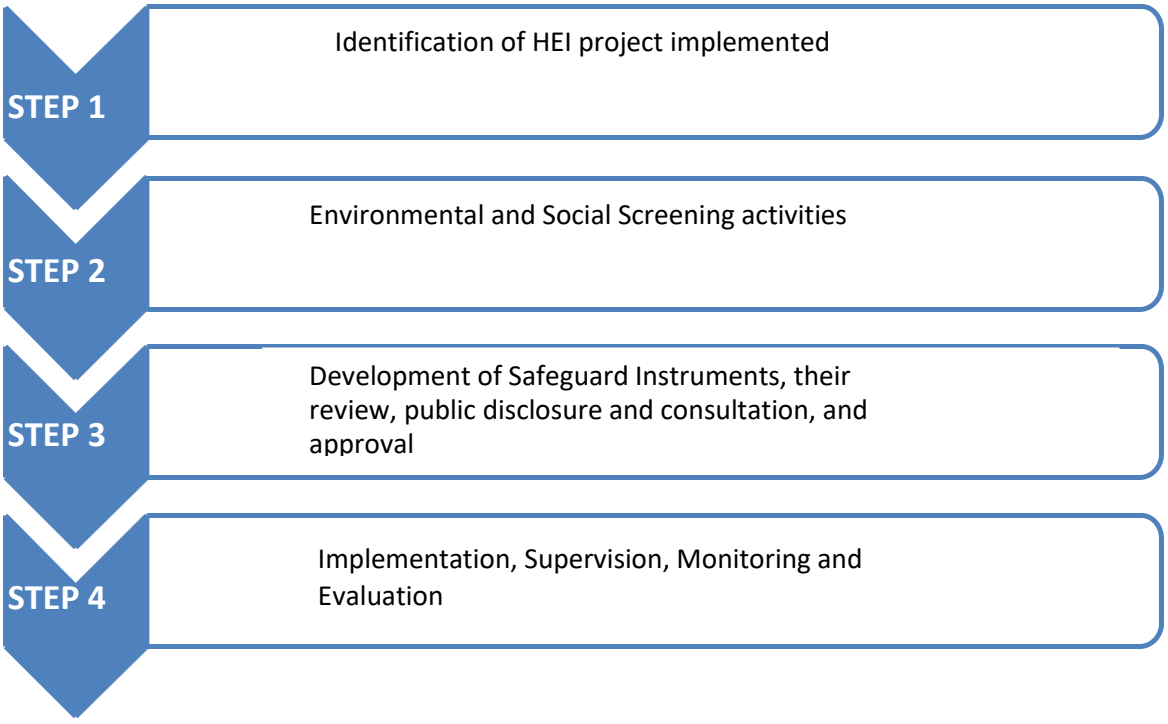
- Solar PV projects require temporary hazardous waste storage, training, and support for licensed companies on management of hazardous waste including batteries.

6. PROJECT REVIEW, COORDINATION & IMPLEMENTATION ARRANGEMENTS

6.1 ESMF Process Flow at the Project Level

In terms of ESMF implementation, the MoES/PIU will: (i) support the HEIs with information and capacity building (including ESSs requirements and other environmental criteria); (ii) guide environmental and social screening and evaluation of HEI eligibility from the ESF point of view; (iii) insure development and proper implementation of ESMP and ESS requirements for each eligible HEI renovation activity; (iv) address complaints and feedback from project stakeholders and public, including GRM, regarding environmental/social impacts of HEI project activities; (v) supervise environmental protection and mitigation measures stipulated in ESMPs for HEI project activities; (vi) provide monitoring of environmental and social impacts as part of overall monitoring of the HEI project activities; and (vii) report on environmental and social impacts and accidents originating during implementation of HEI project activities.

To implement the ESMF requirements the project team will follow the below steps:



6.2 Non-Eligible Activities

The MoES/PIU via criteria established in the course of the Project implementation will provide overall strategic guidance for the Project on selection criteria for HEI project activities. The physical condition of HEIs buildings will be important for being selected to participate in the Project for full or partial renovation/rehabilitation. The selected HEIs will go through environmental and social screening process using the requirements of the national legislation and WB ESF (ESSs) in accordance with this ESMF. The determination of the environmental and social risks of the HEI project activities will be determined by the results of the environmental and social screening.

Given that the overall project risk is Moderate, the selection for HEIs project activities should consult the list of non-eligible activities that will be not permitted by the WB with a potential Substantial/High risk and

the IFC Exclusion List (2007)[10]. The Project will not support construction or rehabilitation activities that require land acquisition n and/or resettlement; will cause negative impact on income/livelihood resources; involve any kind of forceful evictions of people; negatively impacts assets of individual(s) or household(s); do not meet the required technical and quality specifications; or do not provide equal pay for equal work for woman and men.

For every HEI project activity where risks to disadvantaged or vulnerable people have been identified during screening, social assessment should be performed to assure that the design of HEI project activities effectively mitigates potential negative impacts.

One of the PIU responsibilities will be to prepare and update periodically (quarterly and annually) a Project Activity Report (template is provided in Annex A). The Project Activity Report should be submitted to the Bank's Environmental and Social specialists for review half-annually (every six months) and supplemented by the Incident Register (Annex B).

New construction, installation and operation of solar panels large-scale demolition, activities requiring involuntary resettlement, or activities involving high or substantial environmental and social risks remain non-eligible under the Project.

6.2.1 HEI project activities' Screening Procedures

When it is confirmed that HEI project activities are all eligible, the MoES/PIU/HEIs (implementing entities) environmental and social staff will carry out an assessment of the likely environmental impact and the potential for involuntary resettlement, based on the requirements of national legislation and WB ESSs, completing the screening forms presented in Annex D. HEI project activities will be also checked against WB criteria for High and Substantial Risk rated Projects. This will help to identify the type and scale of potential environmental impacts and the risk category (low, moderate, substantial, high) of HEIs project activities.

Generally, the significance of impacts and risks leads to the resulting ES categorization which will depend on the *type* and *scale* of the HEI project activities, their location, *sensitivity* of environmental issues, and the *nature* and *magnitude* of potential risks and impacts.

"High Risk" project type and scale usually entail the following impacts: a) significantly impact on human populations, including settlements and local communities (b) alteration of environmentally important areas, including wetlands, native forests, grasslands and other "critical" natural habitats and ecosystem services; (c) direct pollutant discharges that are large enough to cause degradation of air, water or soil, endangered species and "critical" habitats; (d) large scale physical disturbances of the site and/or surroundings; (e) extraction, consumption or conversion of substantial amounts of forest and other important natural habitats, including above and below ground and water -based ecosystems; (f) measurable modification of hydrologic cycle; (g) hazardous materials in more than incidental quantities; and (h) involuntary displacement of people and other significant social disturbances.

HEI project activities that are considered as "High Risk" and "Substantial Risk" will not be eligible for financing under this Project.

It is **not expected** that HEI project activities will take place in the vulnerable/sensitive locations that can result in a rating of "**High Risk**" or "**Substantial Risk**". However, the location of HEI project activities should be screened to ensure that it is not: (a) in or near sensitive and valuable ecosystems and "critical" habitats (b) in or near areas with significant archaeological and/or historical value where civil works may impede/damage such value; (c) in densely populated areas, where resettlement may be required or potential pollution impact and other disturbances may significantly affect communities; (d) in regions subject to heavy development activities or where there are conflicts regarding the allocation of natural resources; along watercourses, in aquifer recharge areas or in reservoir catchments used for potable water supply; and on lands or waters containing valuable resources (such as fisheries, minerals, medicinal plants, prime agricultural soils). HEI project activities located in the immediate proximity of environmentally or socially sensitive areas that can adversely impact such areas will be rated as "High Risk" or "Substantial Risk". These will not be eligible for Project support.

[10] https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at- ifc/company-resources/ifcexclusionlist

Sensitive issues may include (but are not limited to): conversion of wetlands, potential adverse effects on endangered species and habitats as well as protected areas or sites, involuntary resettlement, impacts on international waterways and other transboundary issues, and toxic waste disposal. There are several ways in which magnitude can be measured, such as the absolute amount of a resource or ecosystem affected, the amount affected relative to the existing stock of the resource or ecosystem, or the intensity of the impact and its timing and duration.

Other planned or ongoing actions may need to be considered. Considering the scale of the proposed HEI project activities, it is expected that the magnitude of their environmental and social impacts will be Low to Moderate. Therefore, only HEI project implemented activities that are rated as "**Moderate Risk**" or lower will be considered for Project support.

6.2.2. Development of Safeguard Instruments.

ESMP will be required to identify, evaluate and to prevent potential environmental and social risks and impacts. The mitigation measures for the identified impacts and risks will be incorporated into the project design of the ESMP (see Annex E). The site -specific ESMPs (compulsory) and ESIA/OVD (if required for some "Moderate Risk" HEI project activities under national legislation) will be prepared by the HEI with support of MoES/PIU.

When working on the ESMP for HEI project activities, the MoES and HEIs, will follow the steps outlined below:

Step 1: Keeping in mind preparation, construction and operation phases, PIU performs screening of environmental and social risks and impacts. The checklists for environmental and social screening of HEI project activities (provided in Annex D) should be used for initial screening. Checklists for chosen HEI activities should be provided to Bank's ES Specialists for review and no objection. A final list of HEI project activities is to be confirmed through the Project Activity Report submitted to the Bank's ES Specialists.

Step 2: With support from MoES/PIU, HEIs develop ESMPs for individual HEI project activities confirmed and listed on the Project Activity Report. The ESMP should be developed with the appropriate level of initial stakeholders' engagement (a template is provided in Annex E). ESMPs should, inter alia, list HEI the environmental and social impacts of HEI activities, appropriate mitigation measures, breakdown of responsibilities for all implementing parties, and stakeholders' engagement and reporting requirements (between contractors, HEIs and MoES/PIU).

Step 3: With support from MoES/PIU, HEIs integrate environmental and social provisions stipulated in the ESMPs into tender documents for civil works. MoES/PIU provides oversight.

Step 4: The contractor/HEI implement mitigation measures (as per breakdown of responsibilities described in the ESMP). MoES/PIU provides supervision and support.

Step 5: MoES/PIU and HEIs monitor HEI project activities' Environmental and Social performance and compliance with ESMP provisions.

Step 6: Reporting: MoES/PIU reports on ES performance half-annually using Project Activity Report template (Annex A) supplemented by the Incident Register (Annex B).

6.2.3. ESMP Template

The ESMP is a site-specific plan that will be required for each HEI renovation activity. The ESMP assesses the site-specific impacts and identifies the appropriate mitigation measures that will be required to minimize the identified impacts. The ESMP includes monitoring and reporting procedures and the specific GRM for HEI project activities.

The ESMP template provided in Annex E should be populated in its three parts:

Part 1 includes a descriptive part that characterizes the project, specifies institutional and regulatory aspects, describes technical project content, outlines any potential need for capacity building and briefly introduces the virtual public consultation process. This section should indicatively be up to two pages long. Attachments for additional information may be supplemented as needed.

Part 2 represents the checklist to identify impacts (yes/no) and suggests environmental and social mitigation actions to follow up by properly implementing the measures listed and required in the table. Part 2 checklists have been structured in a way that displays concrete and enforceable environmental and social measures, easily understandable to non-specialists (such as Contractor's site managers) and easy to check and enforce.

Part 3 contains a simple monitoring plan to enable the Contractor as well as MoES/PIU and the WB' specialists to monitor the implementation of environmental management and detect deviations and shortcomings in a timely manner. Part 3 has also been designed in a deliberately simple way to enable monitoring of key parameters by non-specialist staff.

The ESMP Part 2 and Part 3 should be included into the bidding documents for contractors, priced during the bidding process and their diligent implementation supervised during works execution.

6.2.4. Monitoring of Project Environmental and Social Compliance

MOES/PIU will provide overall strategic guidance and support to HEIs in the development, implementation and monitoring of their project activities. The PIU will coordinate the environmental and social monitoring of the measures stipulated in the ESMF for HEI project activities' ESMPs. Through environmental and social monitoring, the project team will verify if the recommended actions are effective in mitigating potential negative impacts of Project activities.

The supervision of the execution of environmental and social measures will be ensured by the PIU Environmental and Social Specialist/Consultant and works inspectors (engineers/environmental engineers).

The PIU's monitoring responsibilities will include:

- Maintenance of an adequate environmental and social management system, ensuring compliance with the national legal framework, and WB ESF and ESSes, and worker health and labor safety;
- Consolidation of HEI project activities (their current status and ESMPs) and submission of the Project Activity Report (Annex A) to the Bank every six months;
- Provision of technical supervision of the Project/HEI activities related construction and rehabilitation/modernization;
- Ensuring that activities under the Project and its components comply with the approved design and applicable laws, environmental and social requirements set out on tender documentation;
- Ensuring that activities and services for Program's employees comply with the requirements of health and safety norms and rules;
- Ensuring the rational use of resources and responsible waste management;
- Engagement with stakeholders, review complaints and grievances and address issues raised in relation to the Project activities;
- Control and supervise activities of subcontractors, ensuring compliance with Project (HEI project activities) environmental and social requirements;
- Monitor HEI project activities' impacts on the environment and social conditions and their compliance with the WB ESF (ESMP Monitoring Plans). Assess the level of ICT penetration and contractors' ability to apply remote monitoring tools that can be used effectively for civil works monitoring and stakeholder consultation and communication;
- Report to the Bank (through the PIU's regular reporting) on ES performance of the Program.

6.2.5. Reporting on Environmental and Social Incidents

Any serious E&S incident (e.g., fatality, forced/child labor, SEA/SH, violent protest) must be reported to the World Bank within 48 hours of becoming aware of the incident. A follow-up report and corrective action plan must be provided as requested. In order to fully comply with the WB ESF, all HEI project implemented

activities, implemented under the Project, and Associated Facilities will be listed on the Project Activity Report[11], template provided in Annex A. The up-to-date Project Activity Plan will be submitted to the World Bank ES Specialists every quarter.

Despite significant efforts to manage environmental and social risks associated with Project activities, incidents may always occur. An incident in this context is an accident or negative event resulting from failure on the part of the implementing party to comply with national legislation and Bank ESF requirements, or because of unexpected or unforeseen events during project implementation. Examples of incidents include: fatalities, serious accidents and injuries; social impacts from labor influx; sexual exploitation and abuse (SEA) or other forms of gender-based violence (GBV); major environmental contamination; loss of biodiversity or critical habitat; loss of physical cultural resources; and loss of access to community resources.

This Environment and Social Incidents Response Toolkit (ESIRT) is intended to assist implementing parties to address incidents that occur during implementation of the Project and to advise implementing parties on their response to such incidents. ESIRT does not replace regular project supervision and reporting but has been prepared to help implementing parties respond when they learn of incidents during supervision, or at any other time.

ESIRT is comprised of the following six steps under the incident management and reporting process:

A. Step 1 Initial Communication

B. Step 2 Classification

C. Step 3 Investigation

D. Step 4 Response

E. Step 5 Follow Up

The MoES roles and responsibilities in incident response are outlined in each of the steps. This ESIRT also contains a Section on Responses and Remedial Actions, where examples of possible responses by implementing parties to incidents are provided.

ESIRT detailed breakdown of steps is provided in Annex F.

7. CAPACITY BUILDING, TRAINING AND TECHNICAL ASSISTANCE

7.1 Institutional Capacity for ESMF Implementation

The overall responsibility for the implementation of the ESMF lies within the MoES with guidance and support from the World Bank, particularly during the preparation of HEI project activities. The capacity of MoES/PIU and HEIs in managing environmental and social issues is low.The Ministry has employed an Environmental and Social specialist/consultant at the PIU to ensure Project and HEI project implemented activities compliance with the national legal framework and the World Bank ESF Standards that are applicable to the Project.

At the HEI level, the ESMF will be implemented by designated staff, including the HEI Project Manager, the person responsible for material and logistical support, an Occupational Health and Safety Specialist, and the Grievance Redress Mechanism focal point (Head of the Administrative Office).

Staff and relevant stakeholders who will be involved in the implementation of the project should be trained to enhance their skills on environmental and social issues (including the PIU team to enable them to monitor implementation of the HEI project implemented activities). The MoES/PIU will be responsible for capacity building within the implementing parties (HEIs and contractors).

The MoES recognizes the crucial importance of stakeholder engagement and communication for achieving the ambitious development objective and outcomes that the project has set to achieve. To this end, the Ministry team defines several relevant stakeholders: students and parents, community at large, government officials, multiple education agencies subordinated to the Ministry, higher education institutions and rectors/deans) that can be influential or have a stake in the Project/HEI project implemented activities. The

[11] Annex A on this ESMF proposes a template to record the activities of the project and track their progress.

Project Components have sub- components and resources allocated specifically for building tools and systems to facilitate stakeholder consultation and discussions for the Project/HEI project implemented activities and have meaningful consultations on all project activities that are likely to have profound consequences for the project-affected parties (PAP).

The monitoring during the implementation of the HEI project activities will be required in order to measure the effectiveness of the mitigation measures. The monitoring and reporting procedures will ensure early detection of impacts/risks that necessitate specific mitigation measures. The MoES/PIU environmental and social specialist/consultant is expected to report on project progress towards meeting the Bank ESSes. The Project Activity Report in Annex A is one of the tools that can be used for monitoring and reporting on HEI project activities.

The monitoring plan developed within the ESMP for each HEI serves as a guidance document (Part 3: Monitoring Plan in Appendix E, Environmental and Social Management Plan) for monitoring the measures implemented within the HEI project. For activities limited to equipment installation without any construction work, ESMP is an integral part of the monitoring process, ensuring proper management of potential risks related to occupational safety, electrical safety, waste management, and emergency preparedness.

8. PUBLIC CONSULTATION AND DISCLOSURE

8.1 ESMF Disclosure and Consultation

The draft Environmental and Social Management Framework for Ukraine Improving Higher Education for Results Project will be disclosed on the Ministry of Education and Science website for consultation purposes with stakeholders and public in general. The draft ESMF will be presented to key stakeholders, development partners, civil society organizations and the private sector. Comments from the workshop will be incorporated into the final version of the ESMF (with a complete list of participants).

A meeting with the general public should be held remotely/virtually due to Russian invasion to Ukraine in case a request to hold one comes from the public after disclosure (see Chapter 8.3 of this ESMF and Chapter 6 of the SEP). According to the results of public discussions, minutes will be drawn up with comments and suggestions from the interested public. The ESMF will be finalized considering the comments and suggestions provided within 30 calendar days of disclosure and its final version will be uploaded on the Ministry of Education and Science and the World Bank websites.

The Chapter 5.4 “Proposed Information Disclosure Approach” of the SEP defines the information disclosure provisions under the Project in details.

8.2 Public Consultations on ESMP

Consultations on HEI ESMPs will ensure stakeholder involvement in the design of HEI project activities. More specifically, HEIs with support from MoES/PIU will: (i) involve the various stakeholders in highlighting environmental and social issues of the project; (ii) explain the HEI activities to local communities; (iii) encourage the participation of local people (opinions, fears, concerns, suggestions and expectations); (iv) collect socio -economic data and information from local communities related to HEI project activities; (v) lay the foundations for implementation of the actions planned under the HEI project activities.

To ensure above objectives, HEI will publish their respective ESMP on their website and distributed via e-mail to regional (oblast) and district (rayon), local educational departments and other relevant interested parties (student administration bodies, NGOs etc.). No earlier than 10 business days and not later than 20 business days after disclosure/dissemination of ESMP, HEIs will hold virtual public hearings (announced on the website and through other appropriate channels) to discuss HEI project implemented activities, its impacts and mitigation measures described in the ESMP.

Annex C provides a template that MoES/HEIs will use during Project implementation for stakeholder consultation and registration of participants, and to capture the issues discussed during virtual meetings/hearings.

The revised final version of the ESMP will be made public on MoES and HEIs websites and sent to the Bank for information.

8.3 Grievance Redress Mechanism

Addressing grievances raised by individual affected by World Bank-funded projects is an important component of managing project risks. A GRM serves as an effective tool for early identification, assessment and resolution of grievances and therefore for strengthening accountability to beneficiaries. The GRM serves as an important feedback mechanism that can improve project impact and mitigate the undesirable ones. The Project -level GRM mechanism will be available to project stakeholders and other affected parties to submit questions, comments, suggestions and/or complaints and provide any form of feedback on all project-funded activities. Each ESMP will include establishment of HEI project implemented activities-level GRM, as well as workers' GRM and will carry the same functionality as Project- level GRM but of local scale (GRM requirement are described in Chapter 6 of SEP).

Grievance Investigation and Resolution Process is discussed on Chapter 6 of the SEP and covers:

- Channel to Make Complaints Receipt and Referral
- Investigation
- Response to the Complainant
- Right to Appeal

Please refer to the GRM procedure described in detail in SEP.

9. SUPPORTING DOCUMENTS

This ESMF is supported by and works in conjunction with the Project -level documents discussed below:

The LMP is developed by the MoES and meet national requirements as well as the objectives of the World Bank's ESF, specifically ESS2 on Labor and Working Conditions and ESS4 on Community Health and Safety. The LMP is covering the workers' rights and freedoms, as well as requirements for working conditions for conducting civil works, including (i) procedures relevant to each category of workers involved; (ii) terms and conditions of labor; (iii) overview of key potential labor risks (if any); (iv) overview of Ukraine's labor legislation; and (v) grievance redress mechanism or mechanisms available for all direct workers and contracted workers (and if relevant, to their organizations). The LMP will be updated during implementation when more details about the HEI project activities is known, particularly the type and scale of civil works. The HEI project activities will be expected to develop LMP and/or require them from the contractors whose workers will be engage in the implementation of HEI activities (rehabilitation/renovation of HEI buildings).

It is not envisaged that land acquisition and resettlement will be required in the course of Project implementation. However, since the HEI project activities are not defined yet, the RPF is required to meet the World Bank's ESF requirements. The MoES is expected to develop the RFP with defined procedures for acquiring land (voluntary and involuntary after all technical alternatives have been exhausted), dealing with any residual impacts from land acquisition (i.e. identifying, establishing the valuation of, and compensating people that suffer economic losses or loss of private property, monitoring and verification that policies and procedures are followed, and GRM (GRM can be adopted from the SEP).

SEP developed by the MoES is providing a framework for appropriate stakeholder consultation (to be held virtually because of war in Ukraine) and information disclosure. SEP's goal is to facilitate decision-making on HEI renovation by involving project-affected people and other stakeholders in a timely manner so that these groups are provided enough opportunity to express their concerns and support. The SEP document includes the GRM (Chapter 6). The grievance investigation and resolution process is described in detail, including awareness building on GRM, roles and responsibilities for GRM and monitoring and reporting on GRM. Grievance/Inquiry Record is also added in the Annex A on the SEP.

At the level of higher education institutions (HEIs), emergency preparedness and response plans (EPRPs) have been developed to address potential emergencies, risks to community health and safety, and hazards associated with the ongoing war.

EPRPs define emergency scenarios, response procedures, communication and coordination mechanisms, roles and responsibilities, and links to local emergency services in accordance with ESS4 on community health and safety and the War-Hazard Emergency Preparedness and Response Guidance for the Ukraine IBRD Portfolio.

In addition, the project will be supported by an E-waste management plan, which sets out procedures for the environmentally sound handling, temporary storage, transportation, and disposal or recycling of e-waste generated during the project, including waste from the replacement of ICT equipment and other electronic devices in higher education institutions. The plan will ensure compliance with national legislation and relevant international standards.

The Project will also be supported by an Asbestos Waste Management Plan, prepared using an existing Plan template, which defines procedures for the safe handling, temporary storage, transportation, and disposal of asbestos-containing materials.

All the documents listed above are disclosed and consulted upon jointly with this ESMF.

Annex A. Project Activity Report

The current status of works column should contain detailed month/year timeline with the corresponding month marked for different stages of the HEI project activities (development, civil works)

Name of the HEI project implemented activities / brief description of activity	Status of national environmental permitting procedure – EIA (OVD): Not Required/ In progress/ Completed	Status of ESMP/aRAP/Stakeholder Engagement Plan/public consultations	Grievances received during reporting period, subject of grievances, resolution status (pending / in process / resolved)	Current status of works (timeline for design work and start/completion, outstanding issues, GRM data)	Site visits during reporting period (dates, findings, corrective action requests issued, follow-up actions)	Next site visit planned (dates, specific issues to be checked)
HEI NAME/HEI PROJECT ACTIVITIES 1						
HEI NAME/HEI PROJECT ACTIVITIES 2						

Annex B. Incident register

Date	Subject of incident (what happened)	Causalities (None, Hospitalization, Fatality)	Informed parties # of report filed with whom (depending on the accident: either authorities, etc.), Case number and date	Information provided by	Pending issues

Annex C: Summary of Stakeholders Consultations (Issues, Concerns, Participants)

Date (from - to)	Participants	Venue (could be online)	Main topics of discussion

Annex D. Checklists for environmental and social screening (selection) of HEI project implemented activities (activities of the Project)

Name of higher education institution:	
Location of higher education institution:	
Budget estimate:	
Start/end date:	

Part 1: Checklist for verifying the acceptability of project activities

	Within the framework of the project:	Yes	No
1.	Are **project activities** implemented that may cause adverse impacts on health, including serious and/or potentially fatal diseases, high levels of exposure, etc.?		
2.	Are project activities implemented that may result in long-term, permanent and/or irreversible adverse impacts (e.g. loss of critical natural habitats)?		
3.	Is there a high likelihood of causing serious adverse impacts on human health and/or the environment?		
4.	Are there negative social impacts that may lead to significant social conflicts?		
5.	Are there activities that may affect land plots or the rights of people or other vulnerable groups?		
6.	Are there activities that may involve resettlement or land acquisition, or cause adverse impacts on cultural heritage?		
7.	Does the facility comply with all requirements of Ukrainian regulatory and normative documents on environmental protection regarding air emissions, water discharge, and solid waste disposal? If not, please provide an explanation.		
8.	Does the facility have any significant outstanding environmental commissions, fines, or penalties, or other environmental liabilities (e.g., pending litigation relating to environmental issues, etc.)? If so, please provide an explanation.		
9.	Does the establishment have any fines, penalties, significant recommendations resulting from local labor inspections, or other obligations (e.g., pending litigation relating to labor issues, etc.)? If so, please provide an explanation.		
10	Is child labor or forced labor expected in the workforce?		

If any of the answers is “Yes,” the Project does not meet the eligibility requirements and is rejected: ____

If all answers are “No,” the Project is eligible for the identification of potential environmental and social risks and

appropriate environmental and social safeguards: ____

Part 2:

CRITERIA	YES	NO	Comment by the PIU ES Specialist
Proposed HEI project implemented activities			
Will the activity involve refurbishment, rehabilitation, or reconstruction works? *If so, list all the activities you plan to carry out as part of the Project.*			
Will large scope of construction work such as roof repair, facade replacement, partitioning involving the bearing structures, etc. be performed?			
Will works be performed in parallel with educational activities in the immediate vicinity of such activities?			
List of equipment planned for purchase within the framework of the Project implementation.			
Does the project involve the installation of photovoltaic panels for energy production?			
Is damage to plantation cover planned when carrying out reconstruction and modernization of the facility?			
Is disturbance to soil cover, lands and landscapes envisaged when carrying out reconstruction and modernization of the facility?			
Will the planned activities contribute to increase of noise level, ion radiation and vibration, which will require arranging for the monitoring of noise, vibration and radiation?			
Will the noise increase (level and/or frequency) have impact on students and teachers of the institution or locations close to the site (natural habitat, hospitals and health facilities, social centers)?			
Will measures be taken to decrease pollution of atmospheric air when carrying out construction works?			
Is it planned to organize and timely maintain dry (bio) closets at the construction site?			
Is it planned to use hazardous materials and/ or substances when carrying out reconstruction and modernization works, which: require special permits and licenses require licenses or trained staff are prohibited in the European Union have requirements for management in compliance with the legislation of Ukraine may lead to pollution of soil and water in case of lack of adequate monitoring and control measures			
Will a system of construction management and solid municipal waste management be used/created when carrying out construction works?			
Will a plan of emergency response be developed/used?			
Does the Project involve the generation of electronic waste?			
Does the Project involve the generation of hazardous/radioactive waste?			
Does the Project involve the generation of hazardous waste?			
Are there occupational health and safety risks related to working at heights, electrical works, or heavy equipment?			
Is there an area available for storing materials and parking vehicles intended for construction (repair) work, and are access roads provided?			
Does the Project involve the hiring of labor, including permanent employees, contract workers, primary suppliers, and/or community			

workers?			

Results of Environmental and Social Screening

Mark the one that applies	**Prepared by:**
Risk Category "High". Adverse impact, exclude from financing	**Name and Signature:**
	Designation:
Risk Category "Substantial". Limited or temporary but significant impact, exclude from financing	**Date:**
	Approved by:
Risk Category “Moderate" Limited or temporary impact	
Risk Category “Low” Minimum impact	

Annex E. Environmental and Social Management Plan

The checklist-type format provided below has been developed by the World Bank safeguards team to provide "example good practices" and designated to be user friendly. The proposed below ESMP checklist format can be used for low-risk HEI project implemented activities, such as HEI rehabilitation activities.

Part 1. General information about the HEI project implemented activities that includes a descriptive part characterizing the project and specifying the institutional and legislative aspects, the technical project content, the potential need for capacity building program and description of the public consultation process (remote/virtual during COVID-19 crisis). This section could be up to two pages long. Attachments for additional information can be supplemented when needed.

Part 2. Checklist to determine the assessment scope and application of the WB ESMF and ESSs includes an environmental and social screening checklist, where activities and potential environmental issues can be checked in a simple Yes/No format. If any given activity/issue is triggered by checking "yes", a reference is made to the appropriate section in the following table, which contains clearly formulated management and mitigation measures. If there is a borrow pit to be used for construction materials, its size and location should be clearly indicated. Impact mitigation actions on ESMP for each HEI project implemented activities should contain detailed description of the attributes that will be monitored. For example, for "Noise" attribute the sensitive receptors should be indicated and limits of noise that will be monitored.

Part 3. Content of the Monitoring Plan represents the monitoring plan for activities during project construction and implementation. It retains the same format required for ESMPs proposed under normal Bank requirements for Category B HEI project implemented activities. It is the intent of this checklist that Part 2, Part and Part 3 be included into the bidding documents for contractors, priced during the bidding process and diligent implementation supervised during works execution.

Part 1: General Information about the HEI project implemented activities.

INSTITUTIONAL AND ADMINISTRATIVE INFORMATION				
County				
Title of the Project				
Area and				
scope of				
application of				
The HEI project implemented activities				
Institutional mechanisms	World Bank	Project management	Higher Education Institution (Beneficiary of Investments)	
Implementation arrangement	Supervision of execution of ESSs	Local supervision by the district educational department	Supervision Of construction works	Contractor

DESCRIPTION OF THE FACILITY (EI)	
Name of the facility	Enclosure 1: Map of facility [ ] Yes [ ] No
Describe location	
Who is the owner of the land plot?	
Description of geographical, physical, biological, geological, hydrographical and socio-economic background	
Indicative need of construction for raw produce and materials	

LEGISLATION	
Determine national and regional legislation & permits applicable to the project activities	
PUBLIC CONSULTATION	
Indicate when/ where did/will public discussions take place	

Part 2 Example of the Checklist to determine the impacts and impact mitigation actions (measures)

ENVIRONMENTAL / SOCIAL SCREENING			
Do the activities at the facility include the following aspects?	**Activity / issue**	**Status**	**Applied measures**
	0. Informing and creating safe working conditions	[ ] Yes [ ] No	If Yes, see section 0 below
	A. EI building rehabilitation/renovation	[ ] Yes [ ] No	If Yes, see section A below
	B. Impact on surface and underground waters	[ ] Yes [ ] No	If Yes, see section B below
	C. Buildings of historical and cultural heritage and artifacts	[ ] Yes [ ] No	If Yes, see section C below
	D. Hazardous or toxic materials and waste	[ ] Yes [ ] No	If Yes, see section E below
	E. Preservation of forests, wetlands and (or) protected natural areas	[ ] Yes [ ] No	If Yes, see section F below
	F. Unexploded ordnance risk	[ ] Yes [ ] No	If Yes, see section G below
	G. Traffic, public transport and pedestrians' safety	[ ] Yes [ ] No	If Yes, see section H below
	H. Social Risk Management	[ ] Yes [ ] No	If Yes, see section I below

Impact Mitigation Actions

Actions	ATTRIBUTE	CHECKLIST OF ACTIVITIES FOR IMPACT MITIGATION
0. General conditions	Informing and creating safe working conditions	Local departments of architecture and construction and territorial authorities of the Ministry of Energy and Environmental Protection are informed about the forthcoming works. The general public is informed through mass media and (or) information in open access places (including the facility itself). All permits for construction and installation works required by the legislation are received. The Contractor officially agreed that all works would be carried out with observation of construction safety measures (mandatory instructions on occupational safety) and the rules of construction and installation works for maximum mitigation of the impact on public health and environment. The same applies for operational period for all new equipment installed (laboratories, wind turbines, solar panels etc.) Notice boards at the construction sites should determine the schedule of construction and installation works with indicated breaks for lunch, etc. PPE (Personal Protective Equipment) of all workers will meet the requirements of international standards (hard hats are always used, respirators and protective glasses, protection harnesses and special footwear are used where necessary). Same applies for

Actions	ATTRIBUTE	CHECKLIST OF ACTIVITIES FOR IMPACT MITIGATION
		operational period for all new equipment installed (laboratories, wind turbines, solar panels etc.) The respective notice boards should inform workers about key rules and requirements to be observed. Same applies for operational period for all new equipment installed (laboratories, wind turbines, solar panels etc.)
A. HEI building rehabilitation/ renovation and (or) construction activities	Atmospheric air quality	During excavation works the methods of dust control are applied, e.g. water spraying or land wetting. Use debris-chuts during interior demolition above the first floor. Construction waste (demolition debris), removed ground and non-metallic construction materials are stored at specially designed sites with timely wetting and dust control. During pneumatic drilling or removal of the surface layer of the pavement and foundation, dust should be suppressed by constant irrigation and / or protective screens should be installed at the facility. The surrounding pavements (sidewalks) and roads are kept clean from dust and construction waste to reduce dust. All machinery should have timely technical inspections at maintenance stations regarding CO emissions and smoke, idle construction equipment with engines turned on at the sites is not allowed.
	Noise	Construction works should be carried out only at the time indicated in a permit/bidding documents/contract. Notify local communities on the works schedule if it deviates from standard working hours. For the period of works, the engine covers of generators, air compressors and other similar devices will be closed, the equipment will be at the maximum distance from the places of residence of the population.
	Water quality	Anti-erosion and anti-landslide measures should be taken at the facility, the laying of the construction site, construction of storm sewers or reclamation to prevent the displacement of the settled soil outside the construction site.
	Waste management	For all major types of waste expected from the works on removal of fertile soil, dismantling and construction, collection sites and facilities for the use, neutralization and disposal of waste should be identified. Construction waste will be separated from municipal waste by collecting it in separate containers. Construction waste will be collected and transferred to facilities for use, neutralization in accordance with the Register of objects for use, neutralization, storage and disposal of waste in Ukraine. Waste management documentation will be kept as evidence of proper waste management.
	Accessibility and inclusivity	Designs for rehabilitation of the premises of educational facilities will include retrofitting for universal access – ramps, lifts etc. – if missing in the existing layout.
	Resource efficiency (use of materials).	To the extent possible, designs for rehabilitation of the existing premises of education facilities will include feasible elements of insulation (window frames, roofs, etc.) aimed at heating energy savings and introduction of energy-efficient lighting.
B. Impact on surface and underground waters	Water quality	Uncontrolled groundwater withdrawal or uncontrolled dumping of cement mortars or any other polluted water into soil or nearby surface waters will not be carried out at the facility. The contractor will receive necessary permits for water use and drainage.

Actions	ATTRIBUTE	CHECKLIST OF ACTIVITIES FOR IMPACT MITIGATION
C. Buildings of historical and cultural heritage and artifacts	Cultural heritage	If construction works are carried out in a building of historical and cultural value, it is necessary to ensure notification of the Ministry of Culture and Information Policy and get all necessary permits from the local authorities, and to plan and carry out all construction works in accordance with the requirements of the legislation of Ukraine. It is necessary to ensure that all rules and requirements are met for the artifacts or other possible "accidental finds" found during excavation or construction works to be described and entered in the register, for the responsible persons to be informed, and all works to be suspended or plan of their carrying out to be modified, depending on the finds.
D. Hazardous or toxic materials and waste	Work with asbestos	If works with asbestos are carried out at the facility, it should be clearly marked/ labeled as a hazardous material. All asbestos-containing waste (roof slate, etc.) should be transferred to waste disposal facilities.
	Management of hazardous materials and waste	Temporary storage of all hazardous or toxic substances and waste of Hazard Classes 1 and 2 at the facility will be organized in separate premises in accordance with the legislation of Ukraine (mercury-containing waste, lead batteries, intact with unused electrolyte batteries, etc.) without unauthorized access of people and with the respective marking/ labeling. The procedure for hazardous waste management should be specified in the waste management instructions. Waste should be transported in accordance with the legislation of Ukraine on transportation of hazardous waste. Paints or solvents with toxic ingredients or lead-based paints will not be used.
E. Preservation of forests, wetlands and(or) protected natural areas	Protection of ecosystems	All natural ecosystems, wetlands and protected areas in the vicinity of the construction facility will not be damaged or used. Examination and inventory of large trees in the vicinity of construction works should be carried out. Large trees should be marked and fenced for protection; their root system should be protected and any damage to the trees should be prevented. Protective measures should be provided for adjacent wetlands to avoid erosion and precipitation, including, e.g., the laying of a construction site. In adjacent areas, especially in unprotected areas, it is prohibited to create unauthorized quarries, storage sites or unauthorized waste disposal. It is prohibited to damage or use natural ecosystems, wetlands and protected areas located in the vicinity of the construction facility. Install devices to prevent birds from nesting in the vicinity of wind turbines.
F. Unexploded ordnance risk	Danger to human health and safety	Before the start of any excavation works, the contractor should ensure that the construction site has been preliminarily inspected for unexploded ordnance.
G. Traffic, Public transport and pedestrians' safety	Direct or indirect dangers posed by construction works for public transport traffic	In accordance with the requirements of national legislation, the contractor ensures that the construction site will be fenced, and construction works are clearly regulated in the area: Clear warning signs must be displayed for the public and public transport about all potentially hazardous works. A traffic control system and staff training have been organized, especially for providing access to the facility and nearby intensive traffic. Safe walkways and passages for pedestrians in places of public transport traffic and construction vehicles are provided. Working hours should be adjusted depending on local traffic, e.g., in order to avoid active traffic during rush hours or during

Actions	ATTRIBUTE	CHECKLIST OF ACTIVITIES FOR IMPACT MITIGATION
	and pedestrians	movement of livestock. If necessary, traffic should be controlled at the facility to ensure safe passage of people. Safe and continuing access of the population to all nearby offices, commercial and residential buildings during construction works should be provided.
H. Social Risk Management	Public relationship management	All arrangements related to continuation of HEI learning process have been made (e.g., temporary accommodation for students, transport, etc.). Local liaison person within Contractor's team in charge of communication with and receiving requests/complaints from local population/HEI administration is assigned. Local communities are consulted to identify and proactively manage potential conflicts between an external workforce and local people. Local community awareness is raised about sexually transmitted disease risks associated with the presence of an external workforce and include local communities in awareness activities. The information about construction and work schedules, interruption of services, traffic detour routes and provisional bus routes, blasting and demolition, is reported as appropriate. Limit construction activities at night. When necessary, ensure that night work is carefully scheduled, and the community is properly informed, so they can take necessary measures. At least five days in advance of any service interruption (including water, electricity, telephone, bus routes), advice community through postings at the work site, at bus stops, and in affected homes/businesses. Address concerns rose through Grievance Redress Mechanism established by the Employer within the designated timeline within the scope of Contractor's liability. To the extent possible, work camps should not be near local communities.
	Labor management	Where and when feasible unskilled or semi-skilled workers from local communities should be recruited, and worker skills training provided to enhance participation of local people. Adequate lavatory facilities (toilets and washing areas) in the work site with adequate supplies of hot and cold running water, soap, and hand drying devices are provided. A temporary septic tank system should be established for any residential labor camp and without causing pollution of nearby watercourses. Raise awareness of workers on overall relationship management with local population, establish the code of conduct in line with international practice and strictly enforce them, including the dismissal of workers and financial penalties of adequate scale.

Part 3. Content of the Monitoring Plan (Compulsory)

Parameter	What (which parameter will be monitored?)	Where (will the parameter be monitored?)	How (will the parameter be monitored?)	When (specify the frequency, or indicate that monitoring is ongoing)	Who (is responsible for implementation/monitoring?)
PREPARATION STAGE FOR IMPLEMENTATION OF THE PROJECT					
Selection of universities for which activities that would hinder the implementation of the project cannot be funded	Feasibility of repair work and the need to purchase the necessary equipment	At the facility	Inspection and survey	Before the start of design	MoES- Higher education institutions (Project Manager, Project from Higher Education Institution, Head of Administration)
	Conducting environmental and social screening	At the facility	Review and survey, questionnaire	Before the start of design	PIU/ MoES- Higher education institutions (Project Manager, Project from Higher Education Institution, Head of Administration)
Neglect of environmental and social aspects during the preparation of project documentation	Compliance with the requirements of the contract for the preparation of project documentation and design tasks.	At the location of the parties to the agreement	Receipt and approval of reports	In accordance with the requirements of the contract	MoES- Higher education institutions (Project Manager, Project from Higher Education Institution, Head of Administration)
	The property owner will obtain the relevant state permits	Before the start of work	Verification of documentation	Immediately after the start of the joint venture	MoES- Higher education institutions (Project Manager, Project from Higher Education Institution, Head of Administration)
Failure to involve stakeholders in the process of preparing the Project for implementation, disregard for their interests in the process	Development and publication of projects ESMF and SEP	On the information resources of the HEI	Verification	Before the start of work	PIU/ MoES

Parameter	What (which parameter will be monitored?)	Where (will the parameter be monitored?)	How (will the parameter be monitored?)	When (specify the frequency, or indicate that monitoring is ongoing)	Who (is responsible for implementation/monitoring?)
of preparing the Project for implementation	The public will be informed about all stages of the Project implementation	On university information resources	Verification	Before the start of work	PIU/ MoES- Higher education institutions (Project Manager, Project from Higher Education Institution, Head of Administration)
	Organization of complaint recording and response process	MoES- Higher Education Institutions (Head of Administration)	Documentation	Before starting work	MoES- Higher education institutions (Project Manager, Project from Higher Education Institution, Head of Administration)
CONSTRUCTION STAGE					
Notification and safety of workers	Proper fencing, installation of warning signs	On and around the site	Visual inspection	Before work begins, periodically, as needed	Contractor, MoES-Higher Education Institution (Project Manager), Project from Higher Education Institution, Occupational Safety Specialist
	Workers' protective equipment, tool safety, proper scaffolding, etc.	At workplaces	Visual inspection	Every day Periodically	Contractor, MoES-Higher Education Institution (Project Manager), Project from Higher Education Institution, Occupational Safety Specialist
	Health status of workers	At the facility	Survey, temperature measurement, visual inspection	Every day	Contractor, MoES-Higher Education Institution (Project Manager), Project from Higher Education Institution, Occupational Safety Specialist

Parameter	What (which parameter will be monitored?)	Where (will the parameter be monitored?)	How (will the parameter be monitored?)	When (specify the frequency, or indicate that monitoring is ongoing)	Who (is responsible for implementation/monitoring?)
Air quality	Dust from dismantling is controlled using water sprinklers	At the facility	Visual inspection	During dismantling	Contractor, MoES-Higher Education Institution (Project Manager), Project from Higher Education Institution, Occupational Safety Specialist
Noise	Operating hours of equipment, including machinery and vehicles used for deliveries (only during the periods specified in the permit)	At the facility, access roads	Inspection	Periodically	Contractor, MoES-Higher Education Institution (Project Manager), Project from Higher Education Institution, Occupational Safety Specialist
Water quality	Measures against water erosion and water protection are in place (if necessary)	On site	Visual inspection	Periodically	Contractor, MoES-Higher Education Institution (Project Manager), Project from Higher Education Institution, Occupational Safety Specialist
	Water leaks, oil and lubricant spills	At the facility	Visual inspection	Weekly	Contractor, MoES-Higher Education Institution (Project Manager), Project from Higher Education Institution, Occupational Safety Specialist
Waste	Construction and household waste is collected separately and promptly removed by a licensed company	At the facility	Visual inspection, documentation from the licensed company	Periodically	Contractor, MoES-Higher Education Institution (Project Manager), Project from Higher Education Institution, Occupational Safety Specialist
Hazardous waste	Proper storage and removal of asbestos	Construction site	Visual inspection, documentation from a licensed company	Weekly during the demolition period	Contractor, MoES-Higher Education Institution (Project Manager), Project from Higher Education Institution, Occupational Safety Specialist

Parameter	What (which parameter will be monitored?)	Where (will the parameter be monitored?)	How (will the parameter be monitored?)	When (specify the frequency, or indicate that monitoring is ongoing)	Who (is responsible for implementation/monitoring?)
Danger to public traffic and pedestrians	Proper installation of signs, construction site fencing, barriers, warning notices	Construction site, access roads	Monitoring	Weekly	Contractor, MoES-Higher Education Institution (Project Manager), Project from Higher Education Institution, Occupational Safety Specialist
Social impacts	Information about the project is clearly displayed at the construction site, and all information is available at the higher education institution	Construction site, public reception room	Monitoring	Periodically	Contractor, MoES- Higher education institution (Project Manager, Project from Higher Education Institution, Head of Office)
	Timely processing of complaints	MoES- Higher Education Institution (Head of the Office)	Documentation	Monthly	Contractor, MoES- Higher education institutions (head of office)
OPERATION STAGE					
Social impacts	Compliance with occupational health and safety and fire safety requirements	At the facility	Verification of data as a result of recording: registered accidents, emergencies, complaints and suggestions received	Periodically	PIU/ MoES- Higher education institution (Project Manager, Project from Higher Education Institution, Head of Office)

Parameter	What (which parameter will be monitored?)	Where (will the parameter be monitored?)	How (will the parameter be monitored?)	When (specify the frequency, or indicate that monitoring is ongoing)	Who (is responsible for implementation/monitoring?)
	Complaints from the community	At the facility	Checking complaint logs	In accordance with current legislation	PIU/ MoES- Higher education institution (head of the office)
Emergencies	Emergencies	At the facility	Monitoring, checking the conduct of training and instruction on occupational health and safety	In accordance with applicable law	PIU/ MoES- Higher Education Institution (Project Manager, Project from Higher Education Institution, Occupational Health and Safety Specialist Occupational Safety)
Waste management	Construction and household waste is collected separately and promptly removed by a licensed company. Electronic waste is managed in accordance with the Electronic Waste Management Plan.	At the facility	Visual inspection, documentation from the licensed company	Periodically	PIU/ MoES- Higher Education Institution (Project Manager, Project from Higher education institution, occupational safety specialist occupational safety)

Part 4: ESMP checklist developed for equipment installation

Impact	Mitigation / Monitoring Measure	Monitoring Indicator	Monitoring Frequency	Responsibility
Structural safety of buildings and rooms (ESS1, ESS4)	Verify that buildings and rooms intended for equipment placement are structurally sound and free of safety hazards (e.g., cracks, leaks)	Building inspection records available; no visible structural hazards	Prior to equipment installation and periodically during operation	HEI / PIU
Ventilation, temperature and humidity conditions (ESS1)	Ensure rooms are equipped with adequate ventilation and environmental controls meeting equipment specifications	Ventilation systems operational; temperature and humidity within required limits	Prior to installation and during operation	HEI
Electrical safety and capacity (ESS1,	Confirm electrical systems can support	Electrical safety certificates;	Prior to installation and	Certified

Impact	Mitigation / Monitoring Measure	Monitoring Indicator	Monitoring Frequency	Responsibility
ESS4)	equipment power requirements without overload risks	absence of overload incidents	annually	electrician / HEI
Fire safety and emergency preparedness (ESS4)	Ensure fire alarms, smoke detectors, extinguishers, and emergency exits are functional and accessible	Fire safety equipment present, functional, and inspected; exits clearly marked	Prior to installation and periodically	HEI / Safety officer
Equipment installation and operational safety (ESS1, ESS4)	Install equipment in accordance with manufacturer's guidelines and ensure safety features are operational	Installation checklists completed; safety features functional	At installation and during inspections	Contractor / Equipment supplier
Space management and cable safety (ESS1, ESS4)	Maintain sufficient clearance around equipment and ensure safe cable and wiring management	Adequate clearance observed; cables protected and organized	During installation and routine checks	HEI technical staff
E-waste and equipment waste management (ESS3)	Implement waste management procedures for e-waste and other equipment-related waste	Waste management plan in place; proper segregation and labeling	Ongoing	HEI administration / Contractors
Training on waste handling (ESS3)	Train staff on proper handling, storage, and disposal of equipment-related waste	Training records available	Periodic / as needed	PIU / HEI
User training and operational awareness (ESS1, ESS4)	Train all relevant personnel on safe use of equipment and emergency procedures	Training attendance records; availability of manuals and instructions	Prior to use and refresher trainings	PIU / HEI / Contractors
Emergency response procedures (ESS4)	Ensure staff are aware of procedures in case of equipment malfunction, spills, or other emergencies	Emergency procedures communicated and displayed	Periodic	HEI administration
Maintenance and performance monitoring (ESS1)	Maintain logs of inspections, servicing, calibration, and repairs	Maintenance and calibration logs available and up to date	According to manufacturer's schedule	HEI technical staff
Hazardous materials management (ESS3, ESS4)	Store hazardous materials in compliance with safety standards and provide PPE, spill kits, and first aid supplies	Proper storage observed; PPE and spill kits available	Continuous	HEI administration
Responding to complaints and corrective actions (ESS 1, ESS 4)	Registration, review, and resolution of complaints related to equipment safety, working conditions, environmental and social risks; implementation of corrective measures	Complaints reviewed and closed; corrective actions taken and documented	Continuously / upon receipt	PIU / HEI / contractors

Annex F. ESIRT reporting requirements

Incident Management and Reporting Process A. Step 1 – Initial Communication

In case of the accident, COVID-19 case among students/teaching staff/ workers on any of the project sites, the Contractors will inform the PIU and/or the Bank Team; inform appropriate authorities in compliance with local regulations; secure the safety of workers, public, and provide immediate care.

As soon as any member of the Contractor's or PIU team member becomes aware of an alleged or actual incident, the team member will notify the PIU and/or the Bank Te am. This initial communication will be sent regardless of the severity of the incident. The most crucial element of this communication is speed. When an incident is reported, the following questions are a guide to the type of information to be gathered quickly:

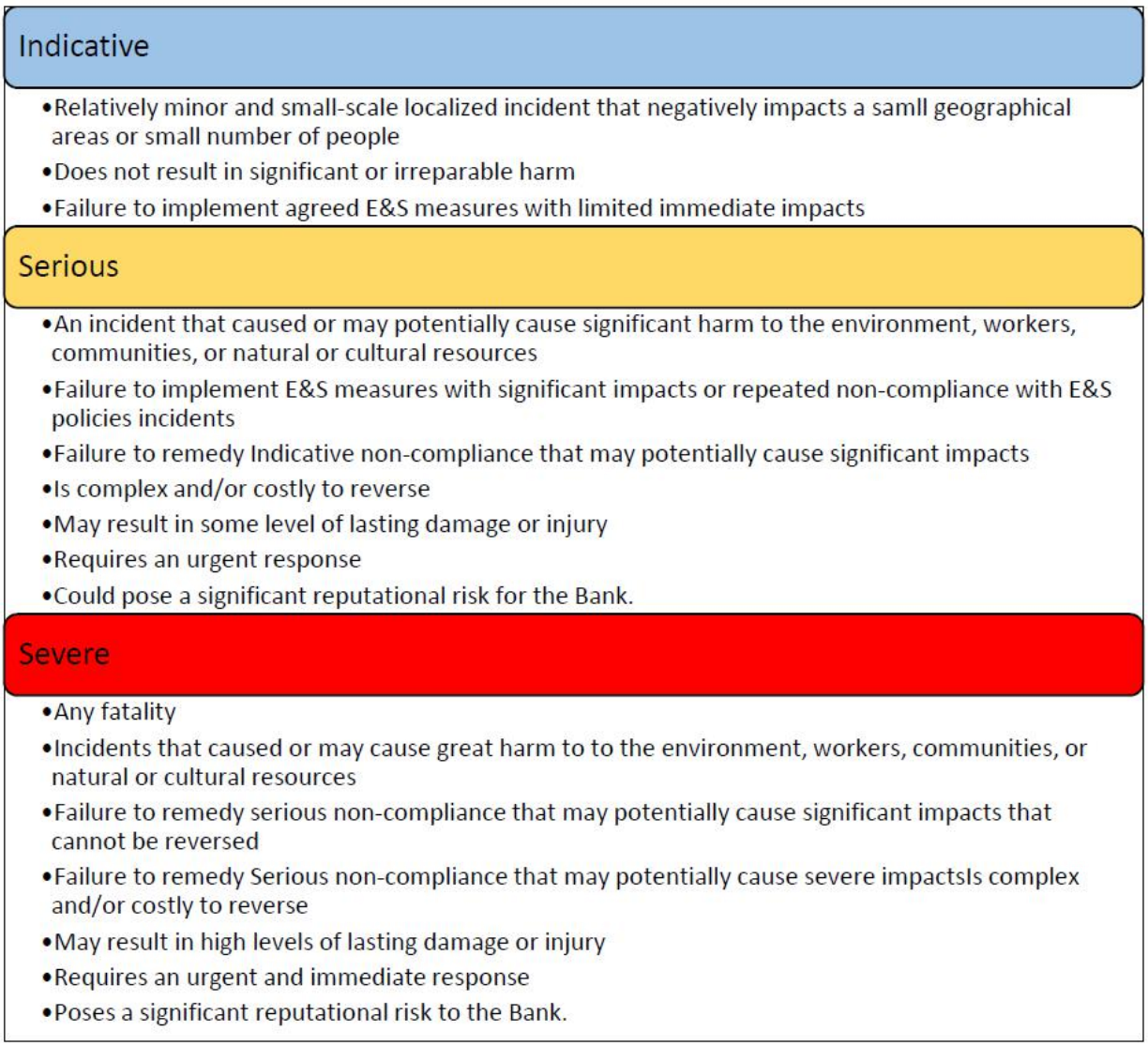
- What was the incident? What happened? To what or to whom?
- Where and when did the incident occur?
- What is the information source? How did you find out about the incident?
- Are the basic facts of the incident clear and uncontested, or are there conf licting versions?
- What were the conditions or circumstances under which the incident occurred?
- Is the incident still ongoing or is it contained?
- Is loss of life or severe harm involved?
- How serious was the incident? How is it being addressed? How is the MoES responding?
- What, if any, additional follow up action is required, and what are the associated timelines?
- Are any Bank staff involved in the incident?

The requirement to report will be defined in the Project's ESCP. As required by the contracts, the Contractor will report incidents to the PIU – the MoES will ensure that reporting obligations on compliance with ESHS requirements are incorporated into works and other relevant contracts. MoES will monitor the reports for incidents.

Step 2 – Classification (done by the Bank Team)

Based on information received, the Bank Team will classify the incident based on several factors, including the nature and scope of the incident, as well as the urgency in which a response may be required. There are three levels of classification: Indicative, Serious and Severe. Overview of different levels is provided in the box below.

Box 1: Incident Classification Guide



Step 3 – Investigation – What happened?

MoES will:

Promptly provide information requested by the Bank and facilitates incident site visits.

Undertake or cause the Contractor to undertake a Root Cause Analysis (RCA) to understand and document the root cause(s) of the incident. The RCA will be based on existing country processes. The extent of the investigation (RCA) carried out by the MoES's Contractor will be proportionate to the severity of the incident. The MoES or Contractor will be responsible for funding the preparation of the RCA.

An RCA will be completed as soon as possible, ideally within 10 days of the incident. The findings of the RCA will be used by the Contractor and MoES to develop measures to be included in a Standards Corrective Action Plan (SCAP) as a complement to existing project safeguards instruments.

Share the RCA with the Bank and provide complete information about the incident; facilitate additional site visit(s) if needed.

MoES will ensure that incidents are investigated to determine what happened and why, so that processes and measures can be put in place to avoid reoccurrences and so that appropriate remedies are applied. The Bank Team may support the MoES in ensuring an appropriate RCA is conducted by the Contractor or the MoES.

Step 4 – Response

MoES will design the SCAP and discuss with the Bank, including actions, responsibilities and timelines for implementation, and MoES monitoring program.

For *Indicative* incidents, documentation of the incident and the MoES/Contractor response may be the only action required. For serious and severe incidents, where an RCA or other investigation is conducted by the MoES/Contractor, the Bank and the MoES will agree on a set of measures as appropriate to address the root causes to help prevent any recurrence of the incident. The measures determined as appropriate by the Task Team will be captured in a Standards Corrective Action Plan (SCAP).

Box 2 – Example of a MoES's Action Plan Following a Project Related Fatality

1) Monthly site meetings attended by PIU and covering safeguards updates (should be held virtually due to COVID-19 crisis).

2) The supervision consultant monthly progress report will provide details on ESMP implementation status as well as accidents and grievances

3) PIU will send to the Bank monthly progress reports within 1 week of receipt from the supervision consultants

4) Accidents and grievance log books are placed in all construction sites

5) Any severe injury (requiring off-site medical care) or fatality incident shall be reported to the Bank within 48 hours with basic information and a detailed incident report including the following will be submitted as soon as possible, ideally within 10 working days:

a) root cause analysis and

b) corrective action plan on:

i) immediate mitigation measures in case of continuing danger (e.g. fencing, signboard, guards)

ii) compensation to the affected family based on a clear rationale

iii) risk assessment and correct application of ESHS management procedures, and

iv) medium- and long-term mitigation measures including enhancement of safety measures, audits, and additional training.

c) Progress monitoring and reporting

The SCAP will specify the actions, responsibilities, and timelines to be implemented by MoES. MoES will be responsible for implementation of the SCAP. The SCAP may include, for example, MoEs actions such as the design or upgrading and implementation of Environmental, Social, Health and Safety management systems, processes and training to support consistent safe performance, compensation for injuries or a fatality, pollution prevention and control remedies to be implemented over a few weeks or a multi-year period, according to the specific project circumstances. The SCAP might include requirements for community consultation (conducted virtually due to COVID-19 crisis), compensation payments relating to a resettlement program, or remediation of farmland damaged by contractors. The SCAP also may include or request Bank actions such as provision of technical assistance by the Bank, and/or loan restructuring, including additional financing, if necessary.

If the Bank considers that the SCAP measures will not be effective, or where MoES has shown itself unwilling or unable to put corrective measures in place, the Bank may consider a decision to fully or partially suspend disbursements until such actions are in place, or, in some circumstances, may consider cancelling all or part of the project following the suspension.

Step 5 – Follow up

MoES will implement SCAP; monitor progress; report on implementation to the Bank.

If the Bank considers that the SCAP measures will not be effective, or where MoES has shown itself unwilling or unable to put corrective measures in place, the Bank may consider a decision to fully or partially suspend disbursements until such actions are in place, or, in some circumstances, may consider cancelling all or part of the project following the suspension.

Responses and Remedies

Illustrative examples of responses and remedies available for different types of incidents prior to and during project implementation are set out in this section for guidance of task teams and management.

Health and Safety Examples

Examples of **potential responses** by the Bank and MoES to worker occupational health and safety incidents of varying severity are presented in Table 1.

Table 1. Potential Responses to Health & Safety Incidents of Different Severity

Health & Safety Issues	Potential MoES actions
Severe Any fatality, permanent disability, or outbreak of life-threatening project-related communicable disease	• Improve barriers, alarms, signage, training, work processes and procedures • Address gaps in competence, expertise, numbers of project OHS team and/or project management team • Ensure that Health and Safety risk assessment has been conducted and appropriate management plans are put in place, implemented and enforced
Serious Major (non-fatal) accident or near-miss	• Review relevant sections of health and safety risk assessment for adequacy • Improve barriers, signage, training, working methods • Enforce use of personal protective equipment

Health & Safety Issues	Potential MoES actions
	• Complement Project Implementation Unit (PIU) with adequate competencies and expertise with OHS specialist
Serious Repeated observations of dangerous behavior or clear violations of safety protocols	• Improve use of grievance redress mechanism
	• Review relevant sections of health and safety risk assessment for adequacy
	• Implement (revised) OHS management plan, including training
Indicative Repeated failure to respond to notification to remedy safeguards issues (e.g., safety kit incomplete or not present)	• Remedy the outstanding issues
	• Repeat awareness training and messaging
	• Improve work process or procedure

E&S Examples

Examples of **potential responses** by the Bank and the MoES to Environmental and Social incidents of varying severity are presented in Table 2.

Table 2 Potential Responses to Environmental and Social Incidents of Different Severity

Environmental/Social	Potential MoES actions
Severe (Social) Forced resettlement without due process or compensation	• Identify evicted people and provide compensation and support for identification of new housing/other facilities as relevant, in line with Bank safeguards requirements, including appropriate consultation • Clear instructions to project implementer(s) with respect to resettlement process, including sanctions for non-compliance with MoES/Bank requirements; • Implement all measures identified in SCAP
Severe (Environmental) Poaching or trafficking in endangered species	• Engage with law enforcement to halt the poaching • Anti-poaching training for project workers and community members to make clear incentives and penalties • Include sanctions for inappropriate worker behavior, including poaching, in Contractors' contracts • Develop an alternative livelihoods program for communities around protected areas
Serious (Social) GRM not functioning	• Review GRM and address issues (upgrade, improve access, publicize GRM in community/ies, better organize response process) • Train PIU staff on GRM management and monitoring • Assign responsibility to qualified PIU staff
Indicative (Environmental) Hydrocarbon or chemical spills with low to medium environmental impact	• Improve work process or procedures as necessary • Train project staff on spills and associated procedures • Increase on-site monitoring if necessary • Review contract language for appropriate sanctions language

Annex G. Framework requirements for emergency preparedness and response

Context: Since February 24, 2022, the Russian Federation has initiated a full-scale military invasion of Ukraine. Numerous attacks by the Russian Federation have caused significant and often irreparable damage to critical infrastructure objects in Ukraine, which are of vital importance to Ukrainian society and the functioning of the Ukrainian economy. Higher education institutions have also been affected by the damages. Additionally, due to the military aggression of the Russian Federation, access to educational services and a safe educational environment has been significantly hindered for participants in the educational process, especially in areas recognized as active or potentially active conflict zones.

The Ministry of Education and Science of Ukraine, in collaboration with the World Bank, is implementing the project "Improving Higher Education in Ukraine for Results" (hereinafter referred to as the "Project"). The project includes funding for urgent response measures to the challenges posed by military actions and investment activities aimed at laying the foundation for further educational reforms in Ukraine.

Several stages of investment activities are planned within the scope of the project:

- Phase I: The emergency response phase will focus on investments that address the urgent needs of higher education institutions to ensure protection, access, fairness, and the expansion of rights and opportunities within a rapid response mechanism to enhance the role of higher education in emergency situations. This phase is expected to cover the period during the war and early recovery, laying the foundation for future development and ensuring swift response in times of emergencies during the war.

- Phase II: Higher education for Ukraine's recovery will concentrate on investments to enhance the capacity of higher education institutions that contribute to the development of human potential necessary for the recovery and development of Ukraine. It will also support higher education reform efforts.

The aim of this plan is to identify potential security risks associated with the Russian Federation's invasion of Ukrainian territory that may arise during the implementation of project activities and develop mitigating measures. The list of activities carried out within the project includes not only procurement and installation of equipment but also indirect activities related to project implementation (such as conducting meetings and training sessions, public consultations, and other mass events, upgrading premises for the installation of equipment purchased through project funds, etc.).

The recommendations outlined in this plan comply with the requirements of current legislation in Ukraine and adhere to the best practices of the World Bank in implementing projects in conditions of a state of war.

Current conditions

As of February 2023, according to the resolution of the Cabinet of Ministers of Ukraine dated December 6, 2022, No. 1364, "Certain issues regarding the formation of a list of territories where hostilities are taking place or have temporarily been occupied by the Russian Federation," and the order of the Ministry of Reintegration of Temporarily Occupied Territories of Ukraine dated December 22, 2022, No. 309[12][13], the districts and communities that have been negatively affected by the Russian Federation's invasion are classified as follows:

- Temporarily occupied territories
- Territories of active hostilities
- Territories of possible hostilities

It is planned that the project activities will be carried out in areas classified as territories of possible

[12] https://minre.gov.ua/doc/doc/104

hostilities, as well as in areas that do not fall under the government's classification (investments will be provided to higher education institutions that were evacuated to other regions of Ukraine). This classification serves as a basis for identifying and assessing security risks that may manifest and lead to the occurrence of emergencies.

Risk Identification and Assessment

Risk identification helps to timely detect vulnerabilities by correlating them with subsequent better responses, particularly in emergency situations, through intelligent allocation of resources by key stakeholders to priority areas and timely development of measures to mitigate unforeseen consequences. These framework requirements are associated with determining potential consequences related to war caused by Russian military invasion into Ukrainian territory and developing corresponding measures to mitigate the consequences and ensure safety. In the process of analysing the situation caused by the Russian military invasion as of February 2023, the following key risks have been identified:

Risk	For areas of potential hostilities	For other regions of Ukraine	Remark
Risk of Missile Strikes of Varying Intensity	×	×	Missile strikes can result in: Injuries to employees, staff, and visitors of higher education institutions (HEIs). Damage to facilities, assets, or equipment. Disruption of water and power supply to HEIs. Environmental consequences (contamination of surface and groundwater, land resources) due to malfunctions in reconstructed facilities or equipment. Risk of accidental encounters with unexploded ordnance/missiles. Risk of fires and explosions.
Attack by unmanned aerial vehicles (UAVs)	×	×	Injuries to employees, staff, and visitors of higher education institutions. Damage to facilities, assets, or equipment. Disruption of water supply/power supply to higher education institutions. Risk of fires and explosions.
Rocket and Artillery Shelling with Ground-to-Ground Munitions	×		Detonation of ammunition before the air alarm signal is issued. Injuries to employees, personnel, and visitors of higher education institutions (HEIs). Damage to objects, assets, or equipment. Interruption of water supply/power supply to HEIs. Risk of fire outbreaks and explosions

Risk assessment involves the prior classification of identified risks based on selected parameters:

- Scale of impact: local or widespread within the country.
- Predictability of the risk: predictable or unpredictable; whether it can be avoided or mitigated.
- Severity of physical injuries: ranging from minor to major.

Risk of missile strikes of varying intensity:

- Scale of impact: widespread (within the country).
- Predictability of the risk: unpredictable; inevitable.
- Severity of physical injuries: high.

Risk of accidental encounter with unexploded ordnance/missiles:

- Scale of impact: widespread (within the country).
- Predictability of the risk: unpredictable; inevitable.
- Severity of physical injuries: high

Risk of drone attacks:

- Scale of impact: widespread (within the country).
- Predictability of the risk: unpredictable; inevitable.
- Severity of physical injuries: high

Risk of rocket artillery shelling and ground-to-ground munitions:

- Scale of impact: active and potential combat zones.
- Predictability of the risk: unpredictable; inevitable.
- Severity of physical injuries: high.

Framework Emergency Preparedness Action Plan.

Framework Action Plan in the event of a threat of shelling, including missiles and UAVs (Unmanned Aerial Vehicles)

- The heads of educational institutions should develop an action plan for each campus in case of an emergency situation, based on the recommendations of the State Emergency Service regarding the actions of personnel in educational institutions during emergencies.

- If there is a shelter on the premises of the educational institution, the procedure for its maintenance and use should be organized in accordance with the "Procedure for filling and staying in facilities of the civil defense shelter fund" (Extract from the Requirements for the maintenance and operation of civil defense shelters, approved by the order of the Ministry of Internal Affairs on July 9, 2018, No. 579).

- Visible signs indicating the route to the shelter and providing concise instructions on how to react in case of a missile strike threat should be placed in prominent locations within the educational institution.

- In the event of an air raid alert, organized transition to the shelter should be carried out, and assistance should be provided to those who have difficulty reaching a safe place on their own.

- The heads of educational institutions should ensure the functioning of devices or software that duplicate/amplify the sound of the air raid siren.

- The shelter should be equipped with everything necessary for isolated staying of people for several days, including:

a. Drinking water.

b. Non-perishable food.

c. Fire extinguisher.

d. First aid kit.

e. Blankets or warm clothing.

f. Seating furniture.

g. Autonomous lighting devices (flashlights) and power sources independent of centralized power supply.

Framework Action Plan in case of detection of unexploded ordnance or rockets.

Explosive objects include:

I. Explosive materials are chemical compounds or mixtures capable of undergoing rapid chemical transformation, self-propagation, and releasing a large amount of energy and gases when subjected to specific external actions such as heating, impact, friction, or the explosion of another explosive device.

II. Ammunition refers to disposable military hardware designed to incapacitate enemy personnel. Ammunition includes:

- Bullets/cartridges
- Detonators and primers
- Hand grenades
- Anti-personnel mines
- Anti-tank mines
- Mortar mines
- Cluster munitions
- Artillery ammunition
- Aerial bombs
- Improvised explosive devices (an improvised explosive device can be any object left unattended in areas of human concentration)

III. Pyrotechnic devices:

- Cartridges (signal, illuminating, simulation, special)
- Explosive packages
- Firecrackers
- Rockets (illuminating, signal)
- Grenades
- Smoke canisters

IV. Improvised explosive devices (IEDs) are devices that incorporate at least one element of self-made construction:

- Homemade mines/traps, surprise mines disguised as household objects, children' s toys, or attention-attracting items.

Key distinctive features indicating the possible affiliation of a suspicious object with an explosive device are:

- External resemblance to ammunition and pyrotechnic devices.
- Presence of stretched objects, wires extending from the object, ropes, tape.
- Presence of power sources (batteries, accumulators, etc.), antennas with radio devices, a clock or electronic timer.

- Presence of suspicious sounds emanating from the object (ticking of a clock, signals at specific intervals).
- Characteristic odor (gas, solvent, fuels, lubricants, and chemical materials, etc.).
- Presence of elements (parts) that do not correspond to their intended purpose.
- Presence of foreign suspicious objects in doors, windows, trees, secured with wire, threads, levers, cords, etc.

Personnel of the project and all employees who will be involved in the project activities should undergo briefing on the action plan in case of discovering explosive objects, including unexploded artillery shells and/or rockets. If possible, training should be organized by representatives of the territorial bodies of the State Emergency Service of Ukraine.

Actions in case of discovering a suspicious object:

- Immediately cease all work in the area where the object is discovered (turn off equipment).
- If possible, inform other individuals nearby about the finding.
- Mark the location of the object and, if possible, cordon it off (use readily available materials such as planks, poles, branches, ropes, brightly colored materials, etc.).
- Quickly move all people who are in close proximity to a maximum safe distance (at least 100 meters), moving backward along their own footsteps.
- Immediately notify emergency services, providing information about the characteristic features of the object (its location, date and time of discovery, and the person who discovered it), using the following phone numbers:
- 102 for discovering a suspicious object
- 101 for discovering explosive ordnance
- When discovering explosive objects, it is prohibited to:
- Touch them (under no circumstances should this be done)
- Transfer or roll them from one place to another
- Collect and store them, heat them, or strike them
- Attempt to disarm or dismantle them
- Use charges for igniting fires or lighting
- Bring them into buildings, bury them in the ground, or throw them into wells or rivers.

Framework action plan in case of injury occurrence.

Medical staff and other personnel of the educational institution, as well as all employees who are planned to be involved in the project activities, must undergo training on providing first aid. Such training should include instruction on administering first aid for various types of injuries and other health-related issues (including the application of tourniquets). The educational institutions should be equipped with first aid kits containing all necessary supplies for providing first aid. The completeness of the first aid kits should be periodically checked, and their contents should comply with the requirements of Ukrainian legislation. All employees (personnel) should be aware of the location of first aid kits, personal protective equipment, and fire extinguishers.

Annex H. OCCUPATIONAL HEALTH AND SAFETY GUIDELINES

It is important that labour should identify and adhere to the safety norms and guidelines to decrease the risk of any accidents. Reduction of number and grade of accidents at workplace would reduce the problems and cost with saving of time for during work hours (amount of time of that a helper or nurse use for an injured person).

Safety and its impacts:

Accidents and happenings are divided in two types:

1. Accidents which is impossible to prevent from its occurrence,

2. Foreseen accidents which needs to use cost for prevention of occurrences or risk reduction,

"Construction Site" means a place where construction work is undertaken and also any area in the immediate vicinity of any such place which is used for the storage of materials or plant used or intended to be used for the purpose of the construction work. Construction work can be particularly hazardous. Personal protective equipment, fire safety, electrical safety, and other precautions are essential for safe construction work.

a. The construction, erection, installation, reconstruction, repair, maintenance (including redecoration and external cleaning), renewal, removal, alteration, improvement, dismantling, or demolition of any structure or works specified in the Third Schedule;

b. Any wok involved in preparing for any operation referred to in paragraph (a), including the laying of foundations and the excavation of earth and rock prior to the laying of foundations;

c. The use of machinery, plant, tools, gear, and materials in connection with any operation referred to in paragraph (a) or (b).

Barriers and Guards

Barriers, guards, and warning signs are required to ensure safety against existing hazards. Standard types of barriers and guards include the following:

Guardrails and handholds
Saw horses
Tape
Cones
Other physical barriers and solid separators (dust barriers, hazard barriers, temporary walkways, etc.)
NOTE: Signs that state DANGER, WARNING, or CAUTION are also important when barriers or guards are necessary. Remember to make signs legible, visible, and brief.

Areas that Need Barriers or Guards

Any area that poses a physical threat to workers and/or pedestrians requires barriers or guards. Areas that typically require permanent or temporary protection include the following:

- Stairways
- Hatches
- Chutes
- Open Manholes
- Elevated platforms
- Areas with moving machinery
- Excavation sites
- Construction sites
- Temporary wall or floor openings
- Doors opening into construction sites

- Land and stone sliding from vaccinate places or mountain

Using Barriers and Guards

The following list provides guidelines for using barriers and guards:

- It should be avoiding with hanging cloths (scarf, and etc…) during the work,

In case of need safeguards belt is necessary,

When necessary, reroute pedestrian and vehicular traffic to completely avoid a construction site.

Guard any permanent ground opening into which a person could fall with a guardrail, loadbearing cover, or other physical barrier.

Ensure that temporary floor openings, such as pits and open manholes, are guarded by secure, removable guardrails. If guardrails are not available, have someone guard the opening.

Ensure that all stairways, ladder ways, hatchways, or chute floor openings have handrails or hinged covers.

Ensure that enclosed stairways with four or more steps have at least one railing, and that open stairways with four or more steps have two railings.

Ensure that all platforms and walkways that are elevated or located next to moving machinery are equipped with handrails, guardrails, or toe boards.

Barricade any wall openings through which a person or tools could fall. Use gates, doors, guardrails, or other physical barriers to block the opening.

Mark and / or guard any excavation that is deeper than 30cm, potholes and sidewalk damage.

Hoists and lifts

Only authorized employees may use hoists to move heavy objects and equipment. When using hoists remember the safety points:

Never walk, stand, or work beneath a hoist.

Isolate the hoisting area with barriers, guards, and signs, as appropriate.

Never exceed the capacity limits of your hoist.

Wear gloves and other personal protective equipment, as appropriate, when working with hoists and cables.

Always hold tension on the cable when reeling it in or out.

When the work is complete, always rig the hoist down and secure it.

Be prepared to stop operations immediately if signaled by the safety watch or another person.

Scaffolds

When employees must conduct construction work above the ground and away from solid platforms, scaffolds may be appropriate. The following list provides guidelines for using small scaffolds. Larger scaffolds must be designed and erected in accordance with applicable standards.

Ensure that scaffold anchors are sound, rigid, and capable of supporting the maximum intended load without shifting. Scaffolds and their components should be capable of supporting at least four times their maximum load.

For freestanding, mobile scaffolds, the height should not exceed four times the minimum base dimension. If workers are riding the scaffolding, however, the base dimension should be at least one half the heights.

Do not use unstable objects such as barrels, boxes, bricks, or blocks to support scaffolds or planks.

Keep floors free of debris where mobile scaffolds are used.

Lock scaffolds with wheels into position.

Either overlap multiple planking and platforms by 30cm or secure them to ensure stability. Thickness of the board should not be less than 5cm.

Secure scaffolds to permanent structures with anchor bolts or other means.

Repair damaged scaffolds immediately.

Do not work on scaffolds in high winds or during storms.

Remove ice or snow from scaffolds and apply sand to the wood before conducting work in winter weather.

Do not allow tools, equipment, or other debris to accumulate on scaffolds.

Dismantle and remove scaffolds when they are no longer needed. Do not use temporary scaffolding as a permanent installation.

Safety during Concrete Casting:

Concrete casting is often done by a group of people. Different places, needs its own safety conditions which include Personnel Protection Tools, skills in work and its equipment, good coordination and cooperation amongst the task team and their Job description based on their physical manner.

During Concrete casting followings points should be taken into consideration:

During concrete cast the labours should be clothed with plastic boots and gloves,

Appropriate working tool should be selected; in case of not using it should be kept away in a specific area,

Damaged tools should be kept in a specific area for repairing,

Throwing of tools should be avoided,

During concrete casting it should be alert that the labour feet not clumped in bars,

Using of plunks as a pathway will be most useful,

Use appropriately of the work tools and tack care of them,

Wash hands before food and take bath after daily work to take away the cement dust,

Good condition work and good ventilation should be prepared,

A good supervisor should led the team and their learning's,

The wire for fasten the bars should be cut in small pieces and kept near the work area,

Avoid of throwing wires everywhere,

The mash should be fasten properly,

Using of mashes in the slopes.