

Chapter 1

1.0 Strategic Context

1.1 The Aspirations of Bangladesh

Bangladesh with its total population of 173 million living in an area of 144,415 km² achieved the lower middle income country status in 2015 and aims to reach the middle-income country status by 2041 on the 70th anniversary of its independence. The country has been making remarkable progress in socio-economic sector since 2009. The GDP growth rate prior to COVID-19 pandemic in 2021 years has been about average 6% and the per capita GDP stands USD 2624 in 2024. The Millennium Development Goals were achieved by the country well before the target date of 2015. Incidence of poverty was 18% in 2022, infant mortality to 22% in 2023 and achieved gender parity in primary and secondary education in 2015. With nearly 100% enrollment in primary education 80% completion rate has been achieved. The Gross Enrollment Ratio in higher education was only about 6% in 2009, with about 2 million students. Initiatives for increasing this ratio included establishment of more HEIs, and in 2021 there were 50 public and 108 private universities. Sixteen public universities have 4058 affiliated and constituent colleges and madrasas. Among these 2257 are affiliated and constituent colleges of National University, and 1349 madrasas are affiliated with Islamic Arabic University. In 2021, 50 public, 108 private universities, 2257 colleges were under the National University, and the enrollment reached a figure of 4.2 million, corresponding to a Gross Enrollment Ratio of 23%. The country has already attained food autarky in major crops, and remarkable developments have taken place in fisheries and poultry production. Industrial production is also steadily increasing in the textile, garment and pharmaceutical sectors. Efforts are being made for environmental safeguards in the manufacturing activities. Roads are being upgraded, and new roads and bridges are being built to upgrade the infrastructure. Electricity production has reached 44.633k MW in 2022 making the country self-reliant in power. The aspirations of Bangladesh include building up a knowledge society, having world class educational institutions and eliminating poverty by 2030. To fulfill these missions, a GDP growth rate of over 7% has to be maintained, and the ability to implement the country's development programs and run the industries with its manpower has to be attained, and the sustainable development goals of the UN have to be achieved by 2030. The Higher Education Sector will play a vital role in these efforts.

1.2 Research and Innovation

- 1.2.1 **Research** has the objective of generating new knowledge. The frontier of knowledge in any field is first identified, and ideas are put forward to push the frontier. Activities are then designed to test the ideas. The primary motivation for research since ancient times has been the thirst for knowledge about everything in the universe.
- 1.2.2 **Innovation** consists of ideas to develop something new, a new material, a new process for activities ranging from performing some activity like manufacturing materials, utilization of materials, carrying out business in a new and better way than in practice now such that monetary benefit can be derived.
- 1.2.3 Innovation has long been acknowledged as central to economic growth and social development. Innovation generally refers to the process of creation, acquisition,

diffusion, absorption and use of knowledge, which creates added value to the economy in the form of new or improved products, processes or organizational models. Innovation is a successful exploitation of a new idea. It is not a demonstration of an idea or not merely an invention. It is an idea in practice, in the field, in the market place, in the society. The journey from mind to marketplace is a challenging task. Productive university-industry collaboration forms the very core of national innovation ecosystem. The universities have learned scientists with their laboratories, possessing knowledge about the latest scientific developments and capable of conducting experiments to try out new ideas. They have students who are young with dreams about what they would like to do to make their lives enjoyable in future; they are always ready to take risks in experimenting. The industries have knowledge about current market demand. They are capable of materializing the innovative ideas of academics and their financial capacity allows them to take risks. Partnership between universities and industries can therefore lead to successful implementation of ideas into practice resulting in goods or services with added values. The parties involved in the materialization of innovative ideas are therefore the scientists, the entrepreneurs, the financiers who would trust the entrepreneurs and the academics and provide venture capitals, the policy makers who would be willing to adopt conducive policies to promote the marketing of the developed goods or services, and the consumers who would be the ultimate beneficiaries. In a thriving innovation ecosystem, there is mutual trust among all the parties. For this to happen, academic institutes which can generate world-class graduates and which have world class research capabilities and world class research output in terms of publications in high impact factor journals and patents are required. Also, a culture of scientific activities like regular conference, symposiums, etc. has to be practiced, such that knowledge and ideas may be exchanged and new findings may be properly reviewed for gaining confidence in research ability. An innovative ecosystem requires a minimum number of scientists within easy reach from one another. A stable socio-political environment with a steadily growing economy is also required, such that the market demands for new goods also grows steadily.

1.3 Innovation Ecosystem

1.3.1 To make innovation work for a country, the country has to develop a system in which each element, and how it interacts with other elements, supports innovation across an economy with strengthened sense of trust among them. The elements that make up such an ecosystem include:

- (i) Entrepreneurs and enterprises (indigenous and foreign-owned)
- (ii) investment in research and development
- (iii) The education system, in particular higher education institutions
- (iv) Research institutions
- (v) Finance, in particular venture capital
- (vi) The tax and regulatory environment
- (vii) Public policy and institutions

1.3.2 A successful innovation policy requires all elements of the ecosystem to co-operate and collaborate together with mutual trust, and in regional networks, to ensure that knowledge

is developed, transferred and applied in productive ways. A productive innovation ecosystem requires the following:

- Generation of research of high quality by the universities
- Industry Academia Partnership to encourage collaborative research work and commercial exploitation of research output
- Technology Transfer Offices in universities to make the academics aware of the value of intellectual property right
- University Commercial Arms to allow academics to be entrepreneurs and initiate startup companies
- Intellectual Property Management Systems (IPMS)
- Government Policy Reforms may be necessary to encourage research by young graduates and to retain the talent in the country

Incentive for publication in Q1-Q4 journals, article processing charges (APC) should be provided up to USD 1000 for presenting paper/poster in international conferences.

1.4 Impact of HEQEP on Higher Education

1.4.1 HEQEP was the first development partner¹ supported project on higher education in Bangladesh. It introduced, for the first time in the country, (i) competitive funding mechanism for promoting research and innovation, (ii) quality assurance mechanism in higher education sector; (iii) a high performance dedicated broadband network connecting all universities and global education and research networks, and (iv) digital library.

1.4.2 Competitive funding is an amount of money which is provided to the institutions as additional resource over its regular revenue budget with some conditions for spending. A performance contract is executed between the competitive fund providing agency and the university that stipulates the terms and conditions of utilization of the fund. Under HEQEP the competitive fund component provided nearly BDT 8000m (US\$116.12m2) as additional resource to 38 universities, 28 public and 10 private. The universities successfully implemented a total of 439 sub-projects under the competitive grant award component known as Academic Innovation Fund (AIF). This investment of substantial additional funds as non-refundable grants to cash strapped universities enabled them to revamp teaching-learning infrastructure, procure state-of-the-art equipment for their science labs, undertake cutting edge research, undertake library automation, built campus network in 38 universities and helped universities' office digitization. These sub-projects updated 103 curriculum, renovated 1653 classrooms, labs, seminar rooms, nine library automations done, 15350 IT equipment procured, scores of labs were revamped with 13934 newly procured state-of-the-art scientific equipment, 12012 teachers were trained in Bangladesh and 517 were trained in abroad, 617 Masters and 170 PhD students

¹ World Bank

² Report No: ICR00004868, IMPLEMENTATION COMPLETION AND RESULTS REPORT, WB.

enrolled, 817 papers in peer reviewed journals and 74 books were published, 10 university-industry joint research projects were implemented and these projects generated several patent applications including one for international patent for the first time by Bangladeshi faculty.

1.4.3 Under HEQEP Higher Education Management Information System (HEMIS) was established at UGC as a digital tool to collect data on all aspects of academic activities from the universities for monitoring and management of the sector by UGC. The web-based HEMIS is a real-time role-based conditional access system where each university enters data for the UGC management to look at their functioning and uses the database for publishing its annual report.

1.4.4 Under the strengthening of institutional capacity of universities component of HEQEP, 12012 faculty were trained locally in financial management, project management, procurement including e-GP, proposal writing, proposal evaluation, monitoring and report writing. Additionally, 517 faculty undertook training in various academic programs and participated in scholarly seminars and conferences abroad.

HEQEP for the first time introduced intellectual property (IP) literacy among the faculty in Bangladesh and brought critical technical assistance for disseminating IP management procedure among them. As a part of IP management activity HEQEP established three technology transfer office (**TTO**) at BAU, BUET and DU.

HEQEP established a Strategy and Policy Unit (SPU) to assist the UGC management by conducting research on critical issues affecting the sector that demand urgent attention and the Unit organized the work for drafting of the *Strategic Plan for Higher Education, 2018-2030 (SPHE 2018)*, approved and published by the government in 2019.

Institutional Quality Assurance Cells (**IQAC**) were established in 69 universities (31 public and 38 private) and these universities completed self-assessment (SA) of programs and published the self-assessment reports (**SAR**). The Bangladesh Accreditation Council (**BAC**), also a first in South Asia was established in 2017 as a part of HEQEP's QA mechanism. Along with it a national qualifications framework (**BNQF**) for higher education was drafted by the QA unit of UGC as a HEQEP activity. The BAC is mandated to implement the BNQF as a ground work for accrediting programs in universities.

Under HEQEP the Bangladesh Research and Education Network (BdREN) was established in 2012. The BdREN is a dedicated high performance broadband network connecting all universities, 25 research and training institutions and medical colleges of the country. BdREN is connected with global research and education networks through Trans-Eurasia Information Network (TEIN) and GEANT, the pan-European research and education network connecting 10000 institutions across Europe and Asia-Pacific with over 55 million users. Additionally, BdREN is a collaborating partner of NORDUnet, a REN comprising of five Nordic countries (Sweden, Denmark, Norway, Finland and Iceland). BdREN provided technical support for establishing 34 virtual classrooms and 19 campus networks in public universities. It also implemented campus e-presence (CEP) at Dhaka University and Chattogram University of Engineering and Technology (CUET). The CEP is a video surveillance system operating with IP network that enables video streams to be sent over the intranet for remote monitoring.

- 1.4.5 UGC Digital Library (UDL) was established in 2012. It is offering access to high quality 34,100+ scholarly electronic resources to 90 member institutions from 13 major e-publishers. The faculty, students and researchers of member universities, research and training institutions can get direct access to the portal of e-resource providers through the web portal of UDL.
- 1.4.6 HEQEP also established Fab Labs (Fabrication Laboratory) in eight universities, also a first in Bangladesh. A Fab Lab is a small-scale workshop equipped with an array of flexible computer-controlled tools that cover several different length scales and various materials, with the aim to make "almost anything". This includes technology-enabled products generally perceived as limited to mass production. Fab Lab usually makes prototypes of innovative devices that can be replicated in a mass production facility if they have commercial potential. Fab Lab originated in MIT's media lab known as center for bits and atoms, and gradually spread over to many countries totaling 1830 in 2019.

1.5 Higher Education in Bangladesh

- 1.5.1 Bangladesh's higher education sector is growing with two main sub-sectors of higher education in the country: (i) 162 public and private universities³, under the aegis of the University Grants Commission of Bangladesh (UGC) and (ii) around 2,000 government and non-government tertiary colleges affiliated with the National University (NU) and Bangladesh Open University (BOU)). In addition, there are two international universities, which include the Asian University for Women, a regional hub for excellence in women's education and the Islamic University of Technology⁴. Together, the sector catered to around 4.1 million students⁵ in 2021 which is a significant increase from about 1.5 million students in 2010. The UGC, an attached body of Ministry of Education (MoE), is the statutory apex body of all the affiliated public and private universities in Bangladesh, and acts as the intermediary between the Government and the universities for regulating university affairs. Female students account for around 48 percent of higher education enrollment.
- 1.5.2 Government's approval of the SPHE 2018-2030 signaled a strong commitment to enhance investments in higher education, comprehensively identifies issues and challenges and recommends solutions. The World Bank has supported the higher education sector in Bangladesh through the HEQEP since 2009, establishing a strong basis for these proposed future reforms.
- 1.5.3 The curriculum for various degree programs in the universities in Bangladesh are usually designed to be equivalent to those in the universities of developed countries. Some of the graduates from certain universities are definitely world-class, as has often been demonstrated by their performance at home and also in universities in Europe, North-America, Australia and Japan. Many of them are holding senior academic posts in universities or executive posts in research institutes of these countries. However, it has to

³ 53 public and 109 private- however, only 140 universities are academically functional (45 public and 95 private). 49th Annual Report, UGC, 2022

⁴ Established with the support of the Organization of Islamic Cooperation.

⁵ There were 0.9 million students in universities and 1.7 million students in tertiary colleges in 2016.

be admitted that the vast majority of the graduates coming out of the HEIs in Bangladesh do not meet the expectations of employers. The skills acquired generally does not fit employers' requirements. Further, the English language proficiency, communication and presentation skill, problem solving skill, IT competence etc., of the graduates are below the standard of regional countries' graduates. In short Bangladeshi graduates lack higher-order cognitive and soft skills. No wonder that graduate unemployment rate is 11%, much higher than of national average (4%). In a rapidly changing global knowledge economy and the already arrived fourth industrial revolution require a workforce that can successfully perform in this environment of disruptive technologies and contribute to boost growth.

- 1.5.4 Absence of appropriate teaching-learning environment and lack of adequate number of trained teachers is one of the major handicaps for the universities for delivering quality higher education. Further, a number of other issues like absence of teachers' professional development, market responsive curricula, career guidance and counseling center, open system national learning management system, irregularity in academic sessions, absence of research collaboration in science and technology with regional countries' universities, etc., are the weak points of Bangladesh's higher education scenario. Further the quality of research, though appreciably enhanced by supports from HEQEP, is still below expectations, as indicated by the rather poor appearance of publications in international journals. There is hardly any indigenous journal of reasonably high impact factor. A major deficiency of the system is absence of university-industry research collaboration. This has effectively put an obstacle to generate innovation by the university labs and made the universities permanently cash-strapped and dependent on government largess.
- 1.5.5 In the midst of this dismal environment there are few pockets of excellence. Thus research in the agricultural sector succeeded in developing newer, climate adapted, many varieties of HIV rice, salinity tolerant and shorter ripening period paddy and improved water and fertilizer management which enabled to increase crop production manifold to feed the growing population. In the field of genomic research, excellence is indicated by the fact that the genome of Jute and Hilsa fish has been decoded, opening up new possibilities of developing better fiber quality jute and understanding Hilsha behaviour for protection and larger catches. Some of the research projects were undertaken through HEQEP support. Thus field level soil testing kit has been developed in BAU, process for manufacturing light-weight ceramic materials from indigenous raw material has been developed in BUET, an innovative bio-marker detection system for early detection of cancer using non-linear optics has been developed in Shahjalal University of Science and Technology, environment friendly bio-composites have been developed using agricultural wastes as raw materials, an enzymatic scouring method for textiles have been developed in RU, Khulna university invented chemical binder-less particle board manufacturing technology by using agricultural waste, a new local condition adaptive vaccine for preventing foot and mouth disease of Bangladeshi cattle and a diagnostic kit were developed by DU Microbiology Department. The following research laboratories have been developed and equipped for world class research: (i) A materials chemistry research laboratory has been established in the chemistry department of the DU, (ii) An advanced cellular and molecular research platform in CU where functional study for cancer, immunology and other related work can be conducted; (iii) a renewable energy research laboratory in the CUET, (iv) a genomic research laboratory in the Department of

Microbiology in DU, (v) molecular biology laboratory in the Department of Biochemistry and Molecular Biology, DU, (vi) a laboratory for research on livestock and poultry vaccines has been developed in the Department of Microbiology in BAU, (vii) a 400 MHz FT-NMR machine in Physical and Biological Sciences Laboratory in JU, (viii) Germ-plasm center at PSTU, and (ix) animal species anatomy museum in CVASU.

- 1.5.6 During the pandemic, some faculty members of universities had taken up the challenge to fight against the Corona virus SARS-CoV-2 the causal agent of COVID-19. Starting from preparing hand sanitizers, they made face shields in FAB labs and detection kits for cost-effective detection of the Corona virus in human bodies.

1.6 Challenges for the HE Sector

- 1.6.1 Now that the gross enrollment ratio in tertiary level has reached a competitive value of about 17%, transforming them into a trained work-force through quality HE is the next target for Bangladesh to exploit the demographic dividend.

- 1.6.2 Key Challenges in Higher Education in Bangladesh are:

- (i) **Providing Access and Equity**, especially for low-income group and females: The **GER** in higher education for Bangladesh stood at around 17 percent in 2017, trailing behind the average of Lower-Middle Income Countries (24 percent). Access to higher education is not equitable across gender, with females at a disadvantage. Inequality of access to university education across socio-economic background is also prevalent in this region. The situation is most difficult for women in rural communities. In Bangladesh, only one-third of university students come from rural families.
- (ii) **Improving the Quality and Relevance** of Graduate Skills and Employability: The unemployment rate among tertiary education graduates of Bangladesh stood at 11 percent, much higher than the national average rate of around 4 percent in 2017. Gender disparities in employment outcomes among tertiary graduates are quite pronounced with female unemployment rate (21 percent) nearly three times as high as males (8 percent). This may be partly due to a mismatch between graduate expectations and employer perception of the quality of education. Contributing factors to the quality crises of higher education include: (i) shortage of qualified teachers with lack of professional development opportunities; (ii) inadequate teaching and learning facilities; (iii) lack of focus on quality **STEM** programs and higher order cognitive and soft skills development, and (iv) inadequate collaboration with industry and private sector employers.
- (iii) **Developing Research and Innovation System**: There are strong needs to strengthen industry collaboration and private sector participation in promoting R&D work and supporting commercialization of research outcomes, i.e., new products, processes and technology. Bangladesh ranks poorly and remain at the bottom tier (131 out of 140 countries) for university-industry collaboration in R&D although quantity in research output has increased. To remain competitive in the global knowledge economy, Bangladesh needs to scale up the quality of research and innovation in higher education. Public funding for research at universities has been grossly inadequate - less than 1% of total government funding to public universities

and the majority of academics in Bangladesh have little research experience and training. Absence of modern well-equipped labs in secondary schools, many universities and all tertiary colleges is a huge drawback. The country ranked 116th among 126 countries in the GII-2019 which is co-published by Cornell University, INSEAD⁶ and World Intellectual Property Organization (WIPO). In the previous year GII released in 2018, Bangladesh ranked 114th among 126 countries thus dropped two notches.⁷ Sustained limited access to research and technologies, low enrollment in STEM subjects, if remain unaddressed, would continue to widen Bangladesh's the digital disparity even with the middle-income countries of the world.

- (iv) **Improving Governance, Management & Financing System:** The university sector requires to address challenges of quality assurance of university degrees and accountability and transparency in the universities. In Bangladesh, public spending for tertiary education has been in the range of 10-13 percent of the total education expenditure over the past 5 years, of which, the major share goes to recurrent expenditures. Moreover, management capacities need to be strengthened at all levels of the system to support effective planning, administration and monitoring of the sector.
- (v) With the on-set of the COVID-19 pandemic, nation-wide university closures were declared on March 17, 2020. With the withering of the pandemic in the later part of 2020 universities reopened. However, a new variant of COVID-19 virus has reappeared now, therefore, precautionary and preventive measures should be undertaken.

1.7 Higher Education Acceleration and Transformation (HEAT) Project

- 1.7.1 The government is now committed to provide increased funding to the higher education by augmenting budget allocation for the sector. The Ministry of Education with World Bank support has now come up with a second-generation project as a follow up of HEQEP to move forward the transformational activities started under HEQEP. This initiative is also part of government's plan to implement the recommendations of SPHE 2018-30. The new project, appropriately named Higher Education Acceleration and Transformation (HEAT), brings myriad of new activities, which upon implementation, is expected to enhance the quality and relevance of higher education and capable of

⁶ INSEAD (Institut Européen d'Administration des Affaires) is one of world's leading and largest business school located in Fontainebleau, France with campus in San Francisco, Abu Dhabi and Singapore. The GII ranks 129 countries based on 80 indicators ranging from IP patent filing rates to mobile app creation, education spending and number of scientific and technical publications.

⁷ Switzerland retained its top position in the 2019 index followed by, Sweden, USA, Netherlands, United Kingdom, Finland, Denmark, Singapore, Germany, Israel and Republic of Korea. China jumped up to the 14th position from 17th in 2017 securing a place in the group of 20 most innovative countries of the world. India ranked 52nd, a big improvement from 60th position in 2017. Pakistan also climbed up four notches to 105th from 109th. Sri Lanka ranked 89th while Nepal stood at 109th. Thus, Bangladesh ranks at the bottom among all south Asian countries. Very low enrollment in STEM subjects, absence of well-equipped modern science labs in secondary schools, polytechnics, universities, tertiary colleges and absence of university-industry collaborative research are a huge drawback for improving Bangladesh's GII.

generating globally competitive graduates as well as research output, necessary for the realization of our goal of becoming a middle-income country by 2031. Leveraging the lessons of HEQEP, HEAT is intended to accelerate the quality enhancement of higher education and transform it with the objective of establishing a thriving innovation ecosystem, in which innovative ideas will flourish to develop new products and processes for the desired economic growth. Keeping in view the outbreak of Covid-19 the project has been designed to address the deleterious impact of the pandemic on the academic activities of the universities in the country.

- 1.7.2 The project is expected to be implemented over a five-year period from July 2023 to June 2028. The project has five components and will be entirely financed by GoB from its own funding and IDA credit from the world bank. The project cost will be provided as a non-refundable GoB grant to UGC⁸.

The components of the project are as follows:

<p>Component 1: Strengthening International and Global Partnerships in Higher Education</p> <p>This component focuses on formulating regional and global engagement and partnerships to address systemic issues confronting Bangladeshi higher education, including pandemic and emergency preparedness, system resilience through digitalization, and access to quality higher education for women. It is anticipated that this will support Bangladesh engage in broader regional and global partnerships and help integrate the country’s higher education system with regional and global systems.</p>	
<p><i>1.1 Institutionalization of Regional and Global Partnerships, Mechanisms to Internationalize Higher Education, Building System Resilience, and Strengthening Digital Connectivity</i></p>	
<p>1.1.1 Institutionalization of Regional and Global Partnerships and Mechanisms to Internationalize Higher Education</p>	<p>This sub-component will finance the strengthening of mechanisms and partnerships in higher education. Specifically, this component will finance:</p> <ul style="list-style-type: none"> (i) Establishing an International and Global Partnerships Desk in the Bangladesh Ministry of Education to support regional integration efforts and global partnerships through the project; (ii) Develop a White Paper on International integration in close coordination and consultations with SAARC member countries and table it for country endorsement, (iii) Develop university level partnerships with high quality universities across the world in specific priority areas.
<p>1.1.2 Higher Education</p>	<p>This sub-component finances the establishment and maintenance</p>

⁸ The total estimated project cost of HEAT is around BDT 40165.7 million (40165.7 crore). This amount includes GoB grant of 2033.43 crore and IDA credit of 1983.11 crore.

<p>Portal with Localized Content</p>	<p>of a Higher Education Portal to be hosted by the BdREN in Bangladesh. The portal will help facilitate the mobility of international students through a ‘virtual medium’⁹. This sub-component will allow international students from participating and registered universities to take courses for credit in Bangladeshi universities. As other countries in the region and beyond agree to participate in such programs, this can be generalized to students outside their home country and home institution, and on a reciprocal basis.</p>
<p>1.1.3 Emergency Response</p>	<p>(i) This sub-component will finance the development of emergency response measures to create system resilience in response to the pandemic (e.g. COVID-19) in the higher education sector. This will also prepare the higher education sector for future crises, for example, climate-related events or due to conflict. The project will offer technical support to higher education institutions to implement these emergency guidelines and to establish crisis response committees at the institutional level. These guidelines once established can be used by other partners as needed.</p>
<p>1.1.4 Efforts to Improve Connectivity across National Research and Education Networks</p>	<p>This component will finance following key activities:</p> <p>(ii) development of a standard package of services that NRENs in South Asia can offer students and higher education institutions (such as, a Learning Management System, video-conferencing, data storage, and note-taking solution);</p> <p>(iii) work closely to support working groups of professionals in Asia-Pacific Advanced Network (APAN) and to strengthen cooperation across SAR RENs; (iii) put in place the last-mile connectivity for participating colleges, institutions and universities in Bangladesh through institutional grants; (iv) support the development and implementation of policies and strategies to ensure connectivity of the most disadvantaged students by providing means-tested access to devices and broadband access, and (v) the establishment of a 24/7 helpdesk to support remote teaching and learning (in alignment with the desk established under 1.1.1 and the helpdesk created under Sub-component 1.1.3).</p>
<p>1.2 International Network of Women’s Higher Education Institutions.</p> <p>This sub-component is supported through two distinct parts. The first part finances the</p>	

⁹ Virtual mobility means that students take courses for credit in another country than their own. Credit recognition would mean that either individual courses or entire degree programs are recognized as equivalent to regular (including face-to-face) instruction.

<p>construction of the academic complex for the hub of this network, the Asian University for Women (AUW), which will support capacity development objectives for all members of the network. The second part finances the creation and strengthening of the network of women in higher education institutions. The AUW, an international private, not for profit, educational institution will function directly under a Performance Agreement with the University Grants Commission.</p>	
1.2.1 AUW Academic Complex	<p>This sub-component will develop a climate resilient academic center at AUW, which will support the university to transact its core business and help meet the development objectives of the project.</p>
1.2.2 Regional Network of Women’s Universities and Colleges	<p>The sub-component will establish a network of women’s universities and colleges in Bangladesh with three main objectives:</p> <ul style="list-style-type: none"> (i) Enhance access to quality women’s higher education, (ii) Support the development of women leaders, and (iii) Enhance female labor force participation. This capacity building effort is expected to benefit at least 20 Bangladeshi universities, pre-selected by the government to participate in network activities based on their role and potential of promoting women’s education at scale¹⁰. The AUW is expected to be the hub for this network.
<p>Component 2: Transforming Higher Education in Bangladesh</p> <p>This component focuses on transforming the higher education sector in Bangladesh. There are three main sub-components which support (i) business continuity under COVID-19 pandemic and similar future shocks, (ii) strengthening market relevance of programs, and (iii) improving the governance and quality of the higher education sector.</p>	
<p>2.1: Supporting Business Continuity under Pandemic (e.g. COVID-19)</p>	<p>This sub-component supports business continuity in the wake of the coronavirus pandemic and to support disadvantaged students to disproportionately represent those unable to participate in any online activity. The project will strengthen the capacity of Bangladeshi universities to offer online and blended learning programs, along with increased service offers to institutions through the BdREN infrastructure. The following set of activities will be financed through this sub-component:</p> <ul style="list-style-type: none"> ▪ <i>Develop National Learning Management Infrastructure (LMI):</i> A national/central Learning Management Infrastructure (LMI) will be established. The LMI will

¹⁰ In addition, several universities and colleges from other South Asian countries have expressed interest in joining this network as well.

	<p>facilitate the development, management and delivery of on-line courses and digital resources.</p> <ul style="list-style-type: none"> ▪ <i>Subsidize connectivity and devices to students and staff:</i> UGC and participating universities in BdREN will offer a subsidized connectivity package (Wi-Fi router and internet credit) to students and staff. ▪ <i>Upgrade the Bangladesh Research and Education Network (BdREN):</i> BdREN’s capacity will be strengthened, and participation of universities will be increased to support envisioned activities and delivery of services under LMI.
<p>2.2: Strengthening the Market Relevance of Higher Education Programs in Bangladesh</p>	<p>The objective of this sub-component is to enhance the quality of higher education programs through the following:</p> <ul style="list-style-type: none"> ▪ Enhancing employability skills of university students, with a particular focus on girls– <ul style="list-style-type: none"> (a) Enhanced exposure programs for university students; and (b) Employment service activities. ▪ Strengthening continuous professional development of university faculty- <ul style="list-style-type: none"> (a) Construction of a University Teachers’ Training Academy; (b) Operationalization of Faculty Professional Development (FPD) and Development of Continuous Professional Development; and ▪ Promoting advanced research, innovation and entrepreneurship skills and efforts through competitive grants- <ul style="list-style-type: none"> (a) Pandemic Related Research and Development; (b) Competitive Funds to Improve Infrastructure for Teaching-Learning; (c) Advanced Research Grants; (d) Innovation Support Facilities; (e) Technology Transfer Offices (TTO).
<p>2.3 Improving the Governance and Quality of the Higher Education Sector</p>	<p>The objective of this sub-component is to support activities to enhance the overall management capacity of the higher education sector in Bangladesh. Technical assistance will be provided to support implementation of:</p> <ul style="list-style-type: none"> • <u>Improving Higher Education Management:</u> The project will support the development and initiation of innovative management system for the higher education of Bangladesh

	<p>through the design of a Performance Based Financing scheme, a Centralized Admission System, and the further development of the Higher Education Management Information System.</p> <ul style="list-style-type: none"> • Quality Assurance: Institutional Quality Assurance Cells (IQACs) will be scaled up and extended to all 158 universities in Bangladesh. • Accreditation: This will support the full operationalization of Bangladesh Accreditation Council (BAC) and program accreditations of universities by BAC. At least 30 programs will be accredited in universities under BAC during implementation.
Component 3: Enhancing Project Management Results Monitoring and Communication	
	<p>The activities under this component include:</p> <ul style="list-style-type: none"> (i) Project management; (ii) Monitoring and evaluation; (iii) Communication; (iv) Technical Assistance (TA), and (v) Help create a grievance redress mechanism (GRM).
Component 4: Contingent Emergency Response Component (CERC)	
	<p>This component will allow for rapid reallocation of project proceeds in the event of future natural or man-made disaster or crisis that has caused or is likely to imminently cause a major adverse economic and/or social impact during the life of the project.</p>

1.8 Overall Implementation Arrangement of HEAT Project

The project, under the ambit of the MoE/SHED's Annual Development Programme (ADP), will be spearheaded by the University Grants Commission (UGC) as the implementing agency. Faculty professional development training is slated to commence in rented premises, targeting at least 5,000 faculty members.

Management and coordination responsibilities of HEAT project rest with the Secondary and Higher Education Division (SHED) of MoE, with UGC providing essential support for day-to-day operations. A Project Steering Committee (PSC), led by the SHED/MoE Secretary, will oversee policy directives and address pivotal issues. A Project Director, supported by a Chief Implementation Officer (CIO) and a comprehensive Technical Assistance (TA) team, will ensure meticulous oversight across all project facets including financial management, procurement, M&E, and communication efforts. This project administration team will be known as the Project Management Unit (PMU). The project administration structure is bolstered by a Project Implementation Committee (PIC),

mandated to aid in project execution, showcasing UGC's robust capacity in managing complex educational reforms, as evidenced by its successful handling of the Higher Education Quality Enhancement Project (HEQEP).

The UGC, leveraging its proven track record and existing infrastructure, including a dedicated Engineering Division, will oversee the comprehensive coordination and supervision of the project's M&E activities. Utilizing its Monitoring Evaluation and Reporting Unit (MERU) in conjunction with the Higher Education Management Information System (HEMIS), UGC is tasked with supporting the project's M&E endeavors. MERU will utilize a web-based Project Information Management System (PMIS) to regularly update the Results Framework, ensuring that project activities are closely monitored and evaluated for effectiveness and adherence to the project's objectives. This implementation arrangement underscores a well-structured approach to managing and executing project activities, ensuring accountability, efficiency, and the achievement of set goals.

Project Management Unit (PMU)

The Project Management Unit (PMU) will serve as the central entity for the operational and strategic management of the HEAT project under the guidance of the Ministry of Education/Secondary and Higher Education Division (MoE/SHED). The PMU's composition will include: (a) personnel deputed from GoB, (b) specialized consultants and (c) outsourced staff in order to ensure smooth implementation of the project.

The leadership of the PMU will be under the Project Director (PD), deputed to oversee the comprehensive management of the project, including supervision of all officials and staff, financial management, and ensuring the achievement of project objectives. The PD will be supported by Deputy Project Directors responsible for leading various units/sections aligned with project components and subcomponents.

Individual consultants will play specialized roles: The Chief Implementation Officer (CIO) will lead the Technical Assistance (TA) team, coordinating project activities and liaising with beneficiary agencies. The Senior Financial Management Specialist and Junior Financial Management Specialist will ensure robust financial management, budgeting, fund management, and support financial training for staff. The Senior and Junior Procurement Specialists will oversee procurement activities, ensuring compliance with regulations and facilitating contract management. The Academic Transformation Fund (ATF) Management Specialist, Senior M&E Specialist, Quality Assurance Specialist, Senior Communication Specialist, BdREN Technical Specialist, Faculty Professional Development Specialist, Research Coordination Specialist, and UDL Specialist will each contribute their expertise to the project's success, focusing on their specific domains such as faculty training, research coordination, digital library development, and communication.

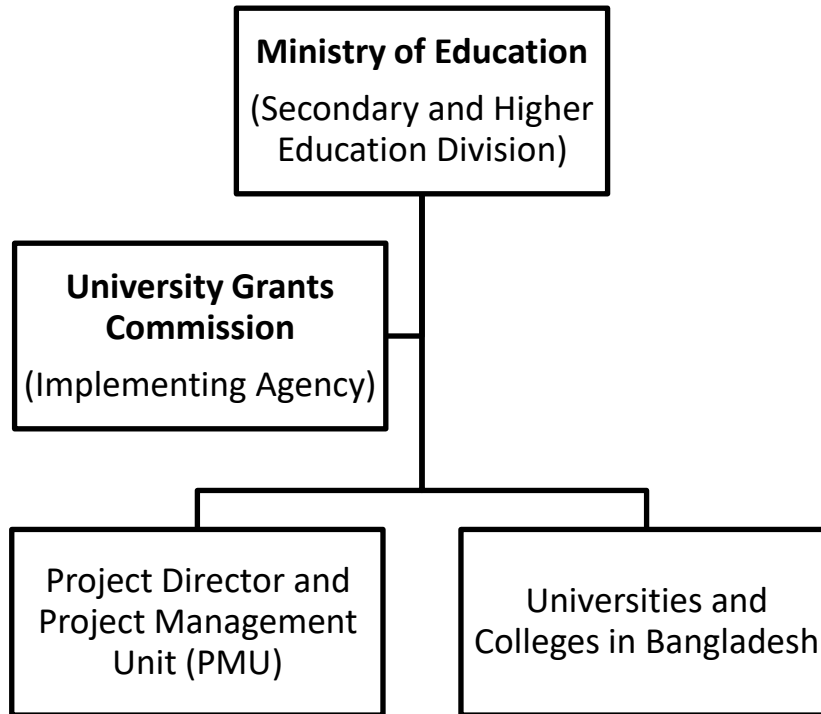


Figure: HEAT Project Implementation Arrangement Map

Financial oversight will be managed by a Senior Financial Management Officer (SFMO), leading the financial management team to ensure proper fund allocation, disbursement, and financial reporting. The Senior Monitoring and Evaluation (M&E) Officer will head the M&E team, focusing on monitoring implementation activities and progress, and organizing necessary surveys and studies. Deputy Directors, Senior Program Officers, and Program Officers will support the PMU's various units/sections in their respective tasks.

The Procurement Officer will assist in preparing Annual Procurement Plans and managing procurement processes, while Accounts Officers will support the SFMO in maintaining project accounts. Outsourced personnel, including Data Entry Operators, Drivers, and MLSS, will provide essential administrative and operational support under the supervision of respective directors.

This implementation arrangement outlines a comprehensive structure for the PMU, ensuring effective project management through specialized roles and responsibilities tailored to achieve the project's goals. The PMU's framework facilitates a coordinated approach to project implementation, monitoring, and evaluation, leveraging both internal expertise and external collaboration to ensure the project's objectives are met efficiently and effectively.

Chapter 2

The Academic Transformation Fund

2.1 The Concept of Competitive Funding

- The award of sub-projects to universities through competitive funding mechanism was first introduced in the country under HEQEP in 2009. It was branded as Academic Innovation Fund (AIF). The concerned faculty and management of the universities have become familiar and well trained with it in the course of implementation of 438 sub-projects during the long nine years of HEQEP implementation. Competitive funding is preferred to direct disbursement of funds to implementing institutions because (i) it ensures transparency and fair selection in awarding the grant, (ii) it provides funds to the most competent entity and thus ensures best utilization of scarce resources, (iii) the sub-projects are carefully designed by the faculty of a department as a collective and institutional endeavor thereby a sense of ownership is instilled among them, and (iv) winning an award through fair competition generates deep commitment among the SPMT for diligent implementation of the sub-project, thereby, a surety in fully achieving the objectives of the initiative.
- According to the methodology of the competitive funding mechanism, only a department, an institute or a university is entitled to submit a sub-project proposal, an individual teacher is not eligible to do that. It has to be an institutional endeavor, not personal. The sub-project proposal is evaluated by the submitting entities' peer reviewers and final award is made by a board of selectors composed of the top management of UGC, who are also the peers of the proposal writers. For every sub-project there will be a SPMT led by a faculty member to be called Sub-project Manager (SPM) and consisting of a definite number of other faculty members.
- AIF sub-projects of HEQEP achieved an average implementation progress rate of over 95%, with commendable academic attainments as evaluated by peer reviewers. Further, although nearly 80% of the proposals did not win awards, there was no recorded case of any complaint of unfair selection and expression grievance.
- It has been observed that the inbuilt motivational spirit in competitive funding mechanism promoted changes in organizational behaviour, professional attitudes and institutional culture for creative thinking. It also imbued transparency and accountability among the faculty in spending public money.
- The HEAT will also offer opportunities for academic staff in Bangladesh's universities to pursue ambitious goals, to experiment innovative ideas, conduct advanced researches and to test possible solutions. The competitive funding mechanism under HEAT will be known as Academic Transformation Fund (ATF) only to distinguish it from the previous mechanism. But the rules of the game will remain the same. This Operations Manual provides guidelines for (i) eligibility for accessing ATF grants by the universities, and (ii) implementation of the sub-projects.

2.2 Eligibility for receiving ATF Grants

In order to be an eligible recipient of the ATF resources the universities should fulfill the following criteria:

2.2.1 For All Universities

- Commitment to set-up a University ATF Secretariat (UATFS) after receiving ATF award, with qualified manpower and logistics for undertaking assessment, procurement, monitoring and evaluation of sub-projects financed under the ATF by both the public and private universities;
- Minimum annual intake of 30 students in undergraduate academic programs;
- In universities which offer only graduate/postgraduate programs, minimum intake of 30 students at graduate/post-graduate level;

2.2.2 For Public Universities

- An *Act* which established the institution as a university or equivalent level;

2.2.3 For Private Universities

- A *government Provisional Charter* allowing a private university to function under the *Private Universities Act*.
- A permanent campus/establishment owned by the university as stipulated in the *Private Universities Act*;
- Reserve fund in a scheduled bank as stipulated in the *Private Universities Act*;
- Holding of at least one convocation; and
- Availability of audited financial statement not older than previous two years.

2.3 Types of Sub-projects under ATF

In this section, the types along with the objectives of the sub-projects will be described. The funding windows and types of sub-projects are as follows:

2.3.1 Window 1: Pandemic Readiness Related Research and Development

There will be two broad types of sub-projects under this window.

- (i) Biochemical/virological aspects of the virus such as genomics, origin, and mutation in human bodies, immune system;
- (ii) Medical and pharmaceutical research on pandemic causing viruses.
- (iii) Social adaptation and Institutional readiness during/after pandemic.

Faculty members of bio-medical, bio-sciences, medical physics, biochemistry, microbiology, molecular biology, pharmaceutical chemistry, health science, Social Science and similar disciplines of Group-A & Group-B universities will be eligible to apply for these sub-projects.

2.3.2 Window 2: Improve infrastructure for teaching-learning

The objective of this window will be to improve infrastructure and create facilities for teaching-learning. All groups of universities are eligible to apply for these sub-projects. The indicative areas of sub-projects are as follows:

- (i) Upgrading teaching-learning infrastructure and environment with modern teaching tools/devices and communication technologies;
- (ii) Upgrading science, engineering and technology labs, workshops, machine rooms for **STEM/STAGE** disciplines;
- (iii) Updating/modernizing curricula and teaching-learning materials, and;
- (iv) Upgradation/renovation of childcare facilities, female washrooms and ensuring campus safety for women.

The facilities and upgraded **STAGE/STEM** labs will have climate resilient features that can withstand the impacts of climate change induced disasters and consequences.

2.3.3 **Window 3: Advanced Research**

The objective of this window will be to finance researches in **STAGE/STEM** and **AHSBL** subjects. All groups of universities are eligible to apply for these sub-projects. The indicative areas are as follows:

- a) **Advanced researches in priority areas**, e.g., 4IR technologies, smart agriculture, smart textiles, computational biology, bio-medical, pharmaceutical sciences aiming to develop medicines/drugs for preventing and curing of lethal diseases that afflict Bangladeshi population, poultry and livestock, crops and fruits, nanotechnologies, material science, engineering, Ship recycling, sustainable materials, renewable energy, environmental pollution and degradation, bio-diversity, textile, ceramic, wood and leather technologies, climate change resilience, global warming, disaster response and management, gender and women, poverty reduction, rural and urban social transformation, migration, urban planning, changing livelihood patterns, devastations in ecosystem and its impact on rural and urban communities, economy and growth, crime and violence, impact of globalization, media, cultural changes, women and gender studies, population studies, development studies, trends in production systems, capital market performance, etc.
 - A share of window 3a allocation will support **researches led by junior academics** (Lecturers, Assistant and Associate Professors) to encourage new ideas and nurture future generation of university researchers.
 - A share of window 3a allocation will also be set aside for advanced researches on **climate change and resilience** issues.
- b) **University-industry collaborative research** aiming to produce marketable products and patenting, commercial enterprise, business startups, etc.;

2.3.4 **Window 4: Innovation Support Facilities**

The objective of this window will be to establish new **Fab Labs, Innovation Labs, business incubators/innovation center** to promote entrepreneurship among students and faculty. Group A universities are eligible to apply for these sub-projects. The indicative areas are as follows:

- (i) Business start-ups by faculty;
- (ii) Training for developing technical competency;

- (iii) Establishing of new Fab Labs;
- (iv) Transforming of existing Fab Labs into Centers of Excellence in digital manufacturing and facilitating link-up with private sector;
- (v) Establish Innovation Labs (i-Labs)
- (vi) Establish business incubator tagged with successful Fab Labs/i-Labs to convert innovation into commercially saleable products;

2.3.4.1 All functioning Fab Labs in Bangladesh will be brought under “**Fab Lab Bangladesh Network**” and which will become member of “**Fab Lab Asia Network**” and “Fab Foundation”.

2.3.4.2 A Fab Lab is generally equipped with an array of flexible computer-controlled tools that cover several different length scales and various materials, with the aim to make "almost anything". Flexible manufacturing equipment within a Fab lab may include but not limited to:

- (i) Rapid prototype machine: typically, a 3D printer of plastic or plaster parts;
- (ii) 3-axis CNC machines: 3 or more axes, computer-controlled subtractive milling or turning machines;
- (iii) Printed circuit board milling or etching: two-dimensional, high precision milling to create circuit traces in pre-clad copper boards;
- (iv) Microprocessor and digital electronics design, assembly, and test stations; and
- (v) Cutters, for sheet material: laser cutter, plasma cutter, water jet cutter, knife cutter.

2.3.5 **Window 5: Technology Transfer Office (TTO):**

The aim of this window is to create a robust and sustainable university-industry interaction system and IP management by faculty and university. The main activity will be to establish new TTOs. This project will provide necessary technical assistance during the implementation. The TTOs role will be to commercialize research outcomes by maintaining valuing, and transacting the transfer of all marketable intellectual assets, (e.g., patents, copyrights, trademarks, designs, etc.) of the university to industry through networking and matching with industry partners. Group A universities are eligible to apply for these sub-projects. The TTO should be planned in such a way that it will continue as a permanent organ of the university after completion of the project. The university will provide a consent letter with the SPP about continuation of TTO (as an attachment) with its own staff, space and fund after the HEAT project duration and funding comes to an end.

2.3.5.1 The specific objectives of the Technology Transfer Office (**TTO**) will be:

- (i) to create a robust and sustainable industry-university interaction system and function as a linking agent or an interface between the university and industry;
- (ii) assist in maintaining, valuing, and transacting the transfer of all marketable intellectual assets (such as patents, copyrights, trademarks, designs, etc.) of the university to industries as well as spurring the creation of new science and technology led businesses, and businesses based on the research done in the

university. In other words, they have a pivotal role in converting the new knowledge generated in the university system to wealth for the benefit of the university and the nation;

- (iii) assist the researchers in converting the scientific findings, wherever feasible, into monetizable knowledge in the form of patents, copyrights, designs, formulas etc. generally known as Intellectual Property (IP);
- (iv) securely maintain such intellectual assets of the university by preventing intentional or unintentional infringement or theft;
- (v) perform, on a continuous basis, the techno-commercial evaluation of these intellectual assets of the university;
- (vi) perform all such acts that will help monetize these intellectual assets such as marketing, seeking new customers, participating in technology transfer conferences, etc.;
- (vii) design, negotiate and execute the technology transfer and licensing agreements with the industry;
- (viii) help create a greater awareness of the science-based business opportunities within the university students, faculty and management, and
- (ix) organize training on IP literacy for the academics of the university.

2.3.6 The summary of ATF windows, sub-project types under each window, indicative activities corresponding to each of the sub-project type and eligible entities for those sub-projects are presented in the following table in a summarized form (Table-1).

Table 1. Indicative Allocation for Individual Sub-projects under Five Windows (in BDT Lakh)

Window No.	Window Name	Sub-project type	Indicative Activities	Eligible Entities	Total allocation for the window	Allocation for this type	Allocation to individual SPP	Allocation to individual SPP
Window 1	Pandemic Readiness Related Research and Development		(i) biochemical/virological aspects of the virus, such as, genomics, origin, and mutation in human bodies, immune system, (ii) medical and pharmaceutical research on pandemic causing viruses, antibodies, vaccines, drugs, etc. (iii) Social adaptation and Institutional readiness during/after pandemic.	Bio-science, Pharmacy and Social Science Departments of Group A & B Universities	6000	6000	100	500

Window No.	Window Name	Sub-project type	Indicative Activities	Eligible Entities	Total allocation for the window	Allocation for this type	Allocation to individual SPP	Allocation to individual SPP
Window 2	Improvement of Teaching-Learning Infrastructure		Improving Infrastructure for Teaching-Learning: The funds from this window will finance: (a) modern ICT systems for teaching and learning; (b) upgrading of STEM labs; (c) updating/modernizing curricula and teaching-learning materials; and (d) upgradation/renovation of childcare facilities and ensuring campus safety for women.	All Departments, Institutes of eligible public Universities	24200	24200	50	500
					82960			
Window 3	(a) Advanced Research	i) Advanced Research in Priority Areas	STAGE/STEM disciplines: smart agriculture, food safety, sustainable agriculture, smart textiles, computational biology, bio-medicines, biotechnology, poultry, fisheries and livestock culture, nanotechnologies and engineering, artificial intelligence, sustainable materials, ceramic, jute fabrics, biodegradable polymer, wood, metallurgy, and leather technologies, ship recycling, carbon emission, robotics and automation, etc.	Departments/ Institutes of all eligible Universities		38960	200	600
			AHSBL disciplines: Economic, anthropological, sociological studies, globalization, production systems, livelihood pattern changes, rural and urban social transformation, ecosystem degradation impact on communities, migration, capital market, judicial and legal system, etc.	Departments/ Institutes of all eligible Universities		10000	50	100
		ii) Research Projects lead by Junior Researchers		Same as above		10000	Same as 3(a)(i)	
		iii) Climate change related		Same as above		4000		

Window No.	Window Name	Sub-project type	Indicative Activities	Eligible Entities	Total allocation for the window	Allocation for this type	Allocation to individual SPP	Allocation to individual SPP
		research						
	b) Collaborative Research with Industries and Research Institutes		University-industry collaborative research targeting patenting and commercialization of research products.	Departments/ Institutes of all eligible Universities		20000	200	1000
Window 4	Establishing Innovation Support Facilities				5740			
		Fab Labs, i-labs, Business incubators	Establish new Fab Labs, i-labs, upgrading existing Fab labs, Business Incubation Centers tagged with Fab labs and i-Labs	Group A Universities		5500	200	600
		Networking with other Fab Labs	Establish Fab Lab Bangladesh Network, become member of Fab Lab Asia Network and Fab Foundation			240	20	100
Window 5	Establishing Technology Transfer Office		Establishing new Technology Transfer Offices	Group A Universities	3500	3500	20	100
Total allocation for all windows					122400 (1224 crore)			

2.4 Sub-Projects Administration

- 2.4.1 Implementation of **ATF** sub-projects will be the responsibility of the public and private universities' Departments/Faculties/Institutes/Centers and the university itself which would receive **ATF** grants following a rigorous sub-project evaluation and selection process. The **ATF** receiving **HEIs** will establish a University Academic Transformation Fund Secretariat (**UATFS**) with required manpower and logistics to provide technical assistance to the sub-project implementing entities and sub-project managers (SPMs) to carry out the tasks of financial management, procurement, and reporting etc., of the sub-project. Establishment of **UATFS** will be a precondition for **ATF** contract to become effective. Additionally, the officials and specialists posted in **HEATPMU** shall extend required support to the sub-project implementing entities.

ATF unit in the **HEATPMU** will function as the central management office for promotion, mobilization, training, implementation and day to day monitoring of all **ATF** sub-projects under the guidance and supervision of **PD** and act as the trouble shooter when needed. The highest authority to take decision on all matters related to **ATF** implementation will be the **UGC Board for ATF (UGCBATF)**¹¹.

2.4.2 Sub-Project Management

The participating **HEIs** will establish individual Sub-Project Management Office (**SPMO**) headed by Sub-Project Manager (**SPM**) for every sub-project selected for implementation. The **SPM** would be the same person proposed in the approved sub-project proposal and will be assisted by Associate **SPM (ASPM)**, another faculty of the same entity. There will be a Sub-project Management Team (**SPMT**) consisting of the **SPM**, **ASPMs** and members who will normally be academics of the entity. In the case of **WINDOW-3b** sub-projects, a scientist from the industry partner will be a member of the **SPMT**. In the case of **WINDOW 3, 4 and 5** sub-projects, an officer of the university may be included in the **SPMT**. **SPM** will recruit office staff, i.e., Secretary/Office Manager, Accountant/Finance Officer, Data Entry Technician, and support staff, i.e., Janitor/MLSS etc., (with consolidated salary or as additional duty/part-time contract basis) provisionally in line with approved sub-project proposal to work in **SPMO**. The **ATF Operations Manual (ATFOM)** will be the basic handbook for use by the **UGC**, **HEATPMU**, universities and **SPMs** respectively for accessing **ATF** funds, sub-project proposal processing and selection procedure to be followed, and carrying out the sub-projects' activities at the institutional level. The **FMG** and the **ATFOM**, therefore, will be the two main documents that would be indispensable for the management of **ATF** sub-projects' physical and financial activities.

2.5 Grouping of Universities

- 2.5.1 There are now 158 (50 public and 108 private) universities in Bangladesh. They are at various stages of development, with different past achievements and present capacities. In an open competition for sub-projects the younger universities with less capacities are likely to find it unfavorable to compete with the universities with higher capacities. Further, many of the younger universities have few departments and faculty are younger, therefore, they have limited capacity to implement big budget sub-projects. Following the HEQEP precedent it has therefore been decided to offer protected opportunities to the relatively younger universities by dividing all the universities into three groups according to their capacities, and reserving allocations for each group. Academic capacity of a university has been determined by the actual number of full-time teachers holding PhD degree in that university and with the number of research publications in Scopus Indexed Journals in recent years. Teachers' qualification is just a benchmark for arriving at an acceptable level of capacity of a university for ensuring share of the additional funds provided by the HEATP. This clustering of universities in groups does not indicate ranking or hierarchy based on excellence or status of an institution included in a group. The maximum value of a sub-project will also be different for the three groups. All the

¹¹ **UGCBATF** shall be composed of the chairman and five members of UGC. Its ToR is given in the ATFOM.

universities will participate in the open competition, and after evaluation of the project proposals, separate merit lists will be prepared for each group for selection for award. The list of universities and division into three groups is given in **ATFOM Annex 3** of this OM.

2.6 Allocation for Sub-projects:

- 2.6.1 All sub-projects will require fund for renovation and refurbishing of class rooms, lecture theaters, women's facilities renovation, labs, procurement of scientific equipment for labs, computers, communication and teaching-learning devices, office equipment, stationary, soft-ware, renovation work of classrooms and labs, etc. Sub-project budget will also cover expenses for other activities included in the work and financing plans, e.g., training, travel allowances, remuneration to MPhil, Master's, PhD and Post-doc fellows, etc., and salary for contractual staff of the sub-project. However, Pandemic Research and Development sub-projects and those of the **STAGE/ STEM** disciplines would require modern state-of-the-art lab equipment for conducting advanced research. Most of these scientific lab equipment are very expensive. Considering the DPP provision and priority of advanced research for spurring economic growth, and the capital-intensive investment required for **STAGE/STEM** sub-projects, about 80% of the total fund budgeted for this purpose has been allocated to **STAGE/STEM**, and the remaining for **AHBSL** disciplines. On the basis of such considerations, and to support as many entities as possible, the maximum and minimum indicative allocation for individual sub-projects have been fixed as shown in **Table-1**.
- 2.6.2 The total allocation for competitive funding is BDT 122400 lakh, and the allocation for Group A, Group B and Group C universities will be respectably in the ratio of 55:30:15. However, Window-1 sub-projects will be awarded to Group-A and Group-B universities and Window-4 and Window-5 sub-projects will be awarded only to Group-A universities (Table-2).
- 2.6.3 Further, in order to spread the funds as widely as possible among various universities in a group and at the same time maintaining the spirit of competition, a limit in percentage will be imposed on an individual university out of the total amount of funding in a particular window. Further, allocation for a university in a particular window may be adjusted to accommodate a sub-project in another window in such a way that the total allocation remains within the total ceiling for all windows for the university. Moreover, if it is observed that fund so allocated would remain unutilized due to lack of competent proposals from a particular group, then **UGCBATF** may consider to re-allocate the unutilized fund to groups which might require additional resources for financing number of competent proposals. The **UGCBATF** would also consider such fund reallocation/readjustment mechanism for all the windows according to demand and on the basis of merit, score, etc.
- 2.6.4 **ATF** fund allocation will be divided equally into two rounds of call; and the allocation among three groups of universities as share of total fund is shown in Table 2 below.

Table 2. Allocation of fund for win Window and university group-wise allocation of fund showing institutional ceiling

							BDT in Lakh	
Window	Name of Window	Available Fund	University Groups					
			Group A (55%)		Group B (30%)		Group C (15%)	
			Total	Total group Allocation	Institutional ceiling	Total Group Allocation	Institutional ceiling	Total Group Allocation
1	Pandemic Related Research and Development	6000	3882	582	2118	318	-	-
2	Improvement of Teaching-Learning Infrastructure	24200	13310	1997	7260	1089	3630	545
3	Advanced Research	(82960)						
	STEM/STAGE, AHSBL	62960	34628	5194	18888	2833	9444	1417
	Industry Collaboration	20000	11000	1650	6000	900	3000	450
4	Innovation Support Facilities	5740	5740	861	-	-	-	-
5	Technology Transfer Office	3500	3500	525	-	-	-	-
Total Allocation (all windows)		122400	72060	10809	34266	5140	16074	2412
Allocation Principles								
<ol style="list-style-type: none"> 1. Ceiling to an individual eligible university in a group will be 15% and the upper limit of allocation to an individual university will be as follows: Group A: 10809 Lakh; Group B: 5140 Lakh; Group C: 2412 Lakh BDT. 2. In case of a sub-project jointly submitted by two universities, the cost of sub-project should be shared between the two universities, provided that amount allowed to each participating university does not exceed the ceiling. 3. The cost sharing principle stated above shall also apply in case of public-private university joint sub-projects. The lead university shall disburse the fund according to financing plan. 								
* Amounts have been mentioned in round figures								
** Ceiling means upper limit of allocation to a university in that window								

2.7 Indicative Eligible Expenditure

Following items of expenditures will be eligible under a sub-project's approved work plan, training plan, budget, procurement and financing plan.

2.7.1 Training¹²

a. Expenditure for training of regular academic staff on drafting of patent application

¹² Training under all ATF sub-projects will be allowed only to regular/permanent faculty members of the entity. Maximum four academics from among the members of the SPMT or the entity will be eligible to undertake such training abroad only once under the sub-project's entire implementation period. They have to secure PMU and university management's prior approval, as the rules stipulate, for undertaking such visit abroad and shall receive financial support for most economic return airfare and training fees as required for the program and other allowances from the sub-project as admissible under existing government rules.

and its processing, licensing agreement, business contracts for commercialization of research products etc. for window 3, 4 & 5 sub-projects;

- b. Expenditure for foreign training of regular staff/faculty for acquiring expertise on operations and maintenance of sophisticated laboratory equipment procured only under window 1 & 3 sub-projects; provided that;
 - For which training is not available in Bangladesh; and
 - Not exceeding 30 man-days;

2.7.2 **Procurement**¹³

- a. Purchase of teaching aids/materials/equipment/devices for window 2 sub-projects
- b. Purchase of research laboratory equipment, machineries for window 1, 3 and 4 sub-projects;
- c. Purchase of spares and accessories of laboratory equipment for window 1, 3 and 4 sub-projects;
- d. Books and journals;
- e. Office equipment, e.g., photocopier, printer, scanner;
- f. Stationaries;
- g. ICT equipment and accessories;
- h. Chemicals, specimen, coolants, gas and other consumables;
- i. Furniture for class rooms and laboratories, seminar rooms, libraries,
- j. Air conditioners, air purifiers and dehumidifiers for classroom, laboratories, seminar rooms and libraries;
- k. Expenditures for conferences, seminars, workshops held within Bangladesh related to the sub-project activities (all sub-projects);
 - 1. Cost of travel and transport (occasional hiring)

2.7.3 **Works** (maximum 10% of the project cost)

- a. Renovation, repairing and refurbishing of existing infrastructure like lecture rooms, seminar rooms, laboratories, wash rooms;
- b. Construction of special structures for installation of equipment or machinery (not considered renovation);
- c. Construction of an equipment for use in laboratories;

2.7.4 **For Research** (Window 1 and Window 3) **sub-projects:**

- a. Financial support to candidates enrolled for Master's and PhD;¹⁴

¹³ All goods, works and services to be procured must be included in the financial and procurement plan of the sub-project proposal.

¹⁴ Registered Master's and PhD students may be engaged on a contractual basis for research under WINDOW 3 sub-projects. A particular Master's and PhD student may be paid allowances at the monthly rate of Taka 30,000 and Taka 50,000 respectively for a maximum period of 18 months for Master's and 36 months for PhD

- b. Research stay allowances for Master's/PhD students¹⁵
- c. Host institute charges for research stay;¹⁶

2.7.5 Services:

- a. Travel expenses, hospitality expenses and remuneration of visiting scholars/ experts;
- b. Remuneration for the services hired teachers, researchers, research assistants, technicians;
- c. Repair, maintenance of laboratory and office equipment;
- d. Payments for intellectual properties', patents' use etc.¹⁷(Window 3 sub-projects).
- e. Hiring of consultants/experts/specialists/lawyers/patent attorneys and their consulting fees (maximum 10% of the total cost of the sub-project; however, for TTO, there will be no budget ceiling);¹⁸
- f. Payment for scientific analytical work (window 1 and window 3 sub-projects).
- g. Academic Collaboration
- h. Expenditure for visit of members of the SPMT to national and foreign universities, research institutions and industries for the purpose of collaborative research work as part of window-3 sub-project proposal/activities¹⁹;
- i. Incentives for Members of the SPMT.²⁰

student. A maximum of four Master's and four PhD students may be engaged in a sub-project. The number of Master's students must not exceed four in any given academic session. Tuition fees and other mandatory fees of all registered research students will be paid from the sub-project.

¹⁵ A researcher's stay of up to six months for Master's and twelve months for PhD students in a foreign university/institute is permissible for collaborative research; they will be entitled to most economic return air fare and allowances at the following rates:

- *Category-A: Tk: 120,000/month (US, Canada, Australia, Europe, New Zealand, Japan, Singapore)*
- *Category-B: Tk: 100,000/month (USSR, Hong Kong, South Korea),*
- *Category-C: Tk: 70,000/month (India, China, Malaysia, Thailand, Indonesia, Phillipines, Turkey)*
- *For any other counties, decision of UGC/BATF will be the final.*

¹⁶ An amount up to BDT 500000/- may be paid to the host institution for extending research facilities for collaborative research as per sub-project design, and an incentive up to US\$ 5000.00 (equivalent BDT) to the host research supervisor per **Master's/PhD** student. Provided that the cost is included in the budget and financing plan of the sub-project.

¹⁷ According to GoB's IP and Patent Law.

¹⁸ Please refer to section on procurement below.

¹⁹ Such visits shall be strictly for collaborative research purposes. Per diem and travel costs for such visits abroad will be admissible according to GoB's existing travel allowances rules. The maximum number of such visits abroad shall be four for the entire duration of the sub-project and the duration of each visit will be maximum two weeks. Only the members of the SPMT are eligible for such visits. Vice Chancellors, Pro Vice-Chancellors and Treasurers shall not be eligible to visit abroad with sub-project fund. Such visit proposals must be prior-approved by **PMU/UGC**. Visits abroad without **PMU/UGC's** prior approval will be considered as ineligible expenditure and the participant will have to refund personally the entire cost to sub-project. Total expenses for visit abroad should not exceed Tk. 20.0 lakh or 5% of the sub-project budget, whichever is lower.

²⁰ The SPM and ASPMs of a sub-project will be eligible for receiving incentives @ four months' and two months' basic salary respectively per year as referred to Annex 14 of this ATFOM. Other members of the

2.7.6 **Staffing of TTO**, e.g., hiring of persons with law background and skilled in developing licensing agreements, business development specialist, intellectual property (**IP**) expert who would manage and facilitate IP assets of the university by reviewing patentability of researches/ products/processes, training etc., and marketing expert who has knowledge on techno-commercial arena and continuously interact and negotiate with industries. These staff could be hired from the market and/or deputed from relevant departments and faculties of universities and must be professionally trained in above skills. In fact, TTO staffs should be regular/permanent employees of the University for continuation of technology transfer activities after completion of the project.

2.7.7 **Ineligible Expenditure**²¹

- a. Salary and allowances for the regular/permanent academic and support staff of the university;
- b. Any establishment/recurring/revenue expenditures of the department/ faculty/ institute/ center/ university;
- c. Large civil works, e.g., construction of new physical infrastructure, i.e., building, road, boundary wall, water reservoir, laboratory, workshop, classroom, auditorium, library, seminar hall/lecture theatre/room/facilities etc.;
- d. Costs not related to **ATF** sub-project activities and not included in the sub-project work plan, financing and procurement plans and budget.
- e. Procurement of motor vehicles.

2.7.8 **Procurement**

Goods, works and services shall have to be procured by following the PPA 2006 and PPR 2008 as well as *WB Procurement Regulations for IPF Borrowers, 2016, revised in November 2017 and August 2018*, subject to eligibility of the expenditure as stated in paragraph 2.6 above for IDA/GoB fund use.

2.7.9 **Cost Escalation and Re-appropriation**

Due to various reasons like price hike of goods, works or services and/or depreciation of value of Taka, the actual cost of any item of procurement may turn out to be higher than the cost of the item in the approved budget of the sub-project. This increase in cost is called escalation, and the SPMT in such cases should adjust budget first to accommodate the increased cost of the item. If it is not possible, the SPMT may apply with justification for an increase in the project cost for approval by the **UGCBATF**. Approval of cost escalation will be given only in exceptional situation.

Re-appropriation of budget will be allowed in cases when it becomes necessary for

SPMT will be eligible to receive one month's basic salary per year as incentive. The total ceiling for incentives for the entire sub-project period must not exceed Taka 2.5 million (3.0 million for collaboration project) or 10% of the total sub-project cost, whichever is lower. The incentive will be paid upon submission of annual progress report by the SPM to PMU/UGC, describing the contribution of individual Members of the SPMT.

²¹ Ineligible expenditures will not be reimbursed by the GoB/World Bank and will have to be borne by the university.

achieving sub-project's objectives and for rationalizing cost under different heads of budget. However, budget re-appropriation proposal must be prior-approved by the **PD**.

Chapter 3

Preparation of Sub-Project Proposals

3.1 Administrative Structure of ATF

- 3.1.1 The **HEATPMU** will have a designated unit for **ATF** with an academic/official not below the rank of **Grade 3**. S/he will work under the project director who will lead the **PMU** and the implementation of all activities of the project including of **ATF**. PD will be directly accountable to the Chairman, UGC.
- 3.1.2 **University Secretariat for ATF (UATFS):** Public universities willing to participate in the competition for the award of sub-projects will require to have **UATFS** with the Director of Planning and Development as the official in charge and other necessary support staff. For private universities **UATFS** will be headed by an official or faculty responsible for planning and development activity of the institution. This secretariat will be responsible for maintaining communication between the **SPMT** in the university and the Vice Chancellor's office at the institution level and **ATF** unit at UGC at the **PMU** regarding all activities as specified in this OM.

3.2. Call for Proposal:

- 3.2.1. There will be two rounds of competition for the entire length of **HEAT** implementation. i.e., five years. The call will be published in several national dailies, and also posted in the **MoE/SHED** and **UGC** and **HEATP** websites. The call for the second round will be given within one month of the award of the first-round proposals. The total allocation will be distributed equally between the two rounds.
- 3.2.2 Operations Manual for **ATF**, including proposal formats for types of sub-projects will be uploaded on the websites of **UGC** and **HEATP** and the printed version of the **ATFOM** will be sent to all universities.

3.3 Preparation of Sub-project Proposals (SPP)

- 3.3.1 Sub-project proposal for any sub-project has to be prepared by filling up the specific proposal format given in the Annexes of this Operations Manual.
- 3.3.2 Further, proposals will require different **SPP** formats depending on the type of the sub-project provided in this Operations Manual (with an additional appendix on Partnership Agreement for Window 3- sub-projects) to be filled up and attached. MS word version with excel formats for tables of the **SPP** will be posted on the website of **HEATP**.
- 3.3.3 The sub-project type as mentioned in **Table 1** and **2** above should be written on the cover of the **CP**. Additionally the sub-project which falls within the broad cluster of disciplines as classified in paragraph 3.3.4 below should be mentioned on the cover page of the **CP**. Further, the specific subject of the sub-project according to the classified cluster should be written in the **CP**:
- 3.3.4 **Cluster of disciplines for sub-projects:**
- (i) **AHSS:** (Arts, Humanities, Social Sciences))

- (ii) **CCDM:** (Climate Change and Disaster Management)
- (iii) **PCMSI:** (Physics, Chemistry, Mathematics, Statistics, ICT)
- (iv) **ETTCLW:** (Engineering, Technology, Textiles, Ceramic, Leather, Wood)
- (v) **MBPPHNS:** (Medical, Biochemical, Medical Physics, Pharmaceutical, Public Health and Nutritional Sciences)
- (vi) **AG:** (Agriculture including Crops, Fisheries, Livestock, Veterinary, Poultry and Horticulture)
- (vii) **BL:** (Business and Law)

3.3.5 Sub-project Management Team and Proposal Submitting Entities

3.3.5.1 Every sub-project will require a **SPMT**, consisting of a Sub-project Manager (**SPM**), one or two Associate Sub-project Managers (**ASPM**), and if required, one or two members. However, the total number of members should not exceed 4 including the SPM. The **SPMT** will prepare the proposal, and both the **SPMT** as well as the proposal will require the formal approval of the academic committee of the entity, which will own the proposal and submit it after obtaining **VC**'s approval. The **SPM** and **ASPMs** shall be selected from the regular/permanent teaching staff of the proposal submitting entity.

3.3.5.2 Following entities in a university shall be eligible²² to submit proposals as given in Table 3.1 below.

Table 3.1. Eligible Entities for submitting Sub-project Proposal

Sub-project type	Eligible Entity	Eligible SPM	Eligible Members of SPMT
Window 1: Pandemic Related Research and Development	Bio-science, microbiology, virology, medical, pharmacy, Social Science and relevant departments of Group A&B universities in collaboration with Research Centers	Permanent Faculty Member of the proposal submitting entity	Relevant Teachers and Research Scientists
Window 2: Improving Teaching-Learning Infrastructure	Departments/Faculties/Centers/Institutes of all public universities	Head of entity or a nominated Permanent Faculty Member of the proposal submitting entity	Teachers of the entity
Window 3: (a) Advanced Research in Priority Areas	Departments/Centers/Institutes of all public and eligible private universities	Permanent Faculty Member of the proposal submitting entity	Teachers of the Department/Center/Institute

²² Eligibility criteria have been described in section 2.2 of this OM.

Sub-project type	Eligible Entity	Eligible SPM	Eligible Members of SPMT
Window 3: (b) Collaborative University-Industry Research	Departments/Centers/Institutes of all public and eligible private universities in collaboration with Research Centers and industries	Permanent Faculty Member of the proposal submitting entity	Teachers of the Department, Researchers/ Teachers of the Center/ Institute and Research personnel of the partner industry or research institute
Window 4: Fab Lab, i-Lab, Business incubator	The eligible public and private universities of Group-A	A Faculty Member nominated by the Vice-Chancellor	Teachers of the University
Window 5: Technology Transfer Office	The eligible public and private universities of Group-A	A Faculty Member nominated by the Vice-Chancellor	Teachers of the University

3.3.6.3 An academic will be allowed to be the **SPM** of only one sub-project. Further, no faculty member can be designated as **SPM**, **ASPM** or a member of the **SPMT** simultaneously for two sub-projects in a single round or in two rounds consecutively.

3.3.6.4 It is expected that the Dean of a Faculty, the Chairperson/Head of a Department or the Director of an Institute will be the **SPM** of a **Window 2** sub-project. In the event the entity is awarded more than one sub-project or the Dean of a Faculty, the Chairperson/Head of a Department or the Director of an Institute unable to become the SPM, a senior faculty may be nominated as SPM by the Faculty/Academic Committee or the Governing Body as the case may be. The Same committee shall form the SPM team to prepare the **SPP** and place it before the Faculty/Academic Committee (**AC**) or the Governing Body as the case may be, and upon approval, submit it to the **UATFS** for obtaining endorsement of the Vice-Chancellor and onward transmission to **ATF** unit of **HEAT PMU**.

3.3.7 **Window 3 (a) Sub-projects: Advanced Research in Priority Areas**

Sub-project proposals may be initiated by an individual academic in consultation with a group of colleagues in the same entity or a partner entity, which may be a neighboring entity, or even an entity in another university. The objective of the proposal is to establish facilities for carrying out cutting-edge research in a priority area relevant to needs of the country. The initiator of the proposal is expected to be selected by the entity as the **SPM**, the **ASPMs** and team members who will be academics having full-time positions in the entity. The **SPMT** will prepare the **SPP** and submit it to the Department/Center/Institute for approval by the Academic Committee/Board of Governors and forward it to the **UATFS** for obtaining **VC**'s approval.

3.3.8 **Window 3 (b) Sub-projects: University-Industry Collaborative Research**

3.3.8.1 First, an individual teacher or a group of teachers of a department or Institute may have

developed certain technology which they think, have commercial value, or may have ideas for developing a marketable technology out of their own research findings or existing knowledge available in literature. The proposed technology should be innovative, in the sense that it should be based on “doing something differently” than how it is done currently. They should have proven research experience relevant to the technology, and basic research facilities at their disposal.

- 3.3.8.2 Second, this group will undertake a survey of the industries (small, medium or big) and identify the enterprise that produces and markets products/processes/technologies in relevant technology fields and would be the appropriate partner for jointly developing and marketing the technology and products that would fulfill the purpose of the innovative research planned by the academician-researcher. The names of such appropriate enterprises shall be listed and then each of them will be individually contacted by the proposal writer academician. Discussion with the enterprise owner/manager will be initiated to make him/her interested to involve in the collaborative research.

The faculty will choose an industry partner who would be interested in adopting the technology for commercial benefits and investing in the development of the technology through collaborative research with the assistance of experienced researchers including Postdoctoral Fellows and PhD students.

- 3.3.8.3 Third, once the two parties agree in principle to start the collaborative venture, the terms and conditions of collaboration shall be worked out through negotiation and presented in a draft Memorandum of Understanding (**MoU**). A strategy and plan for procuring necessary logistics for the proposed research and carrying out the research jointly will be formulated with a view to generating monetizable knowledge and pilot marketing of the product/technology. MoU between the eligible entity and industry (a template in *SPP Annex 14*) should cover, at least, the following:

- Agreement on the confidentiality of technologies shared with Industry;
- Agreement on intellectual property right ownership by the university/entity;
- Agreement on sharing of benefits from licensing and commercialization;
- Agreement on cost sharing (for expenditures incurred outside of **ATF** grant, if any);
- Agreed deliverables and timeline of the joint research and commercialization.

- 3.3.8.4 Fourth, the draft **MoU** shall be submitted to the **VC** of the university for obtaining approval.

- 3.3.8.5 Fifth, the entity will form a Sub-project Management Team (**SPMT**) headed by the **SMP** including one or two Associate **SPM** (**ASPM**) and one or two members, one of the **ASPM**/Member will be a representative of the industry partner. The **SPMT** will formulate the proposal and submit it to the Academic Committee/Governing Body, as the case may be for approval and necessary further action.

3.3.9 **Activities to be funded under Window-3 sub-projects:**

- (i) Development and improvement of the laboratories and workshops with state-of-the-art scientific instruments for conducting experiments on testing of the

technologies;

- (ii) Employment of fulltime Post-Doctoral fellows (up to Tk. 150,000/- per month)²³, Research Fellows for fulltime PhD students (Tk. 50,000/- per month)²⁴ and Research Associates (50,000/-) for carrying out research work;
- (iii) Cost of application for patent on developed technologies and establishment of Intellectual Property Right;
- (iv) Promotion and commercialization of innovative technologies;
- (v) Training and Workshops for researchers from universities and industries;
- (vi) Facilitation and strengthening of the linkages with the industry/productive sector;
- (vii) Academic visits by **SPM** and **SPMT** to gain experience of the functioning of **TTOs** and university-industry collaborative research;
- (viii) Expenditures for participation in training courses for university's regular/permanent academic staff and industry experts on topics such as patent management, licensing agreement, business contracts, commercialization of research products, etc.;
- (ix) Expenditures for attending conferences, seminars, workshops held within Bangladesh related to the proposed research;
- (x) Procurement of materials and facilities for research, including laboratory facilities, books and stationery, etc.;
- (xi) Operational expenditures for research activities and commercialization of research outputs;
- (xii) Incentives for members of **SPMT**.

3.3.10 **Role of Universities in Implementing Window 3 (b): University-Industry Collaborative Research Sub-projects**

3.3.10.1 Universities will provide research facilities, space for experimental setup and equipment needed for their research on innovative technologies and provide industry members the opportunities to participate in collaborative research with university faculty and easy access to the entity's research facilities and equipment needed to carry out the joint research.

3.3.10.2 Universities will take a leading role in publishing research outcomes of the joint research after completing the application for patent as well as in filing applications for patenting of created innovative technologies and products. The Technology Transfer Office (**TTO**) would provide the technical assistance for acquiring patent by the university.

²³ If a SPP needs post-doc fellow with high qualification and remuneration higher than GoB salary scales, s/he may be recruited as consultant.

²⁴ PhD students may be engaged on a part time basis upon a maximum payment of allowances of Tk 25,000/- as agreed between the SPMT and the student.

3.3.10.3 The proposal submitting entity's' leadership should take adequate measures to raise awareness of the entire university community about entrepreneurship for faculty members and the significance of university-industry collaboration. Full support of university leadership both administratively and psychologically is essential for the successful implementation of university-industry collaboration and fostering the culture of business enterprise in the university and tolerance toward failures of innovative undertakings. The proposal submitting entities and universities of proposal submitting entities need to develop institution's policy for intellectual property management as well as new human resource policy and reward systems to nurture entrepreneurship and motivate faculty members to engage in university-industry collaborations. The university should also provide support to its researcher academics to become techno-entrepreneurs and establish business ventures for production and marketing of the results of innovations.

3.3.11 **Role of Industry**

3.3.11.1 The industry personnel will join as members of **SPMT** and bear joint responsibility for successful completion of the sub-project. Members of industry shall collaborate with the universities to identify innovative technologies that can be jointly developed into marketable goods and services, and develop strategies for joint research and pilot marketing.

3.3.11.2 Industry will provide technical inputs to joint research processes and play a major role in dissemination and marketing of the innovative technologies and products.

3.3.11.3 Industry will cooperate with the proposal submitting entity in filing applications for patent under the names of both members of University and Industry to secure Intellectual Property rights of their research outputs.

3.3.11.2 Industry will provide access to its research lab and production setup for experimentation and data collection. The industry will also provide its technical expertise for setting up research laboratories in the university and training the university personnel (Faculty, student, technical staff, etc).

3.3.12 **Proposal Pre-submission Guidelines:**

The Vice-Chancellor of the university is expected to take the initiative to make the institution ready for participating in the **ATF** and enthuse and encourage the Deans, Heads and senior faculties for preparing and submission of sub-project proposals. The sub-project proposal (**SPP**) will be prepared by the entities and the **VC** shall provide guidance and oversight in their work.

3.3.12.1 An academic who is presently implementing other research projects costing total of BDT 100 lakh or more will not be eligible to be a member of **SPMT** of **ATF** sub-projects.

3.3.12.2 The SPM and ASPM must have at least four years' service ahead from the beginning of the implementation of the sub-project

3.3.12.3 The minutes of the meeting of the Academic Committee or the Governing Body in which the **SPP** has been approved must be attached with the **SPP** as its integral part.

3.3.12.4 SPM or the Head of entity will submit **five hard copies** along with a softcopy of a **SPP**

to **UATFS** in the prescribed sub-project proposal format (Chapter 10). All proposals should be submitted in 80gm A4 size offset paper and a soft-copy (both in MS Word & Excel, and in PDF format).

- 3.3.12.5 **Vice-Chancellor's Endorsement:** After receiving the proposals from the entities the Planning and Development (P&D) office of the university will make a list of received **SPPs**, submit these to **VC** office for obtaining the **VC's** endorsement on them. The endorsement of the **VC** on the **SPP** implies that the university management undertakes responsibility to provide full administrative support for the implementation of the sub-project as well its sustainability after completion of the sub-project. The **VC** may recommend any change, modification of scope, budget of the sub-project proposals upon consideration of the needs of the university, its strategic plan and development perspective before submitting it to the **PMU**.
- 3.3.12.6 The **P&D office** shall preserve one hard and one soft copy of the received proposals for record and reference in its office.
- 3.3.12.7 The **P&D office** will ensure that the full version of the **SPPs** in both hard and soft copies has been made.
- 3.3.13 Submission of SPPs:** After getting approval from **VC**, the **SPMT** shall submit the softcopy of the proposal in Online/ in a dedicated email address of **HEAT**. The **P&D** office shall submit **four** hard copies of **SPP** to the **ATF** unit of **HEAT PMU**.

3.3.14 Post-submission Guideline

The **ATF** unit in **PMU** shall check each received **SPP** to verify whether: (i) it has been drafted according to the relevant guidelines provided in **ATFOM** and incorporates required information including detailed budget in the prescribed format, and (ii) all annexes have been attached.

It will then classify the **SPPs** according to university, window, type, discipline area, etc., put a Proposal Identification Number (**PIN**) on each **SPP**, furnish a checklist of major eligibility compliances for each of them according to **ATFOM** provisions; and prepare a database in a matrix that will cover the profile of all received **SPPs**.²⁵

The **ATF** unit of **PMU** will also prepare a ***Guidelines on SPP Evaluation*** by **AEPs** (previously named as **ARPs**) following the provisions provided in the **ATFOM**.

3.4 Performance Indicators

In the sub-project proposal (**SPP**), it is required to define and formulate several performance indicators to measure the progress and benefits of the sub-project, and describe their calculation methodology, baseline values, measurement period, etc. A concept note on sub-project performance indicators is given in ***ATFOM Annex 2***. For successful completion of research project (both w-1 and w-3), two publications should be published in Scopus Indexed journals as outcomes of research/development project

²⁵ The database in excel file shall include name of the proposal submitting institutions and entities, title of the sub-projects with channels, duration, cost, names of **SPMs/ASPMs**, deficiencies identified, allocation figures by groups and institutions and global allocation scenario in respect of total **ATF**-funding.

proposals. **UGC** as the implementing agency for the **ATF**, will carry out academic monitoring of all on-going **ATF** sub-projects and take necessary action in case any sub-project fails to achieve the outcome.

The research outcomes should be submitted to the HEAT PMU office/ relevant office of the Bangladesh University Grants Commission as a technical report before submitting the sub-project final completion report (PCR). Later Bangladesh University Grant Commission will complete the peer review and take necessary measures for publication and the copyright will be reserved with Bangladesh University Grant Commission.

Performance indicators for various types of sub-projects may be but not limited to the following:

3.4.1 **Window 3 (a):** Advanced Research in priority areas

- (i) Number of MS/PhD students enrolled/degree awarded;
- (ii) Number of on-going research projects
- (iii) Number of PhD scholarships and post-doctoral fellowships;
- (iv) Money invested annually for accessing knowledge and information, and scientific/laboratory equipment and instrumentation;
- (v) Number of publications by students in national and international refereed journals;
- (vi) Number of publications by students in un-refereed journals or conferences;
- (vii) Number of publications by faculty/staff in national and international refereed journals;
- (viii) Number of publications by faculty/staff in non-refereed journals or conferences;
- (ix) Number of collaborative academic programs with foreign universities;
- (x) Number of collaborative researches undertaken jointly with industries.

3.4.2 **Window 2 Sub-projects:** (Improvement of Teaching and Learning Infrastructure)

- (i) Number of class rooms and lecture rooms renovated;
- (ii) Number of students accessing the internet, on a daily basis data transmission and communication;
- (iii) Total number of computers available to students;
- (iv) Number of curricula updated;
- (v) Number of academic programs modernized;
- (vi) Money invested in developing teaching and learning materials annually.
- (vii) No of experimental setup developed/upgraded

3.4.3 **Window 3 (a):** Advanced Research in priority areas

- (i) Number of MS/PhD students enrolled/degree awarded;

- (ii) Number of on-going research projects
- (iii) Number of PhD scholarships and post-doctoral fellowships;
- (iv) Money invested annually for accessing knowledge and information, and scientific/laboratory equipment and instrumentation;
- (v) Number of publications by students in national and international refereed journals;
- (vi) Number of publications by students in un-refereed journals or conferences;
- (vii) Number of publications by faculty/staff in national and international refereed journals;
- (viii) Number of publications by faculty/staff in non-refereed journals or conferences;
- (ix) Number of collaborative academic programs with foreign universities;
- (x) Number of collaborative researches undertaken jointly with industries.

3.4.4 Window 3(b): University-Industry Collaborative Research

- (i) Number of PhD students enrolled and obtained degrees in the department and involved directly in the collaborative researches;
- (ii) Number of professionals and researchers from the industry who are directly involved in the joint researches;
- (iii) Number of Industrial Research Fellowship awarded and successfully completed;
- (iv) Number of innovative technologies that have been jointly researched;
- (v) Number of innovative technologies that have reached the prototype production and pilot marketing stage;
- (vi) Number of publications by faculty members in peer reviewed international and local journals during the implementation of the sub-project; and
- (vii) Number of patent applications filed by university-industry collaboration teams at the closing of the sub-project;

3.4.5 Window 4: Innovation Support Facilities

- (i) Fab Lab is set up with necessary equipment within the premises of the university in an adequate space accessible to all departments, faculty and students and is in operation
- (ii) Number of faculty and students took part in Fab Academy distance course and successfully completed
- (iii) Number of events and workshops being conducted through Fab Lab for public and community engagement
- (iv) Number of industries utilizing or investing in Fab Labs
- (v) Number of prototypes produced
- (vi) Fab Lab is involved in networking with Fab Labs in other countries

- (vii) No of models fabricated
- (viii) No. of competitions held
- (ix) No. of users
- (x) No. of innovations
- (xi) No. of business proposals received
- (xii) No. of business proposals supported

3.4.6 Window 5: TTO

- (i) No. of workshops held
- (ii) No. of participants attended from industry
- (iii) No. of participants attended from the universities
- (iv) No. of innovations identified
- (vi) No. of patents filed

3.5 Institutional Arrangement for Sub-Project Management

3.5.1 Sub-project Management Team (SPMT)

3.5.1.1 Immediately after publishing of the list of **ATF** awardees by **ATF** unit and before the signing of Performance Contract among the relevant parties, the **SPM** shall make the Sub-project Management Team (**SPMT**) functional. Any change in the **SPMT** must be endorsed by standing Academic Committee of the proposal submitting entity. The leadership of the proposal submitting entities shall provide necessary cooperation and support for the establishment and operation of **SPMT**.

3.5.1.2 The **SPM** shall execute all activities in accordance with the plans adopted by the **SPMT**. The **SPMT** will be collectively responsible for the implementation of the sub-project and be accountable to the **ATF** grant recipient entity (i.e., University/ Department/ Faculty) and will report to it periodically. The **SPMT** will liaise with all concerned agencies in respect of sub-project implementation.

3.5.1.3 The **ASPMs** will be actively engaged in sub-project management along with the **SPM** and play a pivotal role in coordinating various activities, especially with the members of Industry in the case of **Window 3(b)** sub-projects. The **ASPM** nominated by the **SPM** will take the charge of **SPM** in the temporary absence (up to 90 days) of the **SPM** due to leave, illness, or other reasons. The **ASPMs** will also assist the **SPM** in the administrative works of the sub-project especially when the administrative works involve the members of industry.

3.5.1.4 In case either the **SPM** or **ASPM** decides to discontinue in his/her position or in case the **SPM** goes on preparatory leave to retirement, he/she may resign. In such an event, the entity shall nominate a new **SPM** or **ASPM** from among the members of **SPMT**.

- 3.5.2 Laboratory Researchers for bench work:** The **SPM** shall organize a team of laboratory researchers consisting of **PhD** students, Research Associates²⁶ and Post-Doctoral fellows who will do the bench work in the laboratory under the sub-project. The **PhD** students may be chosen from those already admitted in the university. **PhD** students, Research Associates and Post-Doctoral fellows to receive Industrial Research Fellowship may be chosen by the **SPMT**; however, they must have the requisite qualifications laid down by the university for the corresponding positions, and must satisfy a selection committee formed for the purpose by the university. The selection committee must include in addition to the **SPM**, **ASPM**, at least two senior academics in the relevant field and one industry representative in the case of **Window 3 (b)** sub-projects, who are not involved in the sub-project. No formal advertisement of the posts is necessary.
- 3.5.3 Provisional Support Staff:** The **SPMT** shall hire provisional support staff according to the needs of the sub-project to ensure effective and efficient implementation of the sub-project. Support staff to be hired may include office manager/secretary, procurement officer, accountant, finance officer, data entry operator, messenger, janitor, etc. Such provisionally hired staff shall stand terminated on the date the sub-project implementation is completed. The number of provisional support staff to be hired for **SPMT** has to be justified according to the workload and complexity of required works.
- 3.5.3.1** The **SPM** may appoint support staff(s) from the regular staff of the university by giving them additional responsibilities as admissible under university rules with a financial benefit up to Taka 8,000/- per month per person.
- 3.5.3.2** The **SPM** and the members of **SPMT** will receive financial incentives as described in *ATFOM Annex 12*. Only the faculty members from the university will receive financial incentives from **SPP** in the case of **Window 3 (b)** sub-projects. Members of **SPMT** from industry will get incentives from their respective industry (*SPP Annex 14*).
- 3.5.3.3** In the event that it is felt by the **SPM** that additional technical staff from the Industry will be needed for the research activity or for promoting commercialization of the innovative technologies of **Window 3 (b)** sub-project, such staff may be employed provided the industry agrees to pay the salary and allowances of such additional technical staff.

²⁶ Experienced researchers not holding a PhD degree/ nor registered as a PhD student may be employed as a Research Associate on contract basis for a definite period at a salary negotiable with the **SPMT** within the limit given in sub-section 3.3.9.

Chapter 4

Proposal Selection Procedure

4.1. University Grants Commission Board for ATF (UGCBATF):

4.1.1 The UGCBATF shall act as the apex body for the final selection of ATF sub-project proposals and awarding the funds to the sub projects. The **UGCBATF** will look into the aggregate implications of all proposals recommended for funding in a particular round to make sure that the outcome is generally aligned with the objectives of **ATF**, higher education and national development. The board will be composed as follows:

a. Chairman, UGC	Chairperson
b. All full-time Members, UGC	Member
c. Project Director, HEAT	Member
d. One representative from SHED, MoE	Member
e. One representative from SEID, Planning Commission	Member
f. Two representatives from research & professional organizations	Member
g. Chief Program Coordinator	Secretary

4.1.2 The **UGC-BATF** shall invite two officials not below the rank of Joint Secretary of the government, each from the Secondary and Higher Education Division of the Ministry of Education and Socio-Economic Infrastructure Division of the Planning Commission, and not more than two representatives from research and professional organizations to attend its meetings.

4.1.3 The quorum of the **UGC-BATF** meeting will be two thirds of the members including Chairman;

4.1.4 The **UGC-BATF** and invited external participants shall receive honorarium for attending sub-project selection meetings;²⁷

4.1.5 The **UGC-BATF** shall hold the authority to adjust the overall priorities of the **ATF** as may be necessary to maintain appropriate balance over time between approved funding and it's objectives. However, in doing so the **UGC** shall consult both the **MoE/SHED** and the **World Bank**.

4.2 Terms of Reference of UGC-BATF

- (i) Ensure that the objectives of the ATF are achieved;
- (ii) Ensure equal opportunities to all participating universities in the submission of proposals;
- (iii) Decide on eligibility of the **SPPs** for evaluation on the basis of the checklist

²⁷ @ of Taka 3,500/- per person per meeting.

prepared by the ATF unit of the PMU;

- (iv) Confirm that the **SPPs** presented for final selection have been evaluated by the AEP Reviewers according to prescribed criteria laid down in this OM;
- (v) Ensure that only fully evaluated proposals are awarded ATF grants;
- (vi) Ensure transparent evaluation and selection procedure at all levels;
- (vii) Make final selection of the proposals on the basis of evaluation done by AEP members and EEs;

4.2.1 The **UGC-BATF** may decide to take the assistance of a set of complementary selection criteria to facilitate its work. The complementary selection criteria can be seen in **Annex 12**. The **UGC-BATF** shall have the discretion to give additional up to 5 marks to an evaluated **SPP** based on the **complementary selection criteria**. Thus, each **SPP** will be finally evaluated out of 105 marks (100 by AEPs/EEs and 05 by **UGC-BATF**). However, this discretion shall be applied following rational and judicious review keeping in view of the overall objectives of **ATF** and its allocation principles to institutions.

4.2.2 If the **UGC-BATF** feels, at any stage of **SPP** screening, evaluation or selection, that additional opinion is necessary for taking final decision on a **SPP**, it may decide to send the **SPP** to an expert for his/her opinion.

4.2.3 It may take final decisions at an aggregate level on the awards;

4.2.4 In case the number of qualified proposals are less than the **ATF** allocation for the group, the **UGC-BATF** will apply its judgment;

4.2.5 It may execute the **Performance Contract** with the concerned university which has been awarded **ATF** grants for the selected sub-projects of its departments/ faculties/ institutes/ centers or/and by itself;

4.2.6 The **UGC-BATF** shall oversee implementation of on-going sub-projects and assign **UGC** members and academics for academic monitoring of sub-projects under implementation;

4.2.7 The **UGC-BATF** shall hear appeals submitted by an entity if it feels that its proposal has not been fairly evaluated by the **Peer Reviewers**; and dispose of such appeals according to the procedure mentioned at **Section 4.9** of this **OM**; and

4.2.8 The **UGC-BATF** may review the overall priorities, activities, procedures, guidelines and sustainability of **ATF** before launching a proposal round in consultation with the **MoE/SHED** and the **World Bank**.

4.3 The ATF unit in PMU (ATFU):

This is a unit of **HEAT PMU** to execute all activities of the **ATF** under competitive funding, beginning from proposal call up to sub-project completion and obtaining completion reports. This unit will be headed by a DPD, who will be directly responsible to the **PD** of **HEAT**. This unit will prepare the draft of the sub-project proposal calls and oversee the implementation of the subprojects.

4.3.1 After receiving the sub-project proposals (**SPPs**), the **ATFU** shall check each **SPP** to verify whether: (i) it has been drafted according to the relevant guidelines provided in this

ATFOM and presented required information including detailed budget in the format, and (ii) all annexes have been attached. The **ATFU** shall also check plagiarism of each **SPP**. It will then classify the **SPPs** according to university, sub-project window, etc., put Proposal Identification Number ((**PIN**)) on each **CP**, furnish a checklist of major eligibility compliances for each of them according to **ATFOM** provisions; and prepare a database in a matrix that will cover the profile of all received **SPPs**²⁸.

4.3.2 The **ATFU** shall submit the screened **SPPs** and database along with the eligibility checklist to **UGC-BATF**. Upon review of the materials, the **UGC-BATF** may at this stage reject any **SPP** on the ground of critical lapses specified in the checklist or for other reasons. The reasons for rejection/cancellation of a **SPP** shall be recorded by the **UGC-BATF**.

4.4 Arrangement for Proposal Evaluation and Selection

4.4.1 The **UGC-BATF** is the supreme authority for the award of sub-projects. The Board adopts a transparent impartial procedure for the selection as outlined in this **OM**. All secretarial work related to the award is carried out by the **ATFU**. To facilitate evaluation by the peer evaluators, **UGCBATF** has prepared “Marks Distribution Matrices” for the sub-projects, in which marks against various criteria have been distributed. The selection of sub-projects for award is primarily based on evaluation of the proposals by peers, termed as **AEPs**, which stands for Area Evaluation Panels (**AEP**, previously termed as Area Review Panels (**ARP**)).

4.4.2 The **UGC-BATF** will constitute a pool of domain experts, usually academics from the universities and scientist community of the country and also Fellows of the Bangladesh Academy of Sciences (apex body of scientists in the country), and eminent social scientists in the country and business leaders from **FBCCI** for the purpose of evaluation of **SPPs**. For the review of **Window 3 (b)** sub-projects, experts from the business community and industries and reputed scientists with proven experience of collaborative research work with industries will be included in the pool. The pool will include academics and experts of the **STAGE** and **AHBSL** disciplines.

4.4.3 From the pool seven Area Evaluation Panels ((**AEPs**)) will be constituted for the seven clusters of disciplines listed in subsection **3.3.4**.

4.4.4 The rest of the pool members will be designated as External Evaluators (**EES**);

4.4.5 In order to ensure uniformity in the standard of marking by different **AEPs**, brainstorming workshops will be organized on proposal evaluation with participation of all listed **AEPs**. The evaluation criteria for various groups of sub-projects given in this **OM** and how marks will be administered will be discussed in the workshop. Only those **AEPs** who will participate in these workshops will be eligible for selection as evaluators.

4.5 Evaluation and Selection Criteria for Sub-projects

²⁸ The database shall include name of the proposal submitting institutions and entities, title of the sub-projects with funding windows, duration, cost, names of **SPMs/ASPMs**, deficiencies identified, allocation figures by groups and institutions and global allocation scenario in respect of total **ATF**-funding.

- 4.5.1 Innovative and cutting-edge nature of the technology, short time required for developing and commercializing the technology, competitive advantage over existing technologies, can overcome bottleneck and risks, likely to find potential manufacturers, have attractive customer and market size, etc.
- 4.5.2 Effectiveness of established partnership between the proposal submitting entity and an industry;
- 4.5.3 Research topics which have a direct bearing and an impact on key industrial problem(s) in the areas identified, which can bring game changing innovative solutions to tackle the most urgent problems of Bangladesh and can contribute to country's development and economic growth; and
- 4.5.4 Feasibility and effectiveness of sub-project implementation strategies.
- 4.5.5 The full evaluation criteria of all five **Window** proposals are presented respectively in Chapter 12 of this **OM**. The **AEP** shall evaluate sub-project proposals according to the evaluation sheet and the evaluation guideline.
- 4.5.6 In order to avoid conflict of interest, an **AEP** member and an **EE** will be considered ineligible for evaluation of any proposal belonging to the same institution in which s/he is currently employed.
- 4.5.7 The evaluators shall receive honorarium for evaluating proposals according to the rates approved by the UGC.²⁹

4.6 Appointment of AEPs for SPP Evaluation

- 4.6.1 The **UGC-BATF** will constitute a Committee of Experts (**CoE**) for each of the seven-subject area of the sub-projects, as defined in Section 3.3.4. Each **CoE** will be chaired by a **UGC** Member and will consist of 3-4 senior academics from the universities having expertise in the particular domain area. In the case of **Window 3 (b)** sub-projects, one member will be an industry expert.
- 4.6.2 The **CoE** for a particular domain area will recommend two **AEPs** (three in case of **Window 3 (b)** sub-projects including an industry expert) for each sub-project of the domain area.
- 4.6.3 The **UGC-BATF** will appoint **AEPs** on the basis of the recommendation of the **CoEs**.
- 4.6.4 The **ATFU** will also prepare a distribution matrix of **AEPs** for evaluation of the **SPPs** and also a *Guidelines on SPP Evaluation* by **AEPs** following the provisions provided in this **OM**.
- 4.6.5 Any attempt to establish contact and/or communicate with the **AEP** members by any entity and/or its faculty members over evaluation of its **SPP** under evaluation shall automatically result in cancellation of the **SPP** from the selection.

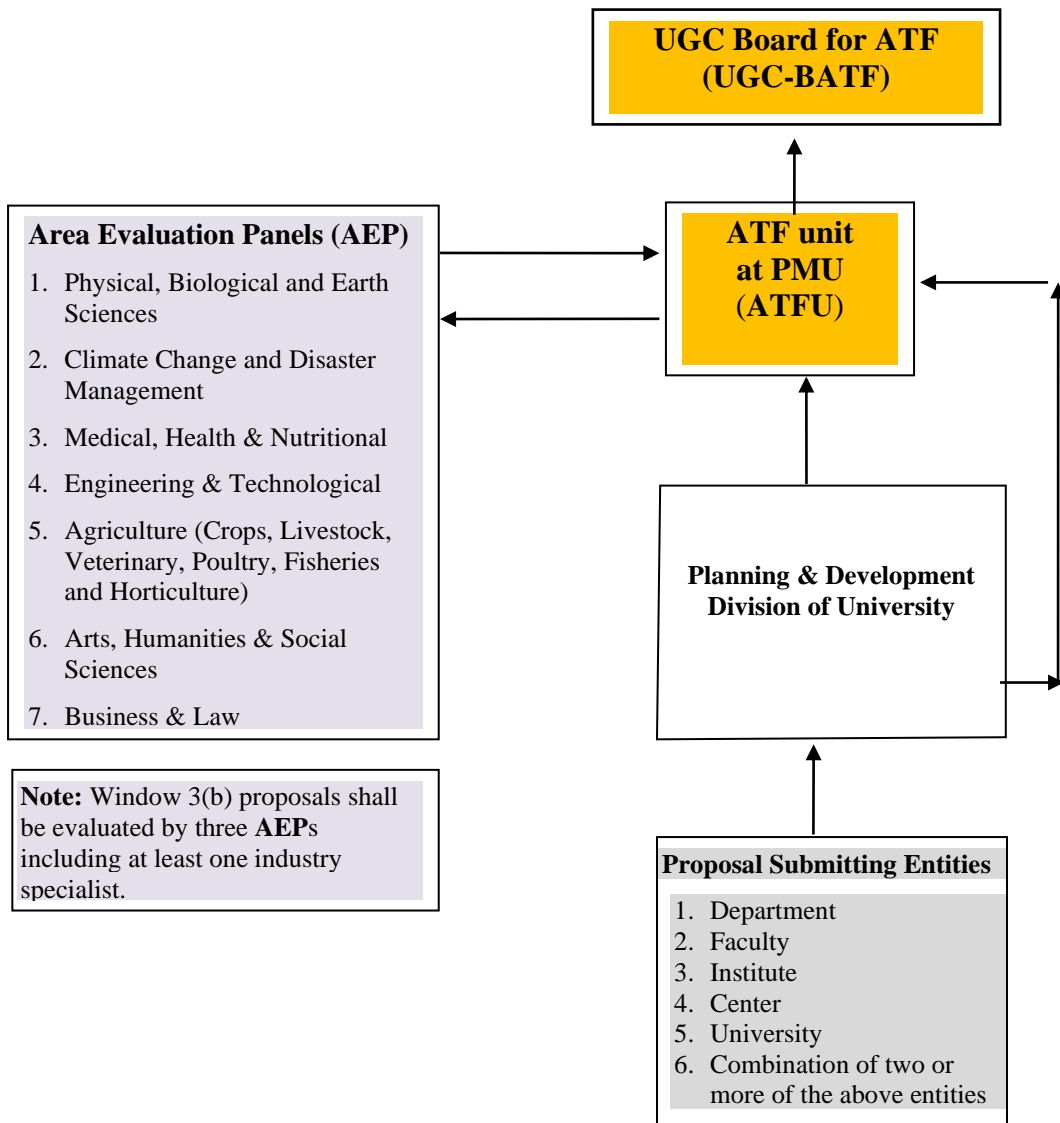
²⁹ Each reviewers (AEPs/ERs) shall get honorarium @ BDT 15,000/- (same as UGC book review)

- 4.6.6** The **AEPs** will evaluate the **SPPs** in a closed-door session at the **UGC**, supervised by the **UGC-BATF**. The **ATFU** will provide secretarial support. The **AEPs** will award marks against each criterion in the evaluation matrix for the particular group of sub-projects as given in this manual and add them up to obtain the total score out of 100. A suitable marks sheet will be provided, in which the **AEP** will state arguments for the awarded marks against each criterion.
- 4.6.7** In order to ensure a thorough evaluation of the proposal an **AEP** will be given only one SP for evaluation in a single session.
- 4.6.8** The **UGC Member** in charge of **HEAT** will prepare tabulation sheets for each group of sub-projects. The **ATFU**, the **ATF Management Specialist** and **Research Coordination Specialist** shall provide technical assistance as required.
- 4.6.9** The average of the marks awarded by the **AEPs** will be taken as the final score. For all groups of **SPPs** other than **Window 3**, if the marks awarded by the two **AEPs** for a particular **SPP** differs by more than 20, the **UGC-BATF** will appoint a third **AEP**, called **External Evaluator (EE)**, for its evaluation. The evaluation by the **EEs** will also be carried out in closed door session. The average of the two closer evaluation marks will be taken as the final score. In the case of **Window 3** sub-projects, the average of marks given by the three **AEPs** will be taken as the score for preliminary selection.
- 4.6.10** The **UGC Member** in charge of **HEAT** will prepare separate tabulation sheets that will present the **SPPs** in a merit order according to the marks scored by them for each group of sub-projects. Further, the **UGC Member** will propose the award of sub-projects (other than **Window 3**) with due consideration of constraints in the ceilings for both projects and the universities. The Tabulation sheets with these recommendations will be placed in a meeting of the **UGC-BATF** for review. **UGC-BATF** shall review the evaluation results presented in the tabulation sheet along with the evaluated **SPPs** to ascertain if the evaluation principles have been duly followed by the **AEPs**. **UGC-BATF** may reject the evaluation by an **AEP** on grounds of obvious bias in the report. Further, the **UGC-BATF** may apply complementary selection criteria and award up to a maximum of 5 marks to any **SPP** on the basis of these criteria and revise the total score. The merit will then be revised, and the **UGC-BATF** will revise the list of selected sub-projects for provisional award, and instruct **ATFU** to send the list along with the **SPPs** for technical comments by the World Bank.
- 4.6.11** For the **Window 3** sub-projects, a short list of not more than 20 **SPPs** will be made from the merit list for presentation of the proposals by the respective **SPMs** to a panel of six experts (chosen by the **UGC-BATF**, to cover all the relevant disciplines) in an open meeting of all 20 **SPMs** and the relevant reviewers. The meeting will be chaired by the **UGC member** in charge of **HEAT ATF**. The panel members may seek clarification from the relevant **SPM** and the relevant reviewers. Every member of the panel will award marks out of 10, and prepare a short summary of his/her evaluation of each of these sub-projects. The average of the marks awarded by the panel members will be added to the previously evaluated score (para **4.6.9**) for each **SPP** and the final merit list will be prepared.
- 4.6.12** The final tabulation sheet and the evaluation of the panel members will be placed before the **UGC-BATF** for provisional selection of **SPPs** for award. The **UGC-BATF** may

review all the evaluations made by the panel members along with the original **SPPs** and may apply complementary selection criteria (**Chapter-12**), before making the provisional selection for award. The **SPPs** along with the tabulation sheet showing the merit order, and the comments of the reviewers and the panel members will then be sent to the World Bank.

4.6.13 The schematic diagram of the institutional arrangement for **ATF** proposal evaluation and selection can be seen in **Figure 3** below:

Figure 3: Institutional Arrangement for ATF Proposal Evaluation and Selection



4.6.14 The final selection of the **SPPs** for award will be made after receiving technical comments from the **WB**. After the final selection, the budget, procurement plan and the financing plan of the selected **SPPs** will be reviewed and rationalized by the **ATF** unit of **PMU** to identify inconsistencies, errors and deficiencies. The **ATF** unit shall organize a

workshop on budget, financing plan and procurement plan rationalization at **UGC** with the participation of all **SPMs** and **ASPMs** of finally selected sub-projects to rectify the inconsistencies, errors and deficiencies in the budget, financing and procurement plans.

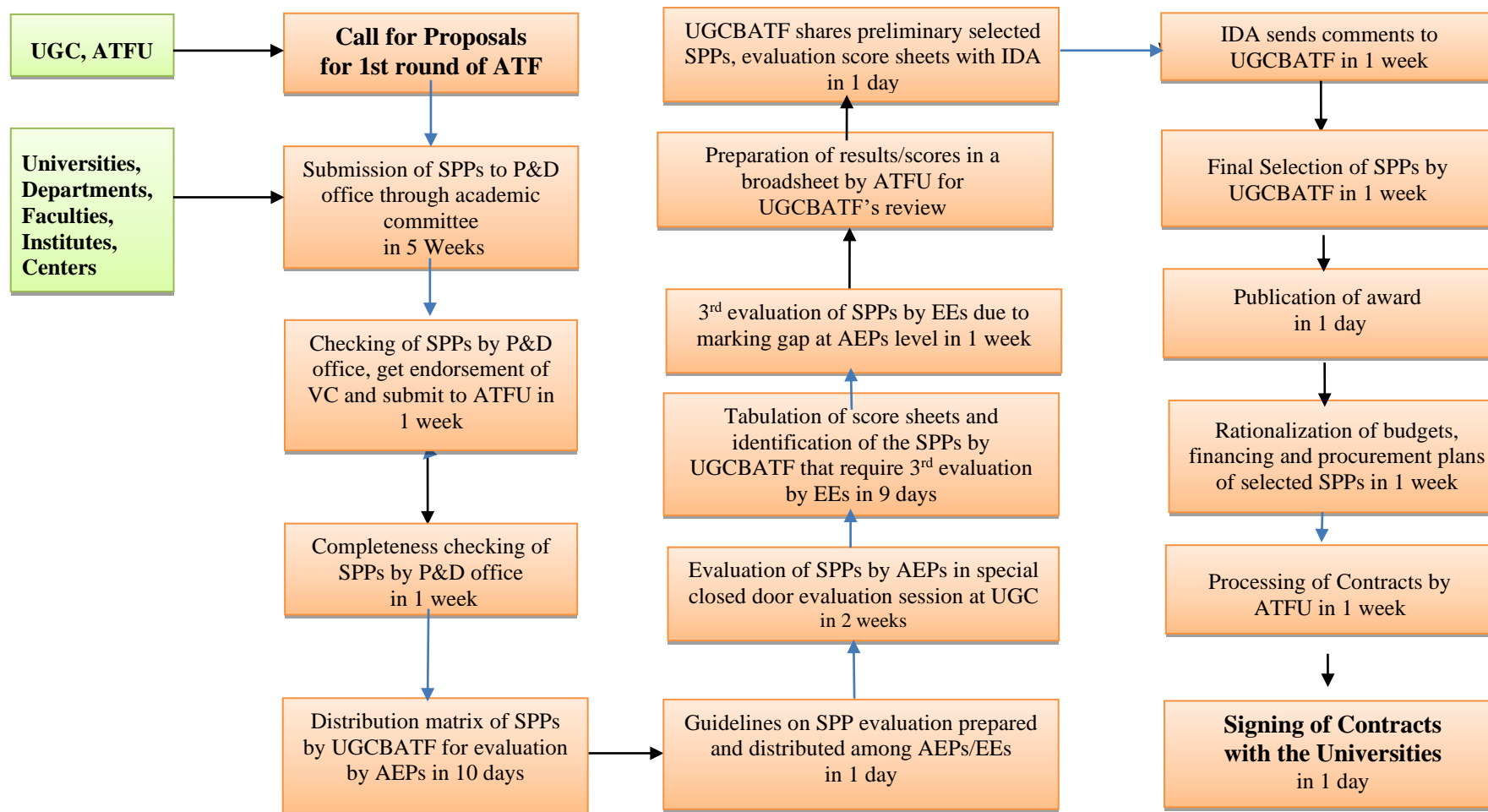
4.7 Total Proposal Evaluation/Selection Period

- 4.7.1** A structured approach with submission and approval deadlines will be followed to evaluate and select the proposals. After the proposal call universities/academic staff will be allowed five weeks to conceive project ideas and transform them into proposals in a format.
- 4.7.2** The total time required to complete the proposal selection process will be **20** weeks. However, if circumstances permit, the total period may be shortened. The schematic diagram in **Figure 2** below shows the time required at each stage from proposal call (beginning) to the signing of contract (conclusion).

4.8 Disposal of Appeal

- 4.8.1** If a proposal submitting entity feels that its proposal has not been evaluated properly by the concerned Peer Reviewers, it may submit an appeal to the **UGC-BATF** in writing. This appeal must be channeled through the proposal sponsoring/endorsing university.
- 4.8.2** Appeal should reach the **UGC-BATF** within one week from the day of publication of the list of finally selected **SPPs**.
- 4.8.3** Upon receipt of the appeal, the **UGC-BATF** shall examine the evaluation marking thoroughly and redress any inconsistencies, if found.
- 4.8.4** **ATFU** will communicate the decision of the **UGC-BATF** to the appellant.
- 4.8.5** Any dispute that may arise between the parties will be settled amicably. If not resolved amicably, decision of **UGC-BATF** will be final.

Figure 2: Flow Chart on ATF Sub-project Proposal (SPP) Selection Process (20 weeks)



4.9 Performance Contract

4.9.1 The **ATF** unit in **PMU** shall publish the list of finally selected **SPPs** and the names of concerned institutions by posting it on **HEAT** and **UGC** websites and communicate the result to the awarded **SPMs** and institutions via email and hard copies of award letter. The finally selected **SPPs** thereafter will become awarded sub-projects. Immediately thereafter the **ATF** unit shall invite the award recipient **SPMs**, Directors of **UATFS**, and the Vice-Chancellors of the universities to attend the **Performance Contract** signing ceremony to be held at **UGC**. The **Performance Contract** shall be signed by the authorized representative of the **UGC** not below the rank of Director representing the awardee (**UGC**) as the first party, the authorized official of the university (not below the rank of Director) as the 2nd party and the **SPM** of the awarded proposal as the 3rd party representing the sub-project implementing entity of the university. The **Performance Contract** shall be binding on the following three parties:

- (i) **UGC**- the first party, the awardee, represented by its authorized official;
- (ii) **University** – the second party, represented by its authorized official;
- (iii) Sub-project implementing entity acting through **ISM**- the third party.

4.9.2 For **Window 3 (b)** sub-projects on university-industry joint research, upon signing of the **Performance Contract**, the **ATFU** will ensure that transparent rules are set on every aspect of the sub-project and included in the Partnership Agreement (**PA**) executed between the awarded entity and industry. The **PA** shall be an integral part of the **Performance Contract**.

4.10 ATF Effectiveness Condition

The **Performance Contract** will come into effect from the date of signing by the three parties.

4.11 Duration of ATF Sub-Projects

4.11.1 The maximum duration of an ATF sub-project will be as follows from the date of effectiveness:

- 1) Window 1 : 3 years
- 2) Window 2 : 2 years
- 3) Window 3 : 3 years
- 4) Window 4 : 2 years
- 5) Window 5 : 2 years

4.11.2 Extension of Sub-project:

In extreme circumstances, sub-projects duration may be extended, but should be completed six months before the closing date of **HEAT** project.

Such proposal for extension will require incontrovertible justification and only **UGC-BATF** will decide on the acceptance or rejection of such extension proposals. Extended sub-projects have to be completed without involving any increase of the budget including honorarium/ incentives.

Chapter 5

Financial Management

5.1 ATF Disbursement Arrangements

- 5.1.1 The bank account of **HEAT** project will be known as Designated Account (**DA**). **ATF** grants to the sub-projects implemented by a university will be directly disbursed to the **SPMs** by the **HEAT PMU** from the **DA**. Each **SPM** will open an account, called Operating Account (**OA**), in a bank in the form of **STD/SND**. The **SPMs** will be solely responsible for maintaining the **OA**. The **SPMs** will maintain imprest fund and make payment against approved vouchers as per delegation of financial power of the university. There may be several **OAs** in a single university if the institution is awarded several **ATF** grants/sub-projects. In such case, the concerned **UATFS** shall coordinate the financial management tasks of the sub-projects in consultation with the **SPMs**.
- 5.1.2 **HEAT PMU** will transfer the first tranche of **ATF** grants to the **OAs** of sub-projects on the basis of their three-monthly estimated expenditure based on the approved procurement plan and work/activity plan. Subsequent disbursements of the grant will be made on the basis of statement of expenditures (**SoEs**) and requisition for advance submitted to the **HEAT ATFU**. Advances from the **DA** to the **OA** will need to be adjusted or reconciled preferably within 30 days, but in no case beyond 90 days.

5.1.3 SPM's Financial Responsibilities

- 5.1.3.1 The **SPMs** will be primarily responsible for all financial management activities of his/her sub-project and will be accountable to **UGC/HEAT** for all financial matters concerning sub-project implementation. The accounting and financing staff recruited for the sub-project will help the **SPM** in maintaining the financial management of the sub-project. He/she will identify all financial transactions and record them immediately into the books of accounts and maintain all documents, registers, records and correspondences.
- 5.1.3.2 The main duties and responsibilities of the Accountant and Finance Officer will be to:
- (i) Checking invoices for goods, works and services and processing for payment;
 - (ii) Ensure relevant taxes or SD deduction at the stage of making payment.;
 - (iii) Maintain Bank Book, Payroll Registers;
 - (iv) Maintain all ledgers, Registers etc.;
 - (v) Maintain vouchers/bills/receipts/invoices/contracts/work orders and all other important financial transaction and procurement documents in a systematic order;
 - (vi) Collect bank statement and reconcile bank balance;
 - (vii) Prepare sub-project's Interim Unaudited Financial Report (IUFR);
 - (viii) Prepare reply to the audit observations made by government's auditors from Foreign Aided Project Audit Directorate (FAPAD) as well as internal auditor from CA firm.;

- (ix) Prepare quarterly and annual budget expenditure plans for the sub-project;
 - (x) Any other financial management related tasks assigned to him/her.
- 5.1.3.3 The **UATFS** and **HEAT PMU** will provide technical assistance to **SPMs** on financial management and procurement activities of the sub-projects and for preparation and submission of **IUFR** to **HEAT**. Additionally, **UGC/HEAT** officials and specialists will also provide technical assistance when needed by the sub-projects.³⁰
- 5.1.3.4 It is expected that the universities which have been awarded **ATF** resources will carry out the sub-project with due diligence and efficiency and in accordance with sound financial standards and practices satisfactory to the **GoB** and the **World Bank**, in accordance with the provisions of the *Anti-Corruption Guidelines (ATFOM Annex 8)* applicable to recipients of **World Bank** financing. The universities will further maintain a financial system and prepare financial statements in accordance with consistently applied accounting standards acceptable to **GoB** and **WB**, both in a manner adequate to reflect the operations, resources and expenditures related to **ATF** sub-projects. In addition to the yearly audit of development partner funded projects by the government's audit office (**FAPAD**), at the request of **WB** or **UGC**, the university will have such financial statements audited by independent auditors, in accordance with consistently applied auditing standards acceptable to **GoB** and **WB**, and promptly prepare the audit statements for **UGC** and **WB**.
- 5.1.3.5 The office of the **UATFS** in the universities shall be responsible for the coordination of financial management of the **ATF** sub-projects because it will act as the secretariat for the **ATF** funds released by the **PMU** and maintain records of the funds received by the individual sub-project managers. The universities will assign accounting staff with adequate skills to **UATFS** for coordinating the financial management tasks related to **ATF**. The **UATFS** will send all information on **ATF** grants received and utilized by the university in prescribed reporting formats periodically to **HEAT ATFU**.
- 5.1.3.6 The Financial Management unit headed by the senior financial management officer of the **HEAT PMU** shall be responsible for the supervision of financial management of the **ATF** resources disbursed to the sub-projects. It will provide the **HEAT ATFU** and **SPMs** with all information on the fund allocation, disbursed and utilized.

5.2 Eligible and Ineligible Expenditures

- 5.2.1 The eligible and ineligible expenditures for each type of sub-projects have been listed in Chapter 2. The accountant will point out to the **SPM** if any proposed expenditure is not eligible.
- 5.2.2 **Economic Codes:** In preparing the summary budget estimate and the detailed cost breakdown of the sub-project, **GoB**'s budget preparation methods and rules shall be

³⁰The **UATFS** will receive a block allocation of Tk. 50,000/- (Fifty thousand) per sub-project implemented by the University as operational cost which includes remuneration to **UATFS** officials. This item-allocation should be included in the proposed budget of the SPP. The block allocation will be for the entire duration of the sub-project and will be released upon submission of half-yearly report to the **HEAT ATFU** as per ATFOM Annex 11.

followed by the proposal submitting entities. For this purpose, proposal submitting entities shall consult GoB's economic codes³¹ which are mandatory for all government departments, attached bodies to the Ministries, autonomous institutions and organizations for the preparation of budget. Items of expenditure not included according to the **Economic Codes** will not be eligible for inclusion in the budget and sub-project expenditures. The above arrangement for internal assessment purposes. Finally, all expenditure book by PMU as per approved economic code of DPP.

- 5.2.3 **Operational Costs:** Maximum 2% of sub-project cost to meet operational expenses (e.g., temporary renting of out of site space for sub-project activities, charges for electricity, water in out of site sub-project office/camp, commuting costs of sub-project's temporary employees, overtime paid to support staff for arduous work, repair of sub-project equipment, hiring of labors for shifting of sub-project furniture/equipment/materials, honorarium, committee expenses and contingencies etc.

5.3 **Re-appropriation and Adjustment of Budget Items**

- 5.3.1 **SPMs** shall be allowed to re-appropriate allocations from one budget head to another if so required for expenditure rationalization. However, such re-appropriation should be made with the concurrence of the **HEAT PD**. For this purpose, the **SPMs** shall send the re-appropriation proposal to **HEAT PD** justifying the changes in the sub-project budget allocation. The re-appropriation and adjustment of budget for a sub-project can only be made once in a financial year. There will be a final adjustment and revision of budget at the end of sub-projects, if needed.

5.4 **Earnings by Sub-Project**

- 5.4.1 Sub-projects may earn profits by selling its products and services in the market (e.g., it might be a device, an apparatus, an innovative technology, a patent, a computer program/software, copyright, a research/study report or book, a design etc.). In such cases the earning by the sub-project output shall be retained by the entity and in the case of W-3(b) sub-projects, shared by the concerned sub-project implementing entity and industry. However, **UGC** should be kept informed of such earning by the university/faculty/department during the project period.
- 5.4.2 Earning from bank interest, sale proceeds of bidding documents, etc., shall be deposited to government treasury.

5.5 **Operating Account**

- 5.5.1 The **SPMs** will open a dedicated operating account (SND or STD) in a convenient commercial bank in the name of the sub-project to be maintained in **BDT** currency. The account will be used solely for the purpose of financing sub-project activities. The **SPMs** will operate the account as single signatory and will act as the authorized person for utilizing fund. He/she will be the Drawing and Disbursement Officer (**DDO**) of the sub-project.

³¹ <https://ibas.finance.gov.bd/HelpDocuments/OldToNewEconomic.pdf?v=687>

5.5.2 Immediately after opening of Operating Account in a Bank, the **SPM** shall forward the following information to Project Director, **HEAT** to facilitate transfer of **ATF** funds to sub-project:

- (i) Name/Title of Account
- (ii) Account Number
- (iii) Name of Bank
- (iv) Name of Branch
- (v) Routing number
- (vi) Full Postal and E-mail Address

5.5.3 **Payments from Operating Account:** The **SPMs** should strictly follow the government's financial rules and regulations as spelled out in the Finance Division's *Delegation of Financial Power 2015* Additionally, **SPMs** shall follow the procurement procedure as given in the **GoB's Public Procurement Rules 2008 amended up to 2019 and World Bank's Procurement Regulations for IPF Borrowers 2020** where applicable in making expenditures and payments from the sub-project's budget. Financial and procurement rules and regulations issued by GoB and World Bank, will, therefore, be applicable for making expenditure and payment according to the delegated and sub-delegated financial power to the **HOPE, PD** and **SPM**, as the case may be. The **SPMs** would make payment for only those expenditures which have followed the due procedure and are included in the budget. This **OM** provides the examples of indicative eligible expenditures to be made by the sub-projects implemented under various groups of sub-projects.

5.5.3.1 Before making any payment, invoices submitted by the vendor/supplier should be checked properly to ensure that:

- (i) Specifications and quality of supplied goods, services, or works are as mentioned in the tender document and its schedule and are according to purchase order/contract;
- (ii) Items and quantities of supplied goods, services, or works supplied are according to purchase order/contract;
- (iii) Unit price of the procured items are according to purchase order/contract;
- (iv) Delivery of the procured items are within stipulated time/deadline;
- (v) Procured items have been duly received, checked and entered in stock register;
- (vi) Invoices are free from any arithmetical errors and inconsistencies;
- (vii) The goods, services and works supplied/delivered are chronological from the dates of invitation of tender, contract and purchase order.
- (viii) The tender documents, tender evaluation report and payment proposal have been authorized by competent authority.
- (ix) Any other relevant issues.

- 5.5.3.2 In addition to above, and before making payments out of **OA**, the **SPM** must ensure that:
- (i) That the activity undertaken was included in the Activity/Work, Financing and Procurement Plans and budget of the sub-project;
 - (ii) Duly certified by competent authority as properly executed;
 - (iii) Expenditure are properly documented, verified and approved for payments;
 - (iv) Outcome of the activity/work done can be physically verified, ownership established and properly safeguarded.

5.6 Cash Basis Accounting

- 5.6.1 The sub-project will maintain accounts on cash basis in line with the GoB's accounting system for GoB fund use and WBs accounting system for WB fund use. Therefore, efforts shall be made to process payments as early as possible so that expenditures are recorded and paid for in the period in which they are incurred;
- 5.6.2 Receipts will be recorded when cash is received and payments will be recorded when disbursements are made, not when liability arises;
- 5.6.3 Sub-project shall employ consistent methods in maintaining records and in preparing financial statements.

5.7 Books of Account and Supporting Documents

- 5.7.1 The **SPMT** shall maintain books of accounts adequately to record following transactions relating to the sub-project implementation:
- (i) All sums of money received and spent by the sub-project and the purposes for which the receipts and expenditures take place; and
 - (ii) Assets procured by the sub-project.
- 5.7.2 Therefore, the minimum principal books of accounts to be maintained by **SPMT** for each sub-project would be:
- (i) Voucher Register
 - (ii) Cash Book
 - (iii) Petty Cash Register
 - (iv) General Ledger
- 5.7.3 The books of accounts shall capture all financial data required to generate reports on sub-projects.
- 5.7.4 In **addition** to the above, some registers may also be used to record other important information, which are deemed necessary for the sub-project. Following are the examples of some of essential registers to be used:
- (i) Check Book Register
 - (ii) Fixed Assets Register
 - (iii) Stock Register

- (iv) Income Tax Register
- (v) VAT Register
- (vi) Payroll Register
- (vii) Consultant's Remuneration Register
- (viii) Suppliers Registers
- (ix) Advance Payment Register
- (x) Fund Receipts & Expenditure Register
- (xi) Bank Account Reconciliation Register

5.8 Bank Reconciliation

5.8.1 Reconciliation of bank account should be carried out regularly on a monthly basis. Bank Statement of operating account shall be obtained from bank at the beginning of the following month and the following tasks shall be performed:

- (i) Entries in the bank statements shall be compared with the entries made in the sub-project's Bank Transaction Register (Bank Book),
- (ii) A list of all debits (Bank charges etc.) and credits (interest credited etc.) appearing in the bank statements but not in the Project's Bank transaction register (Bank book) shall be listed. These are usually related to Bank charges, Bank interest and dishonored checks etc. Appropriate vouchers shall be prepared for these transactions and after due authorization shall be entered in the Bank book.
- (iii) A list of all the receipts and payments recorded in the Bank book but not appearing in the Bank statements shall also be prepared for subsequent follow up. These will usually relate to checks not yet presented by payees, or deposits not yet credited etc.

5.8.2 Bank reconciliation statement shall be prepared taking into account the items listed above and the balance shown as per the bank statement shall be agreed with the balance shown in the sub-project's Bank book.

5.9 Petty Cash

5.9.1 Small payments, which are usually required to be paid in cash for day-to-day expenses of the sub-project, shall be paid out of Petty Cash float maintained under the imprest system. The limit of petty cash imprest required by the sub-project manager will be as per *Delegation of Financial Powers 2015*". For better cash management, it is necessary to maintain a regular interval for payment and replenishment of petty cash fund.

5.10 CD VAT Transaction

5.10.1 **CD VAT** transaction of sub-project, if any, will be done centrally from **HEAT PMU**. The **SPMs** will therefore, send relevant documents to the **PD** for taking necessary action, when customs authority would make assessment.

5.11 Month End Procedures

- 5.11.1 At the end of the month, the **SPMs** shall prepare a statement showing opening balance, receipts during the month, payments made over the same period. A statement of expenditure is necessary to prepare at the end of the month showing both in detail and summarized heads of expenditure. Monthly progress reports and other financial reports may be prepared using above expenditure report.
- 5.11.2 The following tasks are to be completed at the end of each month to ensure all transactions have been accounted for correctly:
- (i) Bank reconciliation
 - (ii) Petty cash reconciliation
 - (iii) General ledger reconciliation
 - (iv) Month end ledger balancing

5.12 Interim Unaudited Financial Report (IUFR)

- 5.12.1 **Sub-Project Financial Management Report:** The **SPMs** are required to submit Interim Unaudited Financial Report (IUFR) to the **HEATPMU** on a quarterly basis within 21 days after the end of each calendar quarter. The **FMR** shall have two parts each with several chapters as follows:

Part-1: Financial Report

- 1-A Sub-Projects Sources and Uses of Fund
- 1-B Uses of Fund by Sub-Project Activities
- 1-C THEF/ATF Activity Report
- 1-D Bank Reconciliation Statement

Part -2: Expenditure Documentation Report

- 2-A Eligible Expenditure Documentation Report
- 2-B Statement of Expenditure: Subject to Prior Review
- 2-C Statement of Expenditure: Not Subject to Prior Review

- 5.12.2 Format of the IUFR is provided in ATFOM Annex 5 (FMG Annex 14.1). The **UATFS** shall provide technical assistance to **SPMs** in preparing the **IUFR**

5.13 HEAT Financial Reporting and Monitoring

- 5.13.1 **HEAT FM unit** shall be responsible for consolidating financial reports received from the sub-projects and prepare a Consolidated Project Financial Statements (**CPFS**) of the project. For preparing quarterly Interim Un-audited Financial Reports (**IUFR**), **HEAT FM unit** shall use specific formats provided by the World Bank.
- 5.13.2 **HEAT PMU** will ensure that all project financial information is provided periodically to the Chief Accounts and Finance Officer (**CFAO**) of the **MoE**

5.14 Year End Procedures

5.14.1 The end of year means the completion of four quarters from the beginning of sub-project implementation. The tasks outlined as end of month activity will be repeated at the end of implementation year. The sub-project manager shall be required to prepare and submit a financial statement highlighting unspent balance of the sub-project at the end of year. The statement shall include opening balance, receipts during the year, payments made during the year and refund to closing balance, which will facilitate **HEAT PMU** to update books of accounts and ascertain the actual amount of sub-project expenditure for the year. Other financial statements may also be prepared as required by various stakeholders.

5.15 Unspent Balance

5.15.1 During implementation of the sub-project, there may be unspent balance in the Operating Account at the closing of year. The amount of such unspent balance must be refunded to **HEAT PMU**.

5.15.2 After completion of sub-project, unspent fund may exist at the operating account. In such situation, the unspent fund should be transferred to the designated account of **HEAT** by the **SPM** within a month of the completion of sub-project along with a statement on closing of accounts.

5.16 Document Retention by SPMT

5.16.1 The **SPMT** shall retain all payment records and other relevant documents in a systematic order evidencing eligible expenditures and to enable **UGC**, **HEAT PMU**, **GoB** auditors and **World Bank** representatives to examine such records, and also for the purpose of transparency and accountability in handling of public fund. The **SPMT** will retain such records at least for five years after closing of the sub-project.

5.17 Internal Control

5.17.1 Internal Control comprises the whole system of controls, financial and operational, established by management in order to carry out project activities in an orderly and efficient manner; ensures adherence to policies and procedures; ensures maintenance of complete and accurate accounting records and safeguards the assets of the project. The existing financial rules, regulations and procedures will be followed for all sub-project activities. Segregation of duties and responsibilities in expenditure management cycle and control functions will have to be clearly defined.

Chapter 6

Procurement Management

6.1 Primary Responsibility

6.1.1 The primary responsibility in respect of procurement will lie with the concerned individual SPMs of the ATF grant recipient university.

6.1.2 **The legal framework:** Procurement is one of the major important activities of any development project and most difficult too. The Government of Bangladesh has made it mandatory for all institutions/organizations/agencies to follow the *Public Procurement Act 2006* (PPA) and *The Public Procurement Rules 2008 amended up to 2019* (PPR) for the purchase of all kinds of goods, works and services from within the country and abroad to be made under both the non-development (revenue) as well as development budgets. However, in conformity with Rule 3(d) of PPR, for IDA funded projects such as HEAT, World Bank's *Procurement Regulations for IPF Borrowers Goods, Works and Non-Consulting and Consulting Services, November 2023* shall apply to all procurement under the Project, including procurement by the private and public universities using grant proceeds. Normally, the World Bank's *Procurement Regulations* would not have been required to be applied to the private universities/recipients of the grants provided by UGC/Project, but for ensuring consistency under this project and in line with the government's requirement, the Bank's *Procurement Regulations* will be required to be followed by both private and public sector universities. Given that the ATF grants will vary in the amounts between BDT 15 lakh (US\$ 17,000) to BDT 10 crore (US\$ 1.1 million) and there will be multiple contracts procured under each grant by the recipient universities, most of the procurement packages for Goods are expected to be procured through Request for Quotations (RFQ) and Request for Bids (RFB) methods using national competitive market approach while there may be few contracts falling under Open international competitive market approach. UGC/Project, with the support of consultants, will be responsible for oversight and providing implementation support of all the procurement carried out by the universities under the ATF grants, including but not limited to assessing the procurement capacity and procurement plans of the universities during the grant proposal selection process, and subsequently checking and verifying compliance with the applicable procurement procedures of the procurement carried out by the universities during the implementation of the grants, and regularly reporting procurement performance to the Bank. In addition, procurement under the ATF grants will be subject to audited by auditors deploy by the project and the government's auditing process while the Bank will retain the right to carry out post-review.

World Bank's *Procurement Regulations* is available on its website <https://thedocs.worldbank.org/en/doc/6c0602876d68949e80820507d90a14ed-0290012023/original/Procurement-Regulations-September-2023.pdf>

6.2 Procurement Methods

6.2.1 Procurement Methods: The procurement methods to be used for procurement of goods, works and services, are presented under paragraphs below.

6.2.3 All procurement methods for goods, works and services will be specified in the Procurement Plan and agreed with **World Bank** before procurement process is started by the sub-projects.

6.2.4 The implementing agencies will apply adequate due diligence in taking decisions to re-invite bids/ Tenders for **NCB/NCT** contracts, and the instances of rebidding will be reviewed as part of the **World Bank's** post-procurement review.

6.3 Procurement of Goods

6.3.1 It is assumed that almost all **ATF** sub-projects will have to purchase materials, equipment and instruments from the local market, but a few may need international procurement. The bulk of such purchase may be modest for some and very large for others. University laboratory equipment, machines/instruments for engineering workshops, chemicals and specimens are highly specialized and often not available within Bangladesh. Some highly specialized medical and biotechnology laboratory equipment may also not be available in the country's market. This will inevitably require international procurement.

6.3.2 Generally goods will be procured using **NCB/NCT, ICB/ICT**, and Request for Quotation (RFQ) for small valued contracts. **Direct Contracting** procedures can be used in accordance with the **World Bank's Procurement Regulations 2023** after getting approval from appropriate authority of PE and HEAT PMU.

This is applicable for all procuring entities under the project.

6.3.2.1 ICB: University laboratory equipment, machines/instruments for engineering workshops, chemicals and specimens are highly specialized and often not available within Bangladesh may be procured using **ICB**.

6.3.2.2 NCB: Goods and equipment may be procured using **NCB** following provisions of the PPA-2006 & **PPR-2008** and standard procurement document (SPD) acceptable to the World Bank. This includes computers, office equipment etc. For the purpose of **NCB** the following shall apply:

- (i) Post bidding negotiations shall not be allowed with the lowest evaluated or any other bidder;
- (ii) Bids should be submitted and opened in public in one location immediately after the deadline for submission and online opening for e-GP procurement;
- (iii) Lottery in award of contracts shall not be allowed;
- (iv) Bidders' qualification/experience requirement shall be mandatory;
- (vi) Bids shall not be invited on the basis of percentage above or below the estimated cost and contract award shall be based on the lowest evaluated bid price of compliant bid from eligible and qualified bidder; and
- (vii) Single-stage two-envelope procurement system shall be allowed only for ICB

non-eGP procurement.

6.3.3 **Request for Quotations (RFQ):** Small value goods and equipment contracts may be procured in accordance with provisions of Request for Quotations, **RFQ** following **PPA-2006 & PPR-2008** using Electronic Government Procurement (eGP) system, provided those are included in the **Procurement Plan**.

6.3.4 **Direct Contracting (DC):** Under this project, procurement process can be completed following **DC** procedures in accordance with the **World Bank's Procurement Regulations 2023** and after getting approval from appropriate authority of PE and HEAT PMU.

6.4 Procurement of Works

6.4.1 Very little amount of civil works are envisaged under **ATF** sub-projects. The following procurement methods can be used just in case **ATF** resources are used for eligible purposes such as renovation/ refurbishing/extension of lecture/study/seminar rooms, laboratories/ workshops etc.

6.5 International Competitive Bidding (ICB)

It is assumed that ICB will not be required for any Works under the ATF sub-projects.

6.6 National Competitive Bidding (NCB)

Civil works contracts may be procured following **NCB** in accordance with provisions of the **PPA-2006 & PPR-2008** using Electronic Government Procurement (eGP) system and standard procurement document (SPD) acceptable to the World Bank.

6.7 Request for Quotations (RFQ)

Small value works may be procured in accordance with Request for Quotations (**RFQ**) provisions of **PPA-2006 & PPR-2008** using Electronic Government Procurement (eGP) system, provided those are included in the **Procurement Plan**.

6.8 Procurement of Consulting Services and Training

6.8.1 It is assumed that international technical assistance/ consulting will not be required as there will be hardly any procurement of services of complex nature under the **ATF** sub-projects. However local technical expertise may be needed to assist the **HEAT PMU** to review technical specifications, schedule of requirements and cost estimates to be submitted by prospective **ATF** sub-project managers. Such local consultants may be firms or individuals based on specific needs and their hiring would follow provisions of the World Bank's *Procurement Regulations, 2023*.

6.8.2 Shortlists of consulting firms for services may be prepared in accordance with the provisions of **PPA-2006 & PPR-2008** and **Bank's Procurement Regulations 2023**. The methods of procurement that can be used are as follows:

6.8.2.1 **Quality and Cost Based Selection/Quality-Based Selection (QCBS/QBS):** Consulting services through firms can be selected following **QCBS/QBS** in accordance with the provisions of **Bank's Procurement Regulations 2023**.

6.8.2.2 **Fixed Budget Selection (FBS):** Services through firms can be procured following the **FBS** method in accordance with **Bank's Procurement Regulations 2023**.

- 6.8.2.3 Consultant Qualification-based Selection (CQS)/Least Cost Selection (LCS):** Services through firms may be procured following CQS or LCS in accordance with **Bank's Procurement Regulations 2023**.
- 6.8.2.4 Direct Selection (DS):** Specific consulting services through firms may be procured following **Direct Selection method** provided in the **Bank's Procurement Regulations 2023**. This includes intellectual services of staff training and capacity development in project management and implementation.
- 6.8.2.5 Individual Consultants (IC):** Services for assignments for which teams of personnel are not required and the experience and qualifications of the individual are the paramount requirement, will be procured in accordance with the provisions of **Bank's Procurement Regulations 2023**. Individuals will be selected on the basis of their qualifications for the assignment.

6.9 Use of Standard Bidding and Contract Documents

- 6.9.1 Use of Standard Procurement Bidding and Contract Documents:** For ICB procurement of goods and works, the use of **Bank's** Standard Procurement Documents (SPD) is mandatory. For NCB/NCT procurement, **universities** may use the Government's standard tender document (STD) or standard tender document (STD) of Electronic Government Procurement (eGP) system with modifications incorporated and concurred by the World **Bank** (standard tender documents for goods, works and non-consulting services). For selection of any consulting firm, the **WB's** Standard Request for Proposals (RFP), including standard contract form will be used. Depending on the type of procurement, the Standard Bid/Proposal Evaluation Forms of the **World Bank**, and of **GoB** when those become available, will be followed for submission of evaluation reports.

6.10 Procurement Risk Mitigation Measures

- 6.10.1** A Procurement Risk Mitigation Plan (PRMP) will be prepared by **HEAT PMU** and shared with the World Bank. **HEAT PMU** shall submit reports to the **World Bank** on a periodic (semi-annual) basis with a set of features as mentioned below:
- 6.10.1.1 Alert bidders in pre-bid meeting:** SPMs through a notification will alert bidders during pre-bid meeting on consequences of corrupt practices (fraud and corruption, collusion, coercion, etc.). The alert message, among others, will include that if bidders are found to have adopted such practices, there will be remedial actions including debarment from bidding processes in conformity with the **Bank's Procurement Regulations 2023**. For national competitive bidding, national bidders debarred, if any, will not be able to participate. In addition, in the pre-bid meeting, the bidders will be clarified for preparation of bids correctly.
- 6.10.1.2 Alert internal officers/staff:** SPMs will issue alert letter(s) notifying on the fraud and corruption indicators and the possible consequences of corrupt and similar behavior in procurement practices and action to be taken against the staff if they are involved in such practices. Moreover, SPMs will take note that, in cases of noncompliance or material deviation from **Bank's Procurement Regulations 2023**, the World **Bank** shall take remedial actions (i.e., withdrawal of funds, declaration of mis-procurement/ineligible procurement) for concerned contracts. Additionally, if proven through

investigation, UGC may take penal action against the deviant **SPM** under the country's anti-corruption law

- 6.10.1.3 Bid opening minutes:** During the same day of bid opening, photocopies of the Bid Opening Minutes (**BOM**) with read out bid price of participating bidders will be submitted by **BOC** for circulation to all concerned. For prior review packages, such **BOM** will be shared with the World **Bank**.
- 6.10.1.4 Low competition among bidders and high price of bids:** The case(s) of low competition (not solely based on number of bidders) in **ICB** and **NCB** cases, coupled with high-priced bids will be inquired into and further reviewed by **HEAT PMU**. The review and decision in this regard would be in the context of qualification criteria, the contract size (too small or too large), location and accessibility of the site, capacity of the contractors, etc.
- 6.10.1.5 Measures to reduce coercive practices:** Upon receiving allegations of coercive practices resulting in low competition, **HEAT PMU/SPMs** will look into the matter and take appropriate measures. For prior review contracts, observations of **HEAT PMU** will be shared with the World **Bank**, along with the evaluation reports. **HEAT PMU/SPMs/Universities** may seek assistance from law enforcing agencies to provide adequate security for bidders during bid submission. For **ICB** contracts, provision for bid submission through international/national courier services will be allowed and confirmation of the receipt of the bid will be informed to the bidders through e-mail.
- 6.10.1.6 Re-bidding:** In case of re-bidding, **HEAT PMU** will inquire into the matter, record and highlight the grounds of re-bidding (i.e., corruption or similar, high bid price etc.) along with recommended actions to be taken.
- 6.10.1.7 Filing and record-keeping:** **HEAT PMU/SPMs** will preserve all records and documents regarding their public procurement in accordance with provisions of the **PPR-2008 Rule 43**. These records will be made readily available on request for audit/investigation/review by the government and the World **Bank**.
- 6.10.1.8 Submission of PROMIS report:** **HEAT PMU** will submit quarterly report in the format of government's **PROMIS** (Procurement Management Information System) format to the World **Bank**. The **PROMIS** format is available at the website of **CPTU** (www.cptu.gov.bd).
- 6.10.1.9 Publication of award of contract:** **HEAT PMU** will publish **ATF** contract award information within two weeks of contract award on its website and **CPTU**'s websites with the required information like identity of contract package, date of advertisement, number of bids sold, number of submitted bids along with names, date of contract, contract Price as well as a brief description of the contract awarded and other relevant information as prescribed by **CPTU**.

6.11 Procurement Plan

- 6.11.1 Procurement Plan:** A procurement plan covering all procurement packages for the project period of the **ATF** shall be prepared. As part of **ATF** proposal submission, proposal submitting entities/universities shall include the procurement plan in the **SPPs**. The **SPMs** shall update the Procurement Plan and share with **HEAT PMU**, semi-annually, to reflect the actual project implementation needs and adjustments thereof.
- 6.11.2** It has been already mentioned that all **ATF** sub-project managers are required to prepare a Procurement Plan (which can be an update of the version included in the **SPP**) in accordance with formats prescribed by the **World Bank**; and these will have to be reviewed by **HEAT PMU**, and concurred by the **World Bank** before implementation and updated regularly on a half-yearly basis.
- 6.11.3** The draft procurement plans attached to the **SPPs** will be reviewed in a budget rationalizing workshop at **UGC** after the final selection of sub-projects has been made by **UGC/BATF**. Goods included in the procurement plans shall be procured by the **SPMs** by following the procurement methods mentioned in this **OM, PPA-2006 & PPR-2008** and in **Bank's Procurement Regulations 2023**. The procurement unit officials and procurement specialists of **HEAT PMU** shall provide technical assistance to the **SPMs** in rationalizing their respective procurement plans as explained above during the workshop.

Any change in the procurement plan due to budget re-appropriation during the implementation will require prior concurrence of the **HEAT PMU**.

6.13 Post Review

- 6.13.1 Post Review:** For compliance with the Bank's procurement procedures, the Bank will carry out sample post review of contracts that are below the prior review threshold. Such review (ex-post and procurement audit) of contracts below the threshold will constitute a sample of about **15 percent (fifteen percent)** of the post-review contracts in the project. Procurement post-reviews will be done on semi-annual basis depending on the number of post-review contracts. Post-review will also include assessment of the performance of **HEAT PMU's** procurement team, including adequacy of due diligence exercised by the **PMU**, and regularity of procurement-related reporting and record-keeping.

6.14 Electronic Government Procurement (e-GP)

- 6.14.1** All **NCB open competitive bidding and RFQ** procurement of Goods and Works under **ATF** sub-projects will be process through electronic government procurement (**e-GP**) system. **ICB** packages may also be procure through **e-GP** system if accepted by the **World Bank**. **e-GP** has been rolled out in June 2011 under the government's procurement reform. The **Bank** has approved the system to use in **ICB, NCB and RFQ** contracts under **Bank**-financed projects in Bangladesh. The following steps will be implemented by **HEAT PMU** in order to implement **e-GP**.
- 6.14.1.1** All public and private universities including their departments/institutions should follow **e-GP**, will successfully secure **ATF** sub-projects.
- 6.14.1.2** All procurement officials of **HEAT PMU** and **SPMs** of sub-projects have completed

one training on **e-GP** at a **CPTU** authorized training institution in the country within three months of selection of successful sub-projects.

- 6.14.1.3 Invitation to submit proposals under **ATF** would seek inclusion of information from eligible universities regarding readiness to use **e-GP** in their own procurement. This readiness will include, among others, computer hardware, availability of adequate bidders (*list of bidders generally participating in concerned university contracts*) and robustness of internet connectivity. During **ATF** proposal submission, universities ready for **e-GP** will confirm its readiness, which will be subsequently assessed by **HEAT PMU**. **HEAT PMU** procurement team will assist universities in compiling this information. Information of **e-GP** readiness by universities will be stored in the **PMU**'s database.
- 6.14.1.4 Training for bidder community will also take place, through **e-GP** trainers of **HEAT PMU** and in collaboration with **CPTU**.

6.15 Other Actions

- 6.15.1 Review of Procurement Performance:** The **HEAT PMU** and **World Bank** will monitor the compliance with the requirements of procurement methods and performance standards on a continuous basis. As part of the project's planned annual review/mid-term review, a comprehensive assessment of procurement performance will also be carried out.
- 6.15.2** Regarding formation of evaluation committee following measures will be undertaken:
- 6.15.3 At the university level the committee will be constituted according to the relevant provisions of **PPA-2006 & PPR-2008**;
- 6.15.4 At the sub-project implementation level the evaluation committee will be constituted according to the relevant provisions of the **PPA-2006 & PPR-2008** with the inclusion of **PFP** staff as full members.
- 6.15.5 The primary responsibility in respect of procurement will lie with the concerned individual **SPMs** of the **ATF** grant recipient university. The **ATF SPMs** engaged in the implementation of the selected/awarded projects, public university **UATFS** must possess copies of the **PPA-2006** and **PPR-2008** and **World Bank's Procurement Regulations**, make themselves thoroughly adept in them and consult with the **CPTU** and procurement consultants engaged by **HEAT PMU** if they need clarification on any issue/matter related to procurement.
- 6.15.6 Strengthening Procurement Capacity at University Level:** For procurement under **ATF** sub-projects, the **SPMs** will conduct their own procurement. This requires significant strengthening of universities' capacity in undertaking public procurement. In order to strengthen universities' procurement capacity following measures will be taken up.
- 6.15.7 Special Training Course:** Prior to implementation of the **ATF** sub-projects, **HEAT PMU** will arrange a one-week customized training course, covering **World Bank's Procurement Regulations Guidelines 2023** and the **PPA-2006 & PPR-2008 version of 2023**. All officials handling procurement and/or holding membership of Bid/Proposal Evaluation Committee (**BEC**) are required to participate in this training

program. No academic staff should be allowed to handle procurement without appropriate procurement training. Furthermore, the **HEAT PMU** procurement consultants or other procurement trainer will provide periodic training to **ATF** grant recipient universities' **SPMs** and procurement officers, who will be designated upfront during submission of proposals.

6.15.8 Bid Evaluation Committee (BEC): For non-e-GP NCB, the PE shall have at least two members from outside of the institutions, as provided in the PPR-2008.

6.15.9 On an annual basis contracts using ATF grants will be post-reviewed by the World Bank concurred independent auditors appointed by HEAT PMU and the post-review reports will be shared with the World Bank for follow-up actions.

Chapter 7

Monitoring & Evaluation

7.1 The Process of Monitoring and Evaluation

- 7.1.1 Monitoring and evaluation are essential functions of any institution/organization engaged in executing a goal achieving activity. They are specifically important when as in the case of **ATF** sub-projects, the initiative is to introduce positive behavioural changes into an existing institutional or academic culture. Monitoring is the periodic assessment of programmed activities to determine whether they are proceeding as planned. Evaluation involves the assessment of progress towards the achievement of results, milestones and impact of outcomes based on the use of performance indicators. Both activities require dedicated funds, trained professional staff, monitoring and evaluation tools, effective data collection and storage facilities and time for inspection visits in the field.
- 7.1.2 At the central level an **M&E Unit (MEU)** has been established within the **HEAT PMU** which will be responsible for designing, organizing and managing the **M&E** activities of all components of the project. Monitoring of **ATF** sub-projects will be the major responsibility of this unit. **Six-Monthly Monitoring Report (SMMR)** will be submitted in both soft copy and hard copy to **MEU** by the respective **SPMs** in a customized reporting format developed by **HEAT PMU** included in **ATFOM Annex 8**. Every year the progress from January to June and from July to December will be reported in July, and January of the following year, respectively.
- 7.1.3 **MEU** will arrange a validation survey of the sub-projects and will match the findings with the information presented in **SMMR**. Field visits for assessment of progress of the sub-projects towards its goal will also be arranged by the **MEU**. Experts from relevant fields may be contracted for assessing the progress of the sub-projects, if necessary.
- 7.1.4 At the field level the office of the **SPM** shall be the main agency for monitoring and evaluation of the **ATF** sub-projects implemented by the universities. The **SPMs** shall monitor the projects on a continuous basis and measure the progress/achievements against the performance indicators mentioned in the sub-project proposal. The **SPMs** should be meticulous in maintaining detailed accounts of the funds received by him/her including every item of expenditure made under the project according to established accounting procedure/ system. He/she should also submit the **Quarterly Progress Reports** for financial progress in prescribed formats (**ATFOM Annex 9**) to the **UATFS** and **HEAT MEU**. The reporting formats are attached to this OM. These can also be downloaded from **HEAT PMU** website.
- 7.1.5 At the completion of sub-project implementation, the **SPMs** shall submit the **Project Completion Report (PCR)** to summarize all the achievements and expenditure records of the sub-project. **PCR** will be submitted to **UATFS**, and **HEAT MEU** within 45 days of project completion in both hard and soft copy in prescribed formats (**ATFOM Annex 12**). The **SPMs** should close all sub-project activities, except writing the **PCR**, in the last 90 days before closing the sub-project to facilitate its timely submission. The **PCR** must be attached with (i) a list of fixed assets, furniture, equipment, etc., procured under the sub-project; (ii) a certificate from the head of the entity regarding transfer/receipt of these assets, books of account (such as registers, ledgers, cash book etc.) procurement

documents, vouchers etc. (iii) a statement on expenditure covering the entire sub-project period. **MEU** will conduct a verification survey of **PCR** for selected sub-projects within two years after the project completion to verify the actual achievements in the field against reported project outcomes and to evaluate impacts on beneficiaries and changes in institutional capacity created by the sub-project. Sustainability of such impacts will also be assessed in the verification survey of **PCR**.

- 7.1.6 **Academic Monitoring:** Apart from **MEU**, **UGC** as the implementing agency for the **ATF**, will carry out academic monitoring of all on-going **ATF** sub-projects on a regular basis during their implementation. **UGC** will engage appropriate experts from universities as well as Learned Societies to extend assistance in the use and maintenance of equipment and organize workshops for this purpose. The **UGC** shall take appropriate measures if a sub-project found to fail to reach the milestones/performance indicators mentioned in the project proposals. The **UGC** will also field supervision teams which will visit samples of projects physically with the objective to monitor their implementation progress according to milestones/performance indicators. **HEAT PMU** shall extend assistance to **UGC** in such monitoring.
- 7.1.7 At the **ATF** sub-project implementation level in the universities the Vice-Chancellors shall hold review of all under-implementation sub-projects in a quarterly meeting attended by the Deans, **SPMs** and chairpersons of sub-project implementing entities. The **UAFS** shall organize the monitoring meeting chaired by the **VC** and provide secretarial services. The concerned member in charge of **HEAT** at **UGC** and the PD of **HEAT** and **Chief Program Coordinator** may be invited by the university to attend the monitoring meeting. The Director, Planning & Development shall write the minutes of the monitoring meeting and share it with **UGC**, **HEAT PMU** and **World Bank**.
- 7.1.8 The Implementation, Monitoring and Evaluation Division (**IMED**) of the Ministry of Planning will routinely monitor the implementation progress of the projects as part of its mandated activities. The **IMED** may take concerned officials of **SHED** with them in its monitoring activities. In addition, **MoE/SHED** would review the progress in its monthly **ADP** review meeting held in the Ministry.
- 7.1.9 As practiced for all of its funded projects, the **World Bank** will field its periodic implementation support missions including **mid-term review** to assess the progress of implementation of the **ATF** and other components of the project.
- 7.1.10 One of the key outcome indicators of the project is increased level of satisfaction of students and faculties regarding the quality of teaching and research environment, and employers regarding the relevance of teaching and research programs. In order to measure this outcome, **Satisfaction Surveys** are included in the project design.
- 7.1.11 **Satisfaction Surveys** have been planned targeting students, faculties and employers of the **ATF** beneficiary institutes/departments in order to assess how the direct beneficiaries value the interventions under **ATF**. The impact of the **ATF** will be assessed through a comparison of outcomes between the **ATF beneficiary** population (**treatment group**) and the population not receiving the benefits of **ATF** (**control group**).

7.2 Reporting Arrangement

- 7.2.1 Reporting is one of the critical part of **ATF** sub-project management that bears

significant importance in terms of ensuring high-level accountability of the **ATF** program and **HEAT PMU**. The **SPMs** are responsible for ensuring that all the relevant reports are submitted in proper formats and according to agreed timeline. The **SPMs** and **UATFS** are required to retain soft copies of the submitted reports and relevant documents in the university's digital depository for at least five years after the closing of the sub-project and be able to present them readily when and if so required. Reports that **ATF** sub-projects are required to submit during and after its implementation are as below. Procedures associated with each report is described in respective section of this **OM**.

7.2.1.1 **Financial Reporting:** **ATF** sub-projects shall submit (i) monthly financial statements as end of month procedures showing opening balance, receipts, payments made, etc.; (ii) **Interim Unaudited Financial Report (IUFR)** on every quarter; and (iii) yearly financial statements as an end of year procedure.

7.2.1.2 **Progress Reporting:** **ATF** sub-projects are required to submit (i) short **Quarterly Progress Report** summarizing financial and physical progresses; (ii) **Six-Monthly Monitoring Report** summarizing outputs and progress of the sub-project over six months; and (iii) **Project Completion Report (PCR)** at the completion of the sub-project in detailed narrative with data of all the inputs, outputs, achievements, and expenditures of the sub-project implementation.

7.3 Audit

7.3.1 External Audit

All development partner assisted development projects have to undergo periodic audit performed by the Foreign Aided Project Audit Directorate (**FAPAD**) under the office of the Comptroller and Auditor General (**C&AG**) of Bangladesh. In addition the Audit Wing under the Ministry of Education would require data/information on expenditures as part of its routine audit activities and for reporting to the **C&AG**. The audit will be carried out within six months of the closing of the financial year and a report submitted to the **World Bank** by December 31. World Bank's periodic project implementation support missions would also look into procurement procedures, the accounts of the **ATF** funds utilization and into the audit reports provided by the **UGC/HEAT** during the project implementation period. The **UGC, HEAT PMU, UATFS** of universities and the **ATF** sub-project managers should therefore remain fully prepared with the accounts of the sub-projects and all relevant documents on funds received and utilized.

7.3.2 Internal Audit

The project will undertake operational audit on an annual basis by outsourcing the function to a firm of chartered accountants under **ToR** concurred by the **Bank**. The operational audit will examine the physical, financial and operational aspects of project implementation and provide timely feedback to project management regarding any internal control weaknesses or management improvements required. The scope of the operational audit would be comprehensive including review of financial transactions, efficacy of internal control arrangements and evaluation of project performance against the project objectives.

7.4 Fixed Assets Verification

- 7.4.1 In order to verify existence, ownership and safe custody of the various fixed assets procured, the **SPMs** should have a well-designed system to record acquisition and disposal of all the fixed assets capable of easily identifying assets, its current location and ascertain its history and cost. Each asset, as soon as acquired, shall be given a unique identification number, which should be printed as sticker and pasted on the asset. Fixed Assets shall be grouped/sub-grouped into different categories (i.e., Office Equipment, Furniture, Electrical Equipment, Scientific Instruments, Laboratory Equipment, Machines, Tools, Computers and Peripherals, etc.) and inventoried as required by the management for easy reference and identification.
- 7.4.2 **Physical Verification of Fixed Assets:** Periodical (at least annual, preferably on the balance sheet date) physical inspection of Fixed Assets shall be carried out by **SPM** and reconciled with fixed asset register. Discrepancies found shall be investigated into and appropriate actions should be taken as well as remedial measures to be introduced to prevent recurrence of discrepancies.

Chapter 8

Environmental and Social Management Framework

8.1 Objectives of Environment and Social Management Framework (ESMF)

8.1.1 The major objectives of the **ESMF** are to ensure the implementation of projects that are environmentally and socially sustainable, and, to enhancing the capacity of the project implementing agency's environmental and social framework to assess and manage the environmental and social risks and impacts of the projects. For this purpose, the **World Bank** has defined specific **Environmental and Social Standards (ESSs)**, which are designed to avoid, minimize, reduce or mitigate the adverse environmental and social impacts likely to be caused by projects. This **ESSs** have replaced the previous **Operational Policy (OP)** and **Bank Procedures (BP)** on environment and social safeguard issues in Bank supported projects. Now projects supported by the **Bank** are required to meet the following **ESSs**:

ESS 1: Assessment and Management of Environmental and Social Risks and 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, restrictions on land Use and Involuntary Resettlement;

ESS 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources;

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

ESS 8: Cultural Heritage;

ESS 9: Financing Intermediaries; and

ESS 10: Stakeholder Engagement and Information Disclosure.

8.1.2 ESMF Compliance

The **UGC** as the implementing agency of the **Bank** supported **HEAT** project has agreed to follow the new policy on **ESMF** and has prepared and disclosed an **Environmental and Social Commitment Plan (ESCP)** for the **HEAT** project.

8.1.3 Under the overall **ESMF** and **ESCP** umbrella for the project, the **ATF** grant utilizing universities/entities shall ensure the protection of physical and social environment, compliance with the **ESMF** requirements; and address these issues efficiently and appropriately during all stages of **ATF** sub-project implementation.

8.1.4 The **ATF** under its Window 2, 3, 4 and 5 shall implement sub-projects that would include a range of small-scale renovations and facility development works in universities including renovation of science labs, workshops, install large scientific equipment like Next Generation Sequencing (NGS), nuclear magnetic resonance (**NMR**), x-ray diffractometer, liquid chromatographic mass spectrometer (**LCMS**) etc., and machineries

for fab labs, i-labs. Renovation related impacts can include: air, noise, dust and water pollution and the safety of workers and communities; disturbance to flora and fauna; improper disposal of waste materials etc. The activities will also generate (i) e-wastes; and (ii) other detrimental wastes for environment and health from the advanced research involving bio-medical sciences, leather and textile technologies, if those are done in an uncontrolled manner and by not following the proper bio-safety and environmental guidelines. The impacts from the increased traffic volume, solid and domestic waste generation, air and noise pollution and e-waste generation and wastes generated from the research activities is reversible and can be mitigated with appropriate mitigation measures in place which largely depends on the implementing universities' capacity enhancement and adherence to the implementation of the agreed Environmental and Social Management Plan (**ESMP**). Appropriate management measures to address the impact from hill profiling during and beyond project period have been included as a part of the **ESMP**. Considering the limited experience of the implementing universities in **ESMP** implementation and the overall risks and impacts related to the proposed project activities, the environmental and social risk might be substantial.

8.2 Environmental and Social Framework (ESF)

8.2.1 All **ATF** resource users will be required to follow safeguards measures given in the Environmental and Social Framework (**ESF**) of the **World Bank**.³² The major objectives of the **ESF** are to ensure protection of physical and social environment, compliance with the legal requirements; and addressing these issues efficiently and appropriately during all stages of **ATF** sub-project implementation. The **ESMF** would address the following issues:

- (i) Protect human health;
- (ii) Minimize environmental degradation as a result of impact of either individual sub-projects or their cumulative effects;
- (iii) Enhance positive environmental outcomes; and
- (iv) Ensure compliance with the **GoB** and **World Bank**'s safeguard policies.

8.2.2 The environmental concerns related to **ATF** are about the small-scale infrastructure renovation/ refurbishing/extension work and research activities that are expected to be carried out under the **ATF** sub-projects. The **ESMF** would provide guidance on the approaches to be taken during **ATF** sub-project proposal preparation and implementation for environmental screening. This framework should be consistent with the **GoB**'s environmental laws and associated regulations as well as with **World Bank**'s safeguard policies.

8.2.3 The **ESMF** will be based on the following principles:

³² Environmental and Social Framework, The World Bank, 2017; available on: <https://documents.worldbank.org/en/publication/documents-reports>

- 8.2.3.1 The **ATF** sub-projects are likely to include physical infrastructure renovation/ refurbishing/ extension and research activities, the detail design of which may not be known a priori. To ensure effective application of the **GoB/World Bank**'s environmental safeguard policies, the **ESMF** would provide guidance on the approaches to be undertaken during the preparation of the design of sub-project, and the planning of appropriate mitigation measures;
- 8.2.3.2 The sub-projects will not require any new building construction and as such no land acquisition and screening for site selection will be applicable;
- 8.2.3.3 The sub-projects will follow **Bangladesh Building Code** to ensure safety of life and property during renovation/refurbishing/extension of various parts of a building or any other structures;
- 8.2.3.4 The contractors for renovation/refurbishing/extension will meet the requirements/ standards pertaining to air, water and noise prescribed in the **GoB's Environmental Conservation Act 1995** and **Environment Conservation Rules 1997**;
- 8.2.3.5 This OM will describe the institutional responsibility and process for environmental screening and related mitigation plans;
- 8.2.3.6 The sub-projects will promote sound environmental management and practices within the higher education institutions during implementation
- 8.2.4 Considering the nature and magnitude of potential environmental impacts from relatively limited scale and magnitude of the infrastructure renovation/ refurbishing/extension works and academic research output, the proposed operation would be classified as category '**B**'. Since the extent and exact locations of reconstruction works and research works are not known before the design and implementation of the sub-projects, the requirement to carry out an environmental analysis as part of sub-project preparation can be waived, but for sub-projects with potential adverse impacts, a limited environmental analysis/ screening will be done prior to final selection of a sub-project. Since the potential environmental impacts are expected to be minimal, an Environmental Management Plan (**EMP**) will be prepared for each relevant activity. If any land filling is required for research site preparation such as earth filling of ponds/water bodies, full Environmental Impact Assessment (**EIA**) (not only an **EMP**) will have to be conducted by the **HEATPU** before awarding of **ATF** sub-project.
- 8.2.5 **Environmental Screening:** The sub-project proposal generating institutions their faculties, departments, centers and institutes fulfilling eligibility criteria will be required to submit a checklist to identify any environmental issues in the infrastructure renovation/refurbishing/ extension works. If there is any environmental issue identified, the sub-project submitting entity will add an **EMP** with its proposal. If there is substantive environmental impact, the proposal submitting entity will submit the mitigation measures for those activities.
- 8.2.6 **Review and Clearance:** The University Grants Commission will ensure that a qualified environment expert is assigned during each sub-project review. The measurable environmental indicators will be used along with other indicators for assessing the sub-projects. The institution will submit its proposal for small infrastructure renovation/ refurbishing with an environmental checklist (*SPP Annex 7*). Similarly, the applicants of

research proposal will submit the environmental checklist (*SPP Annex 8*) duly reviewed and signed by proposal author. If there is substantive environmental impact, the applicant will submit the mitigation measures for the activities (*SPP Annex 9*). This checklist will be used by the **HEATPU** to identify the potential environment and safety issues and to suggest possible mitigation measures. **HEATPU** will monitor the environmental safeguard issues in the selected sub-projects and publish quarterly report on environmental compliance of sub-projects based on agreed monitoring indicators.

- 8.2.7 **Capacity-Building and Monitoring of Safeguard Framework Implementation:** As part of the capacity-building on environmental issues in University Grants Commission, selected staffs will receive training in **EMF** application and environmental management. To assist in this capacity-building, and to provide subsequent guidance and review of the **EMF**'s application, the **HEAT PMU** will contract specialist services for environmental safeguard, as required, during supervision of these operations. The **World Bank** will assess the implementation of the **EMF**, and recommend additional strengthening, if required.
- 8.2.8 **Consultation and Disclosure:** The **EMF** will be shared by the Ministry of Education with concerned academic institutions and Department of Environment (**DoE**). As no potential affected persons are expected under the **ATF** sub-projects, field level consultations will not be held. The **EMF** has been disclosed in both Bengali and English by the **MoE** and **UGC** and it will also be made available at the **World Bank**'s Info Shop. Relevant sub-project specific safeguard documents/mitigation plans prepared subsequently will also be disclosed to the public.
- 8.2.9 **Guidelines for preparation of Environmental Management Plan:** After the identification of potential impacts of the relevant sub-project, the next step is the identification and development of measures aimed at eliminating, offsetting and/or reducing impacts to levels that are environmentally acceptable during implementation and operation of the project through the preparation and implementation of an Environmental Management Plan (**EMP**). **EMP** provides an essential link between the impacts predicted and mitigation measures specified. It is recognized that the **EMP** format needs to fit the circumstances in which **EMP** is being developed and the requirements, which it is designed to meet. **EMPs** should be prepared after taking into account comments from the affected persons, relevant academic institutions and **UGC**. Given below are the important elements that constitute an **EMP**:
- (a) **Description of mitigation measures:** Feasible and cost-effective measures to minimize adverse impacts to acceptable levels should be specified with reference to each impact identified. Further, it should provide details on the conditions under which the mitigation measures should be implemented (e.g., routine or in the event of contingencies). The **EMP** also should distinguish between type of solution proposed (structural & non-structural) and the phase in which it should become operable (design, construction and/or operational). Efforts should also be made to mainstream environmental and social opportunities as reasonable.
 - (b) **Monitoring program:** In order to ensure that proposed mitigation measures have the intended results and complies with national standards and donor requirements, an environmental performance monitoring program should be included in the **EMP**.

The monitoring program should give details of the following;

- (i) Monitoring indicators to be measured for evaluating the performance of mitigation measure (for example, national standards, engineering structures, extent of area replanted, etc.)
 - (ii) Monitoring mechanisms and methodologies
 - (iii) Monitoring frequency
 - (iv) Monitoring locations
- (c) **Institutional arrangements:** Institutions/parties responsible for implementing mitigation measures and for monitoring their performance should be clearly identified. Where necessary, mechanisms for institutional co-ordination should be identified as often monitoring tends to involve more than one institution.
- (d) **Implementing schedules:** Timing, frequency and duration of mitigation measures with links to overall implementation schedule of the project should be specified.
- (e) **Reporting procedures:** Feedback mechanisms to inform the relevant parties on the progress and effectiveness of the mitigation measures and monitoring itself should be specified. Guidelines on the type of information wanted and the presentation of feedback information should also be highlighted.
- (f) **Cost estimates and sources of funds:** Implementation of mitigation measures mentioned in the **EMP** will involve an initial investment cost as well as recurrent costs. The **EMP** should include cost estimates for each measure and also identify sources of funding.

8.3 Social Management Framework (SMF)

Introduction: The Higher Education Acceleration and Transformation Project (**HEATP**) was approved by GoB on June 6, 2023. Following the footsteps of the Academic Innovation Fund (**AIF**) under the completed Higher Education Quality Enhancement Project (**HEQEP, 2019-2018**), **HEAT** would provide grant to universities for improving their academic and research environment through several windows. The **HEAT** project grant will be known as Academic Transformation Fund (**ATF**) and will support activities to reform curricula, offer training to teachers in modern teaching methods with use of **IT**, upgrade teaching-learning infrastructure, strengthen COVID 19 response, train graduates for employability, improve governance of higher education and undertake advanced researches.

HEATP is the follow-up project of **HEQEP**, with new activities to accelerate the transformation of higher education in the country for its overall development. As under **HEQEP**, appropriate social management will be ensured under this project.

8.3.1 Social Safeguard Triggers

There will be no requirement for private land acquisition, displacement of communities or people from either public or private lands regardless of title and no adverse impacts on livelihoods of any nature. Therefore, the project will not trigger ESS 5 Involuntary Resettlement. The original project did not trigger the policy either and lessons learned during its implementation support the fact that it will not be triggered for this ATF either.

The project will be implemented nationwide; no adverse impact on Tribal People or communities is expected as the project is mainly of a technical assistance nature. The project originally did not trigger ESS 7 Indigenous People.

Given that the project only triggers ESS 7, and since the exact locations of project implementation are yet to be determined, an Indigenous People's Framework (IPF) has been prepared as part of this SMF to ensure the participation of all tribal and vulnerable communities in the project in a culturally appropriate and sensitive manner, that meets the World Bank's stated requirement of free, informed and prior consultations with the relevant groups during project preparation and during implementation. This SMF has been developed in full concurrence with national laws and applicable World Bank Operational Policies.

8.3.2 Objectives

The SMF provides general policies, guidelines, codes of practice and procedures to be integrated into the implementation of ATF. Consistent with the existing national legislation, the objective is to help ensure that activities under the proposed project will:

- Enhance positive social outcomes;
- Prevent negative social impacts as a result of either individual institution or their cumulative effects;
- Ensure compliance with World Bank safeguard policies.

8.3.3 Basic Principles

The Framework is based on an assessment of the nature, scope, and scale of safeguards impacts of the project components and institutional capacity of universities and institutions and the implementing agencies to address social safeguards issues. The following principles will apply for selection of institutions and activities:

- All proposed institutes to be funded by the projects will be subject to a social screening in order to assess the prevalence of Tribal students studying there.
- The institutions will not propose to undertake activities that may require land acquisition, or displacement of communities (regardless of title), or adverse impacts on livelihoods. All development works will be limited to improvement of the existing infrastructure if needed, and use their own land which must be free of encumbrances, for any new structures (if applicable).

8.3.4 Enhancing the Positive Outcomes of the Project for Indigenous Students

Consultation: Consultation is suggested with the indigenous group representatives to incorporate their voices, providing them a sense of ownership and their active participation.

Identification of special needs: Special need identification needed to support them effectively and efficiently. One major issue in this regard can be language skill. As many of the tribal communities are not fluent in Bangla or English other than Chakma and may not get opportunities to equally like them to study in urban mainstream educational institutes rather completed schooling in local schools with local teachers having similar language barriers for actualizing the education materials most efficiently. That would

also help them to icebreaking of their inertia to have inter community interaction as well as interaction with Bengalis.

Sensitization of the wider student-teacher body regarding indigenous communities, culture, customs, rituals etc.: Get to know each other's culture always gives space for more interaction, knowledge sharing and trust building among different communities. Universities can think of a yearly event of day long cultural activities of all the tribal communities to showcase their cultural elements such as rituals, dance, music, costumes, and customs etc. which will bond them more and make the wider body having more interest in these cultures.

Areas identified where tribal students require additional assistance: If the tribal students need any specific assistance should be taken care of by identifying these areas. These may vary in different faculties and regions.

8.3.5 Indigenous Peoples' Plans

Once the exact Universities and other academic institutes targeted for the ATF are determined, they will be screened to assess the presence of tribal students according to the screening formats attached (SPP Annex-10). For institutions where tribal students are found in larger numbers, the above framework will be used as guidance to prepare indigenous People's Plans to address the issues of participation, inclusion and enhancement of positive outcomes for tribal students.

8.3.6 Safeguards Screening and Mitigation Guidelines

Safeguard screening will consist of an examination of requirements of the possible activities, and the guidelines that will apply in terms funding eligibility and impact mitigation. The following guidelines, practice codes and requirements will apply in selection, design and implementation of particular activity:

- **Negative List.** The activities that have characteristics as those described in the 'Negative List' will be ineligible for funding under HEAT;
- **Guidelines for Indigenous Peoples Plan:** Principles and guidelines to identify and deal with adverse impacts on tribal peoples, and a consultation framework for adoption of mitigation and development measures, where activities would adversely affect IPs.

Screening and Mitigation Responsibilities

At the institution levels, the Project Implementation Unit will screen the projects to ensure compliance with the above principles. For location specific sub-projects that trigger ESS 7.10 the PMU will ensure that adequate and appropriate consultation modalities are adopted to build consensus among the Tribal population, identify impacts in the light of their unique needs and way of life and implement mitigation measures commensurate with their cultural, religious and societal norms. The project mainly works on the supply side of the higher education quality enhancement and development. The curriculum can be made more accessible to tribal students by understanding their needs and exploring their career aspirations. The PMU may conduct a needs assessment survey amongst students, focusing on tribal students.

8.3.7 Grievance Redress:

The Universities and institutions will set up a procedure to address complaints and grievances regarding HEAT procedural irregularities and environmental and social guidelines. The procedure will however not pre-empt an aggrieved person’s right to seek redress in the courts of law. All complaints will first be discussed in open meetings. If this fails, the institutes can refer the complaints to the PMU with the minutes of the hearing taken place at the institutional level. If PMU fails to resolve the matter, it can refer the case to the UGC, which in turn can send unresolved cases to MoE.

Capacity Building

The PMU has a limited institutional capacity to implement the SMF. Specific capacity-building training programs for the PMU needs to be planned for the project. Furthermore, UGC should also have a designated officer who will be responsible contact person for matters related to SMF.

8.3.8 Approval and Disclosure

As required by the World Bank’s project financing policy, the SMF prepared by the GOB will be subjected to review and clearance by the designated regional sector unit of the Bank and then finalized before formal appraisal of the project. The SMF, including a Bangla version, will be disclosed to the public in Bangladesh by the Bank at its Country Office Information Center, and by the MoE at its website. The Bank will also disclose it in its InfoShop.

8.3.9 Negative Test

The negative characteristics of activities, which will make them ineligible for support under HEAT, are based on their probable social impacts. With the available implementation experience, it is apprehended that institutional capacity may not be adequate to manage the impacts listed below.

NEGATIVE SOCIAL ATTRIBUTES
<p>Activities that involve <u>involuntary resettlement</u> of people/households will be ineligible for support under HEAT. Such activities are those that:</p> <ul style="list-style-type: none"> ▪ Poses any direct or indirect discriminatory criteria for selection ▪ Require land acquisition ▪ Require involuntary contribution of private lands ▪ Affect private homesteads ▪ Communities are unable to compensate for lands that are available on ‘contribution against compensation’ basis. ▪ Render households using public lands destitute ▪ Affect mosques, temples, graveyards, cremation grounds, and other places/objects that are of religious and cultural significance ▪ May significantly restrict access to common property resources and livelihood activities of groups and communities

Activities that affect indigenous peoples with long-term consequences will be ineligible support. These activities are those that:

- Poses possibility of exclusion
- Threaten cultural tradition and way of life
- May severely restrict access to common property resources and livelihood activities
- May affect places/objects of cultural and religious significance (places of worship, ancestral burial grounds, etc.)

8.3.10 Social Screening Form

The UGC/Project carried out a social assessment and identified that the project interventions will have positive impacts to stakeholders of tertiary education including any ethnic minority groups in Bangladesh who may be beneficiaries of the project. Based on this finding (**OP 4.10**) Indigenous People would be triggered for the project and a Social Management Framework has been prepared and included in the **ATFOM**. The proposal submitting entities will be required to submit the filled in **Social Screening Form** (*SPP Annex-10*) with the **SPPs**.

8.3.11 Guidelines for Tribal Peoples Plan

Objectives of Tribal Peoples Plan

The main objectives of the Indigenous Peoples Plan (IPP) are to ensure that the activities funded by **ATF** do not adversely affect IPs, and that they receive culturally compatible social and educational benefits. This will require the institutes to carefully screen all proposed activities to determine presence of TPs in the locality and ensure informed direct participation of the TPs in the activities. There are approximately 2.5-3.0 million indigenous/ethnic communities living in Bangladesh, covering less than 2% of the total population. The largest proportion of the country's tribal population lives in Bandarban, Rangamati and Khagrachari in the Chittagong Hill Tracts (CHT). The Universities and institutions closest to these areas are situated in Chittagong City where, even if tribal students come to study, they are assimilated with the mainstream student population. Some indigenous people, (IP) can also be found in remote areas of the north-west and north-eastern regions. Also, the project aims to improve the quality of education and engages mainly on the supply side of academic and administrative processes; it does not aim to improve access or engage with communities. Given the above scenario the likelihood of triggering ESS 7 is very low. Nevertheless, the MoE has prepared this current Indigenous Peoples Plan to consult with IPs and identify culturally sensitive and acceptable mitigation measures for any unforeseen impacts on IPs.

Identifying the Indigenous Peoples

Although the IPs of Bangladesh are well recognized locally, the PMU their local representative officials will examine the following characteristics to make formal identification:

- Self-identification as members of a distinct tribal cultural group and recognition of this identity by others;

- Collective attachment to geographically distinct habitats or ancestral territories in the project area and to the natural resources in these habitats and territories;
- Customary cultural, economic, social or political institutions that are separate from those of the dominant society and culture; and
- A tribal language, often different from the official language of the country or region.

Basic Principles

To avoid or minimize adverse impacts and, at the same time, ensure benefits for IPs, the PMU will apply the following basic principles in selection and design of particular activity:

- Ensure that IP communities in general and their organizations are not excluded by any means in activities selection, design and implementation processes.
- Together with IPs, carefully screen the activities for a preliminary understanding of the nature and magnitude of potential impacts, and explore alternatives to avoid or minimize any adverse impacts.
- Where alternatives are infeasible and adverse impacts on IPs are unavoidable, the MoE, together with IPs and others knowledgeable of IP culture and concerns, will immediately make an assessment of the key impact issues.
- The MoE will undertake the necessary tasks in order to adopt appropriate mitigation measures. The most important in this respect is intensive consultation with the IP communities, community elders/leaders, and formal and informal IP organizations, civil society organizations like NGOs, and others who are interested in and have knowledge of IP issues.

Consultation will include the activity objectives and scope; the likely key adverse impacts on (and benefits for) IPs; IPs' own perception of the impacts and feedback, and a preliminary assessment of economic opportunities which the MoE could promote- in addition to mitigation of the adverse impacts.

Identifying IP Social Concerns

Impacts on IPs will vary in terms activities and their scopes, presence and size of IP population in the institution locales, as well as the magnitude of potential adverse impacts and social risks. To the extent applicable for a particular activity, information on the cultural and socio-economic characteristics and potential vulnerability will be used to identify the IP social concerns and adopt alternative mitigation measures.

Impact Mitigation & Development Measures

The universities and institutions will carry out a needs-assessment among IP students to gauge their academic difficulties and career aspirations in order to make the curriculum more accessible to and effective for them.

IP Consultation Strategy

As required for informed consultation, concerned institutes will provide IPs with all activity-related information, including that on potential adverse impacts if any. To facilitate consultation the institution will:

- Prepare a time-table for dialogues during activity selection, design and implementation processes, and consult them in a manner so that they can express their views and preferences freely.
- In addition to the communities in general, consult IP organizations, community elders/ leaders and others with adequate gender and generational representation; and civil society organizations like NGOs and groups knowledgeable of IP issues regarding the university, academic curriculum, quality of education and marketability of the education i.e. is it helping IPs get jobs?

Consultation will in general concentrate on awareness-raising, garnering feedback on the curriculum and other aspects of student life (inclusion and participation) as well as exploring additional development activities that could be promoted under the project. The institutes will keep Minutes of these consultation meetings in the activity files and make them available for inspection by IDA, GOB officials and other interested groups and persons.