Combined Project Information Documents / Integrated Safeguards Datasheet (PID/ISDS)

Appraisal Stage | Date Prepared/Updated: 30-Mar-2020 | Report No: PIDISDSA26921
### BASIC INFORMATION

#### A. Basic Project Data

<table>
<thead>
<tr>
<th>Country</th>
<th>Project ID</th>
<th>Project Name</th>
<th>Parent Project ID (if any)</th>
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<tbody>
<tr>
<td>Vietnam</td>
<td>P166656</td>
<td>Vietnam National University Development Project</td>
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<td>EAST ASIA AND PACIFIC</td>
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<td>12-Jun-2020</td>
<td>Education</td>
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<table>
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<tr>
<th>Financing Instrument</th>
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<tbody>
<tr>
<td>Investment Project Financing</td>
<td>Socialist Republic of Vietnam</td>
<td>Vietnam National University, HCMC, The University of Danang, Vietnam National University, Hanoi</td>
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#### Proposed Development Objective(s)

To improve the quality of teaching and research at three targeted national universities

#### Components

- Component 1 - Improved Quality of Teaching and Learning
- Component 2 - Research Excellence and Knowledge Transfer
- Component 3 - Governance and Project Management

### PROJECT FINANCING DATA (US$, Millions)

#### SUMMARY

<table>
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<th>Total Project Cost</th>
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<td>of which IBRD/IDA</td>
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<td>Financing Gap</td>
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#### DETAILS

World Bank Group Financing
B. Introduction and Context

Country Context

1. With its 97 million people and over US$2,500 per capita GDP (2018), Vietnam is globally recognized for its transformational socio-economic progress since the introduction of the Doi Moi reforms in the late 1980s. Vietnam’s per capita GDP grew at an average annual rate of about 5.5 percent between 1990 and 2018, making it one of the fastest-growing economies in the world during the period. The proportion of the population living below the national poverty line fell below 10 percent in 2016, down from close to 60 percent in 1993. In terms of shared prosperity, the growth in per capita consumption for the bottom 40 percent of the population was about 6 percent annually, compared to 4 percent for the total population during the 2010-2016 period. On human development, Vietnam has experienced substantial improvements in key health and education outcomes: today’s population is far healthier and better educated than 30 years ago.

2. As Vietnam aspires to become an upper middle-income country by 2035, its productivity needs to increase continuously, which requires greater production and effective use of high-skilled manpower and science, technology and innovation (STI) (2016 “Vietnam 2035” Report, and upcoming Socio-economic Development Strategy, SEDS 2021-2030). Global and national megatrends are posing challenges to Vietnam’s development aspiration but also provide the opportunity for the country to use its higher education system as a platform to transform the quality of the skilled workforce and the relevance of research and technology transfer. First, rapid technological advances, technology-driven automation, and platform marketplaces mean that the demand for routine tasks, mostly in low-skilled jobs, will likely fall
while non-routine tasks requiring advanced cognitive, digital, and socio-emotional skills will grow (World Bank’s 2018 World Development Report on “Changing Nature of Work”). Second, the rise of the knowledge economy and global integration will increase the demand for competencies and skills required for high-value jobs in the global value-chain of manufacturing, services and R&D. Third, demographic shifts such as the rise of the middle class, increased urbanization and aging population will lead to higher education aspirations of Vietnamese students and their families (World Bank, 2018 “Vietnam Future Jobs”). Fourth, climate change-related risks that could hamper socio-economic development call for adaptation and mitigation measures which require greater use of knowledge and research.

Sectoral and Institutional Context

3. There is a disconnect between Vietnam’s remarkable achievement on equitable economic growth and human development, on the one hand, and the performance of the higher education system, on the other hand (Vietnam Higher Education Policy Note, 2019). Vietnam ranks 48 out of 157 countries on the World Bank’s human capital index (HCI), the highest among middle-income countries. A Vietnamese child born today will be 67 percent as productive when she grows up as she could be if she enjoyed complete general education and full health. Of the three sub-components in the HCI, Vietnam comes out especially strong with respect to access and quality of general education. Vietnam’s average years of schooling, adjusted for learning, is 10.2 years, second only to Singapore among ASEAN countries. However, Vietnam’s higher education system is not ready to capitalize on this huge potential of young people coming out of general education. One, Vietnam’s access to higher education, as measured by gross enrolment rate in higher education, is below 30 percent, one of the lowest among the East Asian countries. This is too low for a country where only 11 percent of workforce has a post-secondary education degree. Two, Vietnam was ranked in the bottom third of the 140 countries listed in the 2018 Competitiveness Index on skills-relevance of university graduates as reported by employers in respective countries (Global Competitiveness Report, 2018). Three, the level of research and technology transfer is low compared to regional peers such as the Philippines, Indonesia, Thailand, Malaysia, and China. The number of citable documents per 1 million inhabitants of Vietnam is higher than the Philippines, but lower than Indonesia and much lower than Malaysia, Singapore and Thailand. When measured by H-index, that captures both the quality and impact of research output, Vietnam ranks below all these countries. On technology transfer, Vietnam has a low output at 1.24 patents per million of population, lower than the Philippines (1.35), Thailand (3.16), less than 10% of Malaysia (30) and less than 1% of China (233). For a country with ambition to become a knowledge-based economy, it is indispensable to further improve the quality and relevance of and access to higher education.

4. At the system level, the Government of Vietnam (GOV) has pursued several measures to improve the performance, including passing an amended Higher Education (HE) Law in 2018, formulating a HE Master Plan 2021-2030, and initiating a subsector-wide Program on HE quality improvement in 2019. At

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1 The 2019 World Bank skills and enterprise survey reports a large proportion of Vietnamese firms face difficulties in recruiting employees with managerial skills (73% of firms), job-specific technical skills (68%), and socio-emotional skills (54%). Adult Literacy skills data from the same survey indicates more than 50% of employees lack the minimum level of so-called 21st Century skills proficiency.

2 The HE Master Plan will aim to address challenges associated with highly fragmented HE system, to promote better coordination between MOET, MOLISA and MOST on university education, TVET and research; to advance institutional autonomy and
the university level, the GoV is committed to prioritizing capital investment in a few key universities, including those financed by the World Bank under the Support for Autonomous Higher Education Project (SAHEP), the New Model University Project (NMUP), and for the proposed Vietnam National University Development Project (VNUDP). The main challenges faced by key universities are described below.

5. University infrastructure – consisting of university campuses, buildings and associated facilities, information and communication technology (ICT) infrastructure, etc. - is critical to achieving university's mandate to producing high-skilled graduates, generating cutting-edge research and engaging closely with the community and the region. Vietnam universities, catering to a large student population and located in large metropolitan centers such as Hanoi City, Ho Chi Minh City, Da Nang City, are facing increasing pressure to move away from “crowded” locations to suburb areas. There is an expectation from the key stakeholders (the government, the cities, students, parents, staff) that any newly built or upgraded infrastructure will be modern (modern amenities and cutting-edge facilities and equipment); integrated (shared and interconnected facilities); smart (where appliance systems and ICT infrastructure “talk to each other” via “cloud” data systems); green (energy-efficient and environment-friendly design with minimal pollution and good waste management); resilient (to climate and other vulnerabilities); inclusive (buildings, sidewalks, toilets and other amenities are accessible for all including those with disabilities); secure and comfortable for all users of campus facilities. Capitalizing on the benefits offered by modern university campuses and the associated infrastructure requires substantial capital financing and high-quality technical expertise for infrastructure design, operation and management.

6. Digital Technology: Vietnamese universities, in general, lack robust foundational infrastructure and strategic enabling pillars – good governance and effective and sufficient financing - necessary to establish and take advantage of the digital and disruptive technologies to improve the quality of teaching, learning, and research. Existing ICT infrastructure (networks, databases, equipment) are siloed, often inefficient and incompatible across member institutions. A centralized hosting infrastructure is missing, connectivity networks have relatively low bandwidth, and facilities necessary for e-learning are limited. Smart classrooms/computer labs are not fully standardized. There are no High-Performance Computing (HPC) facilities to support advanced research, and surprisingly many universities are not connected to VinaRen, the National Research and Education Network (NREN), thus denying researchers access to global research network.

7. University Governance: In terms of institutional governance, Vietnam has been moving in the right direction by introducing the autonomy reform, several challenges remain: (i) under-developed internal quality assurance mechanism, and the capacity to evaluate institutional performance (e.g. through systematic and rigorous student and employer engagement surveys, research output and technology transfer results), (ii) inadequate talent management system which impedes universities’ ability to bring in and retain the best university administrators, top faculty and researchers (Vietnamese diaspora, foreign universities), offer fast-track tenure for promising young researchers and “excellent” teachers, and attract high-quality students for PhD programs and international students at all levels, (iii) national and regional universities that are organized as umbrella universities with a loose network of accountability reforms; and increase and diversify university revenue (including from state budget), and move towards performance-based funding allocation and equitable and sustainable student-aid programs.
member universities are not yet effectively sharing the financial and scientific resources dispersed across separate member institutions, (iv) under-developed institutional accountability mechanisms, accompanied by fragmented management and information systems on university finance, academic affairs, human resources and physical infrastructure, and by the absence of an integrated data system.

8. Engagement with the private sector: The low level of linkages with employers inhibits Vietnamese universities from providing curricula highly relevant to the labor market needs and renovating pedagogical methods, including internships and other work-based learning arrangements. Research collaboration and technology transfer with the industry is also under-developed, partly reflecting country’s less than vibrant innovation ecosystem.

9. Gender: While overall student enrolments in Vietnam universities are quite equal (54 percent are females), females are significantly under-represented in STEM fields (less than 30 percent of total students), research outputs (1 in 3 authors of publications on Web of Science journals are female), and leadership positions (fewer than 10 percent of senior faculty and university leaders are females).

10. Climate: Given Vietnam’s vulnerability to climate-related risks (floods, typhoons, droughts, and landslides) and increasingly frequent exposure to such natural hazards, universities with appropriate campus infrastructure and research and technology have the opportunity to contribute to climate co-benefits through (a) adaptation interventions that increase the resilience to climate change-related shocks, and (b) mitigation interventions that reduce the net build-up of greenhouse gas emissions (GHGs).

11. Project management: Based on past experience from university-level investment projects (Government funded or ODA funded), the key project management challenges include (i) substantial amount of time needed for project processing (given the rigorous but necessary appraisal process but at times unnecessary delays with so many required steps), (ii) start-up delays to project implementation due to delayed and insufficient allocation of MTIP funds or counterpart funds, (iii) inadequate capacity for project implementation, including but not limited to financial and procurement management, monitoring and evaluation of project activities, and (iv) insufficient commitment and funding to mobilize qualified international and/or national technical assistance to advance project management.

C. Proposed Development Objective(s)

Development Objective(s) (From PAD)
To improve the quality of teaching and research at three targeted national universities.

Key Results
12. The proposed PDO indicators are as follows. The indicators would be disaggregated for each beneficiary university.
   a. Number of internationally accredited programs. [to measure quality of Teaching and Learning]
   b. Number of articles published in Web of Science and Scopus journals, in relation to full-time academic staff. [to measure excellence in Research and Knowledge Transfer]
D. Project Description

13. The project has three components: Component 1 is on Improved Quality of Teaching and Learning; Component 2 on Research Excellence and Knowledge Transfer; and Component 3 on Governance and Project Management. Under each component, each of the three universities will be a sub-component. Project activities described under each of the main components will be carried out by all three universities and those described under each sub-component are specific to that university.

Component 1: Improved Quality of Teaching and Learning (US$120 million equivalent, of which WB US$107.6 million equivalent).

14. This component seeks to prepare highly-qualified graduates by investing in (i) construction of teaching and learning physical infrastructure (buildings, lecture halls, classrooms, labs, and associated facilities); (ii) provision of cutting-edge appliances and equipment; (iii) upgrading of foundational digital technology infrastructure (data centers, networks); (iv) provision of support to faculty and students to adopt innovative teaching-learning methods; and (v) provision of support for program accreditation activities and curriculum renovation activities.

15. Infrastructure construction, appliances and technology systems will use climate-friendly “green design” elements to reduce carbon emissions and be more resilient to potential climate change risks such as floods and storms. Infrastructure will also use inclusive “universal design” so that new/upgraded buildings, sidewalks, toilets and other amenities are accessible for all including those with disabilities. On digital technology architecture, the universities will (a) standardize requirements for smart classrooms, on which the design and construction of lecture halls, classrooms, laboratories, and libraries will be based; (b) set up MOOCs using standardized e-learning software/LMS and pilot disruptive technologies (adaptive learning) in selected training programs; (c) improve network connectivity; and (d) consolidate data centers scattered among member universities and create a unified university private cloud system, with appropriate data sharing and data privacy provisions and back-up data systems to withstand disasters. To innovate teaching and learning methods, the universities will incentivize and build the capacity of faculty and students to use digital and disruptive technology (interactive, e-learning – Learning Management System (LMS)/Massive Online Open Courses (MOOCs)/adaptive learning). To improve relevance, universities will foster industry-university partnerships in curriculum design, enhance selected academic programs through international accreditation, and implement policies to attract, retain and train high quality faculty and students. Technical assistance will be provided to support operationalization of the digital technology architecture, pedagogical innovation using disruptive technology, and relevance improvement through talent management policies.

16. Subcomponent 1.1: VNU-HN (US$47.3 million equivalent, of which WB US$42.4 million equivalent). VNU-HN will construct modern learning and teaching infrastructure and supply cutting-edge equipment for University of Technology (UT) and VNU-HN Center Zone. The university will manage the design and construction of infrastructure for University of Technology (UT) on an estimated area of 8.0 hectares (out of 37.5 hectares of the total area planned until 2030) and the Center Zone (CZ) of about 6.6 hectares (100% the total area planned until 2030). For UT, investment items include administrative and executive buildings, lecture halls and study rooms, practice laboratories, auditorium and conference halls, services buildings, practice area for agriculture, outdoor experimental area, and associated facilities. For
the Center Zone, investment items include a central executive building, a central library, and associated facilities, for which the construction will incorporate ideas on green design and energy efficiency.

17. **Sub-component 1.2: UD (US$41.0 million equivalent, of which WB US$36.8 million equivalent).** For UD, the construction of modern infrastructure and provision of high-end appliances, equipment and technology systems will benefit the University of Technical Education (UTE), University of Foreign Language (UFL), International University, Multi-functional Education Zone, and UD Center Zone. UD will design and build UTE on a floor area of 18,500 m2, UFL on 18,000 m2 floor area; and International University on 14,750 m2 floor area. It will also build dormitories, study halls, canteen, and associated facilities for Multi-functional Education Zone on about 24,400 m2 floor area; central executive building and associated facilities for UD Center Zone on about 19,000 m2 floor area. Besides these specific infrastructure and equipment, UD seeks to renovate its academic programs by upgrading undergraduate and post-grad programs in five focus areas in order to meet regional and international standards. UD’s focus areas are renewable energy technology, mechatronics technology, automation, automation control, and life sciences.

18. **Sub-component 1.3: Vietnam National University – Ho Chi Minh City (VNU-HCM) (US$31.7 million equivalent, of which WB US$28.5 million equivalent).** VNU-HCM will (a) upgrade lecture halls and classrooms, and build simulation labs for the University of Technology, University of Economics and Law, University of Natural Sciences, and University of Social Sciences and Humanities, (b) construct buildings and associated facilities for the Medical Department (floor area of 48,000 m2), and (c) supply appliances, equipment and technology for the above newly built/upgraded infrastructure.

**Component 2: Research Excellence and Knowledge Transfer (US$196.7 million equivalent, of which WB US$176.5 million equivalent).**

19. This component aims to achieve research excellence and enhance knowledge transfer by investing in (i) construction of modern inter-disciplinary research infrastructure (research center/institute buildings, labs, classrooms etc.); (ii) provision of cutting-edge equipment and high-end technology (lab equipment, High-Performance Computing (HPC), Vietnam Research and education Network (VinaRen)); (iii) provision of support to establish strong and interdisciplinary research groups in respective priority fields; and (iv) provision of support to member universities to collaborate with national and international institutions, industry and government agencies on research and technology transfer.

20. Research infrastructure will have inclusive “universal design” for the newly constructed/upgraded buildings, labs, sidewalks, toilets and other amenities are accessible for all including those with disabilities. On digital technology, universities will invest in network connectivity, VinaRen connectivity, multi-user standardized computer labs, multi-purpose High-Performance Computing (HPC) and integrated central Data Center. The three universities will be encouraged to collaborate on ways to share the resources, particularly on HPC (an expensive investment) and back-up data centers. To reduce the gender gap, the universities will implement policies and incentives to increase female-led research outputs (more systematic participation of women in research groups and more opportunities for women to lead research groups). In addition to “green design” of research infrastructure (labs, centers, equipment and appliances, water treatment plants), the project is expected to generate climate adaptation and mitigation co-benefits thorough scientific research in the areas of renewable energy, energy engineering,
environmental and climate change, high-tech agriculture, and through the use of Big Data and Internet of Things (IOT) for smart university systems which have the potential to reduce energy inefficiencies and improve emergency responses to climate related disasters (fire, floods, storms, etc.). The activities described in this paragraph would apply to all three universities. Universities will provide financial and non-financial incentives to establish strong and interdisciplinary research groups in respective priority fields. In addition, they will strengthen collaboration with national and international institutions, industry and government agencies on research and technology transfer.

21. **Sub-component 2.1: Hanoi (VNU-HN) (US$59.0 million equivalent, of which WB US$52.9 million equivalent).** VNU-HN will construct and provide equipment to interdisciplinary and prioritized research laboratories, post-graduate lecture halls and associated infrastructure (administrative buildings, services buildings, and supporting facilities including water treatment plants) for the Research Institutes and Centers Zone. The focused areas of research at VNU-HN are high-tech agriculture, space and aeronautics, energy engineering, renewable energy, health science and precision health care. The total estimated floor area will be 110,970 m² for the Research Institute and Center Zone construction. In terms of goods, VNU-HN will procure new equipment and appliances for the interdisciplinary labs, offices, and classrooms; and new appliances for the key labs. Research equipment for the newly constructed prioritized labs will be moved from the existing labs with investment from this project. For cutting edge advanced labs (DigiLab, Qbit, Fablab, etc), VNU-HN will develop industry partnerships, including that with Hoa Lac High-Tech Park, on R&D and innovation, to tap into resources to translate R&D prototypes to commercialization-ready products, solutions and services.

22. **Sub-component 2.2: UD (US$64.4 million equivalent, of which WB US$57.8 million equivalent).** As per UD’s development strategy, the university will focus on four research fields: (i) renewable energy technology - biology - environment; (ii) mechatronic technology - automation; (iii) life sciences (gene technology, animal and plant cell technology, microbiology technology, nanotechnology, pharmaceutical technology and natural compounds), and (iv) digital technology (Internet of Things, cloud computing, Artificial Intelligence, data science, information security). To transform research capacity in these fields, UD proposes to (a) construct Technopole research complex that will include Creative Space, auditorium, lecture halls, research centers, 4 high-tech laboratories, services buildings, water treatment plant and associated facilities for Technopole complex (estimated floor area of 31,900 m²); and (b) fully equip the buildings and facilities listed above with appliances, equipment, and technology infrastructure in par with international standards.

23. **Sub-component 2.3: VNU-HCM (US$73.3 million equivalent, of which WB US$65.8 million equivalent).** Under VNUDP, VNU-HCM’s priority research areas are: materials science; biomedical technology, biotechnology and pharmaceutical chemistry; information technology with focus on artificial intelligence (AI); environment and climate change; agriculture, tourism and digital economy for the HCMC and Mekong Delta region; and socio-economic data and forecasting for Vietnam.

24. To provide the necessary infrastructure, equipment, technology and other support for the above mentioned research priorities, VNU-HCM will invest in (i) Research Institute Zone as a building complex comprising executive office building, R&D buildings, research centers, laboratories and associated facilities with an estimated floor area of 30,000 m²; (ii) Policy Center at University of Economics and Law (UEL) with computer labs, offices, conference halls, simulation labs, libraries and associated facilities for an estimated floor area of 12,600 m²; and (iii) Research Center at University of Social Science and
Humanities (USSH) comprising a building complex with museums, classrooms, a life-long learning support unit, a practice zone, laboratories, community libraries, and associated facilities with an estimated floor area of 7,200 m².

**Component 3: Governance and Project Management (US$44.3 million equivalent, of which WB US$16.7 million equivalent).**

25. This component has two parts: **modern governance** and **project management**. The main objective of this component is to support universities to strengthen human resources, organizational structure, sustainable financing, evidence-based decision-making using technology and information systems, and project management. Activities associated with **modern governance** will comprise (i) implementing measures to optimize sharing of staffing and infrastructure facilities across member universities; (ii) adopting policies to recruit, retain and train high quality faculty, researchers and senior/middle managers; (iii) operationalizing plans to diversify revenue sources and to make the expenditures more efficient; and (iv) putting in place an integrated/unified management information system.

26. Activities under **project management** in all three universities will involve establishing and operating PMUs with appropriate skills mix, inter alia, project management, construction and facilities management, digital technology, quality of teaching and research, fiduciary management, safeguards monitoring, monitoring and evaluation (M&E). The project management part will include technical assistance (TA) services on campus design and construction supervision; financial management, procurement, and contract management; and safeguards monitoring. Details on project’s institutional and implementation arrangement are described under the implementation arrangements section.

27. As part of the integrated management system, the universities will invest in infrastructure and operation of an Enterprise Architecture (technology, applications, and data) for the whole university; develop a single ICT Unit headed by a Chief Information Officer reporting to senior management; develop a centralized Education Management Information System (EMIS) and Enterprise Resource Planning (ERP) systems (Financial Management, Human Resource Management and Procurement). In addition, they will develop/update a university-wide ICT Policy and Strategy to guide overall investments, management and use of ICT for teaching, learning, research and management.

28. **Sub-component 3.1: Hanoi (VNU-HN) (US$16.8 million equivalent, of which WB US$5.5 million equivalent).** In addition to the common activities described above, VNU-HN proposes to implement a comprehensive autonomy and accountability model during 2021-2023; the university financial sustainability plan during 2021-2025; and implement a comprehensive Smart/Digital University project.

29. **Sub-component 3.2: UD (US$14.3 million equivalent, of which WB US$5.5 million equivalent).** UD, in addition to the common activities, will implement a UD-wide autonomy and accountability model across all member universities, and pilot the modern governance model at Vietnam UK (VNUK) Institute for Research and Executive Education (which will be upgraded to International University upon relocation to the new UD campus).
30. **Sub-component 3.3: VNU-HCM (US$13.1 million equivalent, of which WB US$5.7 million equivalent)**. VNU-HN will focus on provision of technical assistance and capacity building for leadership and managerial positions and on refining the organizational structure and policies for more effective university administration.

31. **Project Costing and Financing** is shown below in Table 1. The Bank credit will finance civil works, good and consulting services on fiduciary, safeguards and construction design and supervision. The counterpart funds will cover VAT (10%), PMU operation, and consulting and non-consulting services on areas not covered by the Bank credit. It is noted that only US$8.4 million counterpart funds are allocated to critical complementary activities on improving teaching, research and university governance (these activities are not eligible for Bank credit financing).

### Table 1. Project Costing and Financing by Components and Sub-components (US$ million)

<table>
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<th></th>
<th>Project Cost</th>
<th>Financing WB Credit</th>
<th>Financing Counterpart Fund</th>
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<td><strong>VNUDP (Total for all three universities)</strong></td>
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<td>107.6</td>
<td>12.3</td>
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<td>C2. Research Excellence and Tech Transfer</td>
<td>196.7</td>
<td>176.5</td>
<td>20.2</td>
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<td>C3. Governance &amp; Project Management</td>
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*Source: Cost and Financing estimates are derived from cost tables from universities’ draft Pre-Feasibility Study Reports.*

*Notes: For the WB financing credit, each university will receive 90% (US$90 mil) on-granting and 10% (US$10 mil) on-lending. Due to rounding, numbers presented in the table may not add up precisely.*

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**Cross-Cutting Areas**
32. The three components described above will include cross-cutting activities to (a) build/upgrade foundational and shared digital/disruptive technology infrastructure, (b) build “green design” infrastructure and appliances and transfer technology to generate climate co-benefits, and (c) support universities to narrow the identified gender gaps in research outputs.

33. **Digital/Disruptive technology**: In general, universities lack robust foundational infrastructure and enabling organizational structures and strategies necessary to take advantage of the digital and disruptive technologies to improve teaching-learning, research and management. Based on the assessment of digital technology gaps and the proposed activities at the three universities, it is expected that the three universities will seek to undertake the following activities, as relevant to their needs, under each project component as shown in Table 2. Annex 3 provides further details.

<table>
<thead>
<tr>
<th>Components</th>
<th>Digital/Disruptive Technology Activities</th>
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| C1. Improved Quality of Teaching and Learning | • Invest in standardized integrated foundation infrastructure including smart classroom technology, standardized computer labs, integrated central data centers with cloud services and high-speed campus networks.  
• Adopt wider use of e-learning to increase access to higher education and invest in centrally-hosted campus wide Learning Management Systems and the support and incentive systems to create pooled e-content leading to creation of Massive Open Online Courses (MOOC) for each university.  
• Pilot adaptive learning in one or two member universities and training programs.  
• Organize capacity building in innovative curricular and pedagogical practices. |
| C2. Research Excellence and Knowledge Transfer | • Invest in High Performance Computing (HPC) facilities along with necessary data center facilities and staffing resources to support all university research.  
• Invest in connection to VinaRen to facilitate global access to research facilities and to foster research collaboration. |
| C3. Governance and Project Management | • Streamline IT organizations and processes for each university to create single university IT organizations, strategies, Enterprise Architecture Frameworks and budget for recurring costs.  
• Invest in central Higher Education Management Information Systems (HEMIS) for data-based decision making.  
• Given the potential significant cost savings and knowledge-sharing gains on using common ICT platforms in a number of areas/applications (with necessary privacy provisions), the three universities may want to consider sharing the resources/TA to design and operate these systems. |

**Climate Co-benefits**

34. **Context**: Vietnam is highly vulnerable to natural hazards such as floods, typhoons, droughts, and landslides that pose a significant risk to development gains. Every monsoon season, Vietnam is exposed to a combination of river plain flooding, flash floods, and associated landslides. Almost 60 percent of the country’s total land area and over 70 percent of its population are at risk to hydro meteorological hazards. With climate change, the frequency and intensity of natural hazards are expected to increase. Vietnam is likely to incur, on average, US$1.4 billion (VND 30.2 trillion) per year in direct damage
due to floods, typhoons, and earthquakes. Relative to other regions in Vietnam, the Mekong Delta Region is disproportionately impacted by climate change and experiences higher ambient temperatures, abnormal weather conditions, salt water intrusion, and increasing intensity and frequency of droughts and floods.

35. The project seeks to reduce climate vulnerability by contributing to both types of climate co-benefits (a) adaptation interventions that increase the resilience to climate change related shocks, and (b) mitigation interventions that reduce the net build-up of greenhouse gas emissions (GHGs). There is expectation and intent on the part of the Government and the universities to undertake project investment activities that are climate-friendly. Table 3 provides a summary of project activities and potential climate benefits they may generate:

<table>
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<tr>
<th>Activity</th>
<th>Potential Adaptation and/or Mitigation Benefits</th>
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| 1. Construction and/or upgrade of buildings and associated infrastructure | **Adaptation:** Newly constructed and/or renovated buildings (design, quality of engineering and materials) in the new campuses needs to comply with resilience to potential weather-related disasters (heavy rains and winds, flooding, and extreme hot temperatures).  
**Mitigation:** Efficient architecture design and building techniques that reduce both energy (natural lighting, cooling and ventilation) and material consumption; compliant with high energy efficiency certification; Use of efficient water supply systems and modern technology for the water treatment plant; Use of rain water harvesting system; green landscape with foliage  
Installation of roof-top solar PV and solar water-heaters (renewable) on the new campus roof would help reduce electricity consumption generated from fossil fuel.  
Use of public transport in newly campuses is likely to reduce emission of GHGs. |
| WB financing allocation | Component 1: 20%, Component 2: 30% |
| 2. Supply of appliances and equipment | **Mitigation and Adaptation:** Purchase of energy efficient appliances (AC, refrigerators, lifts, LED lighting, etc.) for buildings.  
Purchase of equipment and devices (for research and teaching) that is low carbon in manufacture and energy efficient in operation  
Investment in digital infrastructure (better connectivity, Big Data Centers and High Performance Computing) will provide cutting edge research facilities – which will help research on climate vulnerabilities (for more see item 3 below)  
Building management system (BMS) (managing all technical systems including electrical, backup generator, lighting, AC and ventilation, fire systems/alarms, elevator, access card, public sound, security system) will improve energy efficiency and better response to disasters |
| WB financing allocation | Component 1: 10%, Component 2: 25% |
| 3. Research and teaching | **Adaptation:** Given that the country is prone to climate change vulnerabilities, the Government expects and the universities seek to support research and teaching to create and transfer master technologies for mitigation measures such as promotion of renewable energy and energy efficiency and adaptation against potential climate-change risks such as floods, typhoons, draughts, sea-level rise affecting the coastal lands/cities on agriculture, food safety, infrastructure and of course human safety. |
| WB financing allocation | Component 1: 5%, Component 2: 5% |
| 4. Governance & policies (5%) | **Adaptation:** Use of mobile apps for emergency response to disasters related to climate change (floods, storms). Emergency drills during the project duration will also help  
**Mitigation:** Smart Digital University initiatives include sensor systems (through IOT) to reduce unnecessary energy waste (AC, lighting, door closing), energy audits to further reduce waste. Universities also plan to make the new campuses more environment-friendly (side-walks, parks, less pollution). |
| WB financing allocation | Component 3: 5%, |

Note: The World Bank credit financing allocation to each of the activities and components in the above table add up to 100%.
36. **Inclusiveness**: The infrastructure in the proposed VNUDP will have “universal” design. The buildings, elevators, sidewalks, toilets, lecturer halls, labs and other amenities will be constructed and managed in a way that they are accessible for all, including those with disabilities.

37. **Gender**: Based on a gender assessment and the identified gaps in research outputs, the proposed project will explore feasible actions to reduce those gaps. Where applicable, the results indicators will be monitored for both genders. Details are in the gender section of the appraisal summary.

**Project Beneficiaries**

38. The direct beneficiaries of VNUDP will include:

(a) Every year more than 140,000 students, including about 20,000 graduate students (Masters/PhDs), of beneficiary universities and affiliated units at VNU-Hanoi, UD and VNU-HCM who benefit from high quality academic programs and priority research programs; and

(b) Every year more than 7,000 lecturers, researchers and administrators of VNU-Hanoi, UD and VNU-HCM who benefit from better quality research and teaching facilities and support and capacity building on university governance and project management.

39. Indirect beneficiaries will be students, lecturers and researchers from other universities who can benefit from technology-based innovations in teaching-learning, research excellence in priority fields and management practices at VNUDP universities. Other groups of indirect beneficiaries will be employers who have higher quality employment resources and/or cooperation opportunities with universities in terms of education and research. In addition, research and innovation outputs from VNUDP are likely to be transferred to different types of enterprises, various local and regional government and non-government agencies.

**E. Implementation**

Institutional and Implementation Arrangements

40. **Management structure.** VNUHN, VNUHCM and the Ministry of Education and Training (MOET) are Line agencies, each responsible for their own respective sub-components under component 1, 2 and 3. The implementation of these subcomponents are not interdependent. These line agencies’ responsibilities include, among others:

- Establish the Project Management Unit (PMU) with clear terms of reference and adequate competent personnel and ensure smooth coordination between the PMU and the member institutions (except MOET who will delegate the establishment of the PMU to the University of Danang - UD);
- Approve the project operational manual (POM);
- Review and approve the project procurement and implementation plans (to be updated annually) that are prepared by PMU;
- Oversee the implementation of the PMU and provide support to address implementation bottlenecks based on quarterly and six-monthly monitoring reports prepared by PMU; and
- Report to other Government Agencies and the World Bank on project implementation progress.
MOET may delegate some of its responsibilities, including appraisal and approval authority, to UD. The delegation will be confirmed when UD’s pre-Feasibility Study (Pre-FS) Report is approved by the Government.

41. **Role of the PMU:** The project will be implemented by PMUs to be established at VNUHN, UD and VNUHCM respectively. Each PMU is headed by a project director who will have primary responsibilities (including procurement, financial management (FM), safeguards and technical activities) for the execution of their respective subcomponents. PMUs would have the following responsibilities, inter alia:

   a. Preparation of the university overall work plan; annual work plan with activities, timeline, inputs required, and outputs expected; procurement plan; financial plans; and regular, progress, and thematic reports;
   b. Implementation of activities including, but not limited to, financial management, procurement, safeguards, training, consulting services, goods and civil works;
   c. Project monitoring and evaluation (M&E);
   d. Coordination with related member universities and departments to ensure execution of project aligning with strategic development of concerned member universities; and
   e. Report on project implementation progress and result monitoring to VNUHN, UD and VNUHCM respectively, the World Bank and other stakeholders. The three PMUs, on rotation basis after year, will be responsible for consolidating three project reports and submit overall VNUDP project implementation progress reports every six months and as required.

42. **Staff composition of the PMUs.** Each PMU will be headed by a full-time director seconded from the University management board and have at least a standing of Deputy Director and would work full time for the project. The Director will report to a Vice President designated by the President to oversee the implementation of the PMU and be held accountable for its effective implementation to the concerned Government Agencies. A Core Service team in each PMU led by a Vice Director, ideally seconded from a University Functional Department (FD), include experts on fiduciary (FM, procurement), M&E, safeguards, administration/HR and communications. (*The Universities may hire a Project Director experienced in World Bank financed project of the similar nature – to be confirmed by the pre-FS*). Likewise, a Technical team will be required for each PMU who will be responsible, for example, for quality assurance, pedagogical practices, education technology, research, construction/equipment and facility management, university governance/financial sustainability, management information system etc. Technical team shall be led by a Vice Director who will be a Vice Rector seconded from a member university and act as the project Technical Leader. The team comprises of part-time representatives of the MUs to ensure MUs’ needs are reflected in various contracts associated with the architecture, design, and construction of the campus/facilities and institutional capacity development. The PMUs can hire consultants if the requisite skills are not available at the universities. The detailed staffing plan for each of the three PMUs will be outlined in their respective POM.

43. **Coordination with other stakeholders.** Each PMU will report to the Vice President assigned for each sub-project oversight. During project preparation, the PMU will assist the Vice President in preparing the required documents and submission for approval from concerned agencies. During project implementation, the PMU will assist the Vice President in preparing documents and reports in accordance with the prevailing regulations to facilitate the supervision of the project by relevant Government agencies. Each PMU is responsible for coordinating with concerned FDs and MUs through monthly
meetings chaired by the Vice Presidents in charge with participation of leaders from FDs and MUs to report on project implementation progress and address implementation bottlenecks. PMU staff who are representatives of the member universities shall ensure FD/MU leaders are fully informed of progress to facilitate prompt decision. Ad-hoc meetings can be convened also to ensure project receives guidance and support as and when needed. PMUs and Leaders of the respective universities meet on a regular basis to ensure consistency in implementation of sub-components and of risk mitigation measures.

Figure 2 - VNUDP organizational chart

F. Project location and Salient physical characteristics relevant to the safeguard analysis (if known)

Three subproject areas are located in tropical climate region. Total land area of VNU-HN, UD and HCMC campus are 1,100 ha, 300 ha, and 644 ha, respectively. Land areas at the respective proposed subprojects to be invested are 37.5, 40, and 6.94 ha. The existing quality of air, surface and groundwater, and soil in the three subproject areas meets applicable standards. Geology is suitable for construction of multiple buildings. The subproject areas have been modified heavily by human activities. VNU-HN campus used to be a farm while the other two are in peri-urban area without any natural habitats nearby. There are no known rare, endangered or threatened species listed in the Redbooks in the subproject areas. VNU-HN area has flood plains, hills, streams, lakes, and flood plain. Land acquisition was completed in 2007 but some households who have received compensation have been temporarily cultivating on idle land in the campus areas for extra incomes. Ground water is abundant with good quality but there is no drinking piped water. Common birds, reptiles, fishes and other aquatic species are found in the project areas but there is no known species listed in the Red Books. There are existing green space with beautiful landscape. Some invasive flora species
such as mimosa were found in the shrubs. UD is located in coastal areas and subjected to the impacts of tide and storms. 40 ha of land to be cleared and used for the subproject is mainly urban residential land and annual crops land. The main occupation/jobs of local people are farmers, small-businesses, non-skill workers or officials. The area has piped drinking water supply, the drainage and solid waste collection systems have been operating. The Hai An Pagoda, the Khai Tay Sanctuary, the Temple of Le Trung families and the Temple of Pham families are located about 100 m to 200m from the subproject area. There are 1,500 graves in the suproject areas and will be relocated to the Hoa Ninh cemetery of the city. VNU HCMC subproject area is in the undulating shape with ground elevation from 8.0 m to 35.5 amsl. The subproject area has typical urban ecosystem. Seven lakes with huge volumes located within VNU-HCM are the main storm water receivers in the area. Drainage and solid waste collection systems are well developed and well-functioning. The subproject will be implemented within the existing campus without land acquisition but it may cause potential social risks and impacts on students living and studying in the campus.

G. Environmental and Social Safeguards Specialists on the Team

Giang Tam Nguyen, Social Specialist
Ly Thi Dieu Vu, Environmental Specialist
Thang Duy Nguyen, Social Specialist
Khang Van Pham, Environmental Specialist
Thao Thi Mai Pham, Environmental Specialist

SAFEGUARD POLICIES THAT MIGHT APPLY

<table>
<thead>
<tr>
<th>Safeguard Policies</th>
<th>Triggered?</th>
<th>Explanation (Optional)</th>
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<tbody>
<tr>
<td>Environmental Assessment OP/BP 4.01</td>
<td>Yes</td>
<td>The policy is triggered due to the potential adverse environmental and social impacts and risks associated with the activities proposed under components 1 and 2 for the two Vietnam National Universities (VNU) in Hanoi and Ho Chi Minh City, and the University of Danang (UD). The proposed physical investments cover construction buildings such as classrooms, offices, laboratories, lecture halls, libraries, dormitories, sport complex etc. for improving the quality of teaching and learning. The Project will also finance technical infrastructure such as internal roads, drainage, power supply and wastewater treatment plants etc. in the areas where the buildings are built. Such investments will be on</td>
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limited land areas within the existing campus of each University Villages, approximately 37.5 ha/1,100 ha of VNU HN, 40/300 ha of UD and 7/644 ha of VNU HCMC.

In accordance with OP 4.01, three stand-alone Environmental and Social Impact Assessments (ESIA) including Environmental Management Plans (ESMP) were prepared during project preparation. Each ESIA identified and assessed the potential environmental and social impacts and risks associated with project activities during pre-construction, construction and operation of the proposed physical investments. During pre-construction, the main issues would be safety risks for the workers and construction plants related to un-exploded ordinances left at the underground of the project sites from the war that had happened in the past, solid waste generation from demolition of existing structures during site clearance, and groundwater pollution risks related to geological survey/drilling activities in which waste betonite is generated. Construction-related environmental and social impacts and risks include: (i) air quality reduction affecting workers health due to dusts, emissions from exhausts of construction plants, noise and vibration; (ii) soil and water pollution risks related to generation of wastewater from construction sites and workers’ camps, non-hazardous and hazardous waste; (iii) landscape changes, loss of some existing trees and vegetation cover; (iv) traffic disturbance and increased traffic safety risks in the areas near the construction sites due to increased traffic density; (v) increased localized flooding due to changes of existing ground elevation, vegetation cover and drainage patterns; (vi) increased health and safety risks for the workers and communities living nearby the construction sites from transportation and construction activities; (vii) social risks relating to labor influx such as gender-based violence (GBV) and Sexual Exploitation and Abuse (SEA), and child and forced labors when the workers are working and residing at the project sites with local communities near by. There are also some specific impacts and risks related to the types of construction activities such as higher occupational health and safety (OHS) risks when the workers are
working at high on multiple storey buildings or operating heavy construction plants. Site-specific features such as existing nearby residential clusters or temples were identified as sensitive receptors to construction environmental impacts and risks. During operation, the key potential environmental impacts and risks include: (i) environmental pollution related to solid waste and wastewater, particularly those from laboratories; (ii) OHS risks for the operators and/or practitioners at the laboratories and wastewater treatment plants. The ESIs concluded that most of the potential environmental and social impacts and risks would be at moderate level and manageable. Thus, given the nature of project activities and the potential impacts and risks identified and assessed, the project is classified as Environmental Category B.

To meet the requirements of OP 4.01, the ESMPs prepared as integral parts of the ESIs proposed adequate measures to mitigate the identified impacts and risks together with a monitoring plan. Implementation responsibilities, institutional arrangements, reporting requirements and budgeting were also proposed as part of the ESMPs. Public consultation was done as part of ESIA/ESMP preparation. The ESIs/ESMPs have been disclosed for public access since February 2020 before project appraisal.

<table>
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<tr>
<th>Performance Standards for Private Sector Activities OP/BP 4.03</th>
<th>No</th>
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<tr>
<td>The projects will be implemented in the planning areas for the three Universities campus in Hanoi, Ho Chi Minh City and Danang urban and peri urban area. The site of VNU HN used to be a farm. Therefore, all project areas have been modified greatly by human activities, mainly cultivation, farming, housing and resident. Trees, reptiles, birds, fish and aquatic species are reported to exist in some subproject areas but none of them are known to be rare, endanger or migratory. The proposed project would not cause degradation or conversion of any critical natural habitats. Therefore OP 4.04 is not triggered.</td>
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<tr>
<th>Natural Habitats OP/BP 4.04</th>
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<tr>
<td>There is no Bank financing for private sector-led economic development project.</td>
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<td>Category</td>
<td>Triggered/Commenced</td>
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<tr>
<td>Forests OP/BP 4.36</td>
<td>No</td>
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<tr>
<td>Pest Management OP 4.09</td>
<td>No</td>
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<tr>
<td>Physical Cultural Resources OP/BP 4.11</td>
<td>Yes</td>
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<tr>
<td>Indigenous Peoples OP/BP 4.10</td>
<td>No</td>
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| Involuntary Resettlement OP/BP 4.12 | Yes | Among 3 Universities, the VNU HN and the VNU HCM do not require land acquisition because the proposed works will be constructed in the existing campus.  

The only land acquisition that will be required is the construction of structure works for The University of Da Nang (UD). This will include the construction of learning centers, research centers/institutes and experimental lab area on an area of 40 ha within 300 ha reserved for the UD village to be invested under different projects in multi-phases. Within this 300 ha area, it is the 110ha located in Da Nang city in which 40ha will be the site of the structure works that will be constructed using WB financing. Of 110ha in Da Nang, 40 ha was cleared for constructing the Viet-Han University of Information Technology and some functional buildings which were completed in 2014 before the UD subproject. A due diligence review was conducted for these 40ha, which confirmed that there is not any encumbrance on the land and that no affected people become worse off due to this land acquisition. |
The remaining area of 70 ha needs to be cleared in which 40 ha is required for the UD subproject financed by the Bank. Therefore, OP4.12 is triggered for the land clearance of the land necessary for the UD sub-project. In addition, a resettlement site of 12 ha will be constructed for relocated households of the subproject, and will be implemented by a separate project financed and owned by Da Nang city. The resettlement site is considered as an associated facility with the subproject so that OP4.12 is also triggered for this resettlement site. An initial inventory of loss shows that about 570 households (HH) will be affected by land acquisition for both the UD subproject and resettlement site, of which 468 HHs are of the UD subproject and 102 HHs of the resettlement site. Among 570 affected households, 498 households (468HHs of the UD subproject and 30HHs of resettlement site) have to relocate and 526 households (468HHs of the UD subproject and 58HHs of resettlement site) will be severely affected due to loss of more than 20% of productive land and relocation.

These impacts will cause substantial social risks to local people due to loss of income and livelihood, removal of houses, church/pagoda and graves, and relocation. However, all potential impacts and risks can be mitigated and managed by applying standard mitigation measures including design alternatives, compensation at replacement cost, provision of land plots in resettlement sites constructed within the subproject ward for relocated households, and provision of livelihood restoration measures for severely and vulnerably affected households.

According to OP4.12, a Resettlement Action Plan (RAP) was prepared for the UD subproject and resettlement site and submitted to the Bank for clearance before appraisal. All the potential social impacts and associated mitigation measures were included in the RAP for implementation. The draft RAP will be disclosed locally in the local language, and at the Bank’s internal and external websites prior to appraisal. A Resettlement Policy Framework (RPF) is not required for the project because all
### Safety of Dams OP/BP 4.37

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<td><strong>No</strong></td>
<td>The project would not involve construction or rehabilitation of dams nor would it affect or depend on the safety of any existing dam.</td>
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### Projects on International Waterways OP/BP 7.50

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<td><strong>Yes</strong></td>
<td>VNU HN will build two wastewater treatment plants, the effluents were proposed to be discharged to a stream and a lake which then flow into the Tich river, a secondary tributary of the Red River. The Red river is an international waterway and Vietnam is located in the lowest downstream of the Red River. The Tich river runs exclusively within Vietnam territory. Vietnam is the lowest downstream riparian of the Red River. Moreover, the Red River’s total flow is about 228 million m3/d on average compared to only 2075 m3/d maximum capacity of the two water treatment plants, thus the scale of potential pollution is essentially close to zero. It is the task team’s assessment that the project falls within the riparian notification exception under paragraph 7(c) of OP 7.50, and that no riparian notification is required. The RVP’s approval of such riparian notification exception will be obtained prior to the completion of appraisal.</td>
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### Projects in Disputed Areas OP/BP 7.60

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<td><strong>No</strong></td>
<td>No part of the project activities will be implemented in a disputed area, so the policy is not triggered.</td>
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Similarly, a due diligent review (DDR) on resettlement was conducted for 37.86 ha which was cleared in 2007 and will be used for construction of proposed works of the VNU HN. The DDR shows that no pending issue regarding resettlement implementation is still not resolved, and lives and livelihood of affected people have been stabilized and improved compared to pre-project level.
KEY SAFEGUARD POLICY ISSUES AND THEIR MANAGEMENT

A. Summary of Key Safeguard Issues

1. Describe any safeguard issues and impacts associated with the proposed project. Identify and describe any potential large scale, significant and/or irreversible impacts:

The proposed project will be implemented at the three Universities as detailed below:

(i) VNU-HN: construction of 18 buildings from one to eight storey buildings with internal yards and water supply, two wastewater treatment plants (WWTP), internal drainage and sewers pipelines. One WWTP has capacity of 1475 m3/d treating domestic wastewater only. The other WWTP has capacity of 600 m3/d comprising of two clusters, one to treat wastewater from all laboratories to meet Vietnamese standard on industrial wastewater QCVN40:2011/BTNMT and then leads to cluster 2 where it is further treated together with domestic wastewer to meet QVN14:2008.

(ii) UD: construction of 19 one to nine storey buildings for teaching and research, 12 km internal roads, water supply and drainage. A WWTP capacity 500 m3/d will be constructed to treat laboratory wastewater to meet standard before discharging to the city drainage system. The detailed design of this WWPT will be identified at FS stage;

(iii) VNU—HCMC: construction of 5 four to seven storey buildings, 1.2 km internal roads, and two WWTPs (capacity 1,000 and 2,000 m3/d each). The Project will also support VNU HCM to upgrade 2.97 km of internal roads including cable channels and a WWTP capacity 2,000 m3/d.

(iv) Support the relocation of the existing laboratories of VNU-HN to the new campus and purchase equipment for the new laboratories of all 3 universities. The type of laboratories to be supported primarily identified at Pre-FS stage include physics, chemistry, bio-energy, agricultural and food safety, biomedicine, (micro)biotechnology, nanotechnology, automation, environmental and life/applied sciences, IT and mathematics

The construction and operation of the proposed investments would cause some potential impacts and risks.

At pre-construction phase, in the UD subproject, besides the relocation of 498 households due to the loss of residential land and houses, 526 households are severely affected due to both losing more than 20% of total agricultural land holdings and relocation. The project may affect standing crops and trees of local people, however they will be informed 90 days prior to acquisition of agricultural land so that people will stop cultivating or harvesting their crops and trees on the affected land. In case crops/trees cannot be harvested at time of land acquisition, the affected people will be compensated at replacement costs. Relocated households will be informed 180 days before land acquisition and compensated at replacement cost before taking their land. A resettlement site of 12 ha will be constructed within the affected ward for relocated households of the subproject with full infrastructure including access roads, drainage system, water supply, electricity and other social services for relocated households before taking their land. The project may cause interruption of business of 80 households for a short time due to relocation. However, they can restore their business after being relocated in the resettlement site.

1500 graves will also be relocated for the sites at the UD. Affected households will be compensated at replacement costs for all expenses related to the removal. Safety risks related to Unexploded Ordinances (UXO) also exist at UD and VNU HCM where mine clearance have not been done in some parts of the project sites (land acquisition and UXO clearance for VNUs HN were completed prior to project preparation).

During construction phase, there will be common impacts and risks related to the construction of the buildings and
internal infrastructure such as (i) air quality reduction due to generation of dust, noise, gas emission and vibration from construction and equipments; (ii) generation of solid waste (mostly excavated soil which is reusable but also include small quantity of some hazardous wastes such as wasted oils) and wastewater from construction sites and workers’ camps; (iii) Localized flooding risks; (iv) biological impacts and risks including loss of some trees and vegetation covers; (iv) traffic disturbance and increased traffic safety risks; (iv) damages to the existing infrastructure such as internal roads or power lines; (v) social disturbance connected to the influx of workers from other localities; (vi) safety risks for the workers and the residents living/cultivating within the University villages etc. To address these potential impacts and risks, all three ESMPs proposed adequate mitigation measures in the form of Environmental Codes of Practices and Workers Codes of conducts for inclusion into construction bidding and contractual documents so as the contractors will be required to implement or comply with. Examples of the measures listed in ECOP are spray water and clean up construction areas for dust control, collect and primarily treat wastewater by sedimentation traps (for construction site) or septic tanks (for camps) before being discharged to minimise pollution and sedimentation risks, placement of warning signs and speed limits for traffic control, minimising disturbed areas to limit the damages to trees and vegetation cover, installation of fences and provision of appropriate PPEs for the workers to use as well as provision of appropriate accommodation for the workers to reduce occupational health and safety (OHS) risks, apply codes of conducts to the workers and inform local residents to minimise social impacts. All unpredicted losses of assets and income during period of construction will be compensated and supported timely according to the RAP. The ESIs/ESMPS also have identified specific impacts and associated mitigation measures based on baseline conditions, the existence of sensitive receptors in the areas of influence or specific construction activities/working conditions. Enhanced requirements such as training on OHS for the workers, installation of guardrails in areas with fall hazard risks at the buildings, installation of nets to trap falling objects from high above the multiple storey-buildings or burning the invasive plants on-site during site clearance before dispose off the biomass off-site are examples of site-specific mitigations proposed in the ESMPs.

Contractors may mobilize a number of workers from outside the project areas during the construction phase. This may generate potential social risks for communities. Especially students living and studying in the campus or close to the project area, such as violence with local youth, gambling, drug proliferation, and communicable diseases (e.g., sexually-transmitted diseases such as HIV, syphilis, etc.), sexual exploitation and abuse, sexual harassment, particularly among local women and female students. However, these impacts will be mitigated through mitigation measures proposed in the project ESMP and RAP, such as training for workers and construction supervision teams on required lawful conduct in the host community and on HIV/AIDs awareness, strict enforcement of drug abuse and traffic, and ensuring payment of adequate salaries for workers to reduce incentives for theft and gambling, signing codes of conduct with workers. The PMUs and external monitoring agency will be responsible for closely monitoring the implementation of mitigation measures for potential social risks caused by labor influx to communities surrounding project areas and students living and studying in the campus.

During operation phase of the buildings and the surrounding areas, friendly landscape, climate resilience, health and safety of the users, energy consumption levels, wastewater generation and accessibility for the disabled people would be the main issues. Fine-tuning of layout design during the Feasibility Study would allow creation or conservation of the spots with green landscape values and maximising permeable surface on the ground to reduce flooding risk. To ensure safety the good health for the users of the buildings and efficient use of energy during operation phase, and measures such as designing the buildings which allow universal access to ensure accessibility of the disabled people, maximise the use of natural lights, create adequate internal ventilation selection of energy-saving equipment etc. were proposed to be incorporated into detail engineering design. The Emergency exists, fire detection and fighting equipment will be included in building designs following existing technical standards.
With the laboratory operations, Occupational Health and Safety risks, generation of wastewater, solid wastes including some hazardous wastes were considered to be the key issues. As it is expected that only legitimate and reliable suppliers will be contracted by the project to provide equipment and setting up the new laboratories for the three Universities or relocation of existing laboratories (for VNU-HN only). In addition, each participating University also have extensive experience in running and managing the existing laboratories including the hi-tech ones in the other operating campus for many years. Some of the mitigation measures to be applied at the new facilities provided have already been incorporated into project design, such as wastewater from laboratories will be collected and treated separately to meet applicable national standards (QCVN 40:2011/TNMT, then QCVN 14:2008/TNMT). Solid wastes will be separated at source and licensed service providers will be contracted for collection and safe disposal. Therefore the ESIAs recommended that safety risks relating to the operations of laboratories is expected to be at moderate level, manageable and under control through the compliance with available strict laboratory management requirements including those provided by the manufacturers/suppliers of specialized equipment and tools. Meanwhile, through literature review, the ESIAs also have provided number of other measures such as training for the operators, procedures for preventing/addressing hazards in chemical laboratories, safety regulations etc. for managing the risks related to laboratory operations. These could be used for reviewing and updating relevant existing laboratory regulations as applicable. For new specialized laboratory equipment and machines, safe transportation, installation, commissioning/test runs, operational trainings including risk management will be included as part of the Technical Specifications in the Shopping contracts. For the relocation of some laboratories of VNU-HN, Laboratory Relocation and Re-installation Plan will be jointly prepared by the contracted moving service provider and experienced laboratory staff and managers before implementation to ensure that the process is implemented safely for the equipment, human involved and the environment.

Regarding the operation of the wastewater treatment plants, odours, generation of sludge, occupational health and safety of the operations were identified as the key issues. Most of these potential impacts and risks are relative localised, at low to moderate levels, and manageable through detail engineering design, construction or operational practices. For example, the WWTP design would include covering of the odour-generating areas, collect and treat the gases, collect for disposal of sludge to landfills and provisions of PPEs for the workers. While the treated wastewater will meet applicable standards, the environmental quality monitoring programs proposed periodical surface water sampling at the outlet and downstream of the WWTP’s receptors.

The responsibilities of the stake-holders have been proposed in the ESMPs. PMU shall be established by each University and responsible for implementation of the ESMPs. Specifically, PMUs will: (i) allocate adequate resources for ESMP implementation, monitoring and reporting. Each PMU will allocate two staff being responsible for Safeguards monitoring; (ii) monitor and supervise ESMP implementation including incorporation of mitigation measures into detailed designs, bidding and contractual documents; and (iii) report on ESMP implementation. The detail design consultant will be responsible for incorporating environmental solutions into engineering design; The contractors will be required to comply with ESHS terms and conditions in construction contracts including the preparation of C-ESMP prior to construction commencement. Independent Environmental and Social Monitoring Consultant (IESMC) will be hired by PMU for providing environmental and social capacity building and compliance verification; The construction supervisors will be responsible for day-to-day monitoring and supervision the contractors on Environmental, Social and Health Safety (ESHS). Independent Monitoring Consultants will be contracted by the PMU to carry out environmental capacity building for the PMU and related stakeholders, implement environmental quality monitoring program, and carry out periodical independent monitoring to verify project compliance to ESMP.
2. Describe any potential indirect and/or long term impacts due to anticipated future activities in the project area:
The project is expected to have significant positive benefits for improving the quality of teaching, learning and research at the benefited universities. There are some relative deep lakes within or nearby campus of VNU-HN and VNU-HCMC, thus there will be potential safety risk for students if they swim or fall down the lake during operation phase.

3. Describe any project alternatives (if relevant) considered to help avoid or minimize adverse impacts.
The alternatives of “without the subproject” and “with the subproject” and technical alternatives have been analyzed in the ESIA. The technical, financial, environmental and social aspects, and construction methods have been considered in carrying out the alternative analysis.

4. Describe measures taken by the borrower to address safeguard policy issues. Provide an assessment of borrower capacity to plan and implement the measures described.

All three PMUs have no experience in managing infrastructure projects financed by the World Bank (WB) or Asian Development Bank (ADB). They all also have no safeguard experience in the past projects financed by the WB or ADB. However, only the UD subproject has land acquisition which will be implemented by Resettlement committees of Da Nang city and Ngu Hanh Son district who have experience in the safeguards policies of the previous World Bank financed projects. Some staff of the project implementing agencies have gained some practical knowledge and experience through ESIA/ESMP preparation process. The safeguard management capacity gap of PMUs will be further addressed through training on safeguards policies of the WB provided by an Independent Environmental and Social Monitoring Consultant (IESMC) with support of environment and social specialists of the World Bank before project implementation. The IESMC will also carry out periodical monitoring to verify the environmental and social compliance and recommend corrective actions if/when necessary. Each PMU should assign one staff in charge of safeguards coordinator to conduct internal monitoring the implementation of ESMP and RAP to ensure compliance with the World Bank requirements and safeguards policies. During project implementation, the TT will closely supervise and support implementing agencies for implementation of ESMP and RAP. In addition to the measures proposed, this project will be an opportunity for the Universities to enrich their knowledge in sustainable infrastructure building and management, and will have beneficial impacts on the country’s capacity in sustainable infrastructure building.

A RAP for the UD subproject was prepared to ensure that: (i) all subproject impacts will be mitigated, managed, and compensated at replacement costs; (ii) the implementation of land acquisition and resettlement for the subproject will comply with the WB’s OP4.12 on involuntary resettlement and Government policy on compensation, support and resettlement; and (iii) the income and livelihoods of affected people, especially severely and vulnerably affected people will be restored at least equal to pre-project level or improved better in sustainable manner.

Grievance Redress Mechanism (GRM): Each sub-project safeguard instrument (ESMPs, RAP) also includes a GRM to provide a framework within which complaints about safeguards compliance can be handled, grievances can be addressed, and disputes can be settled timely and satisfactorily. The GRM will be in place for each sub-project and disclosed to people before implementation of resettlement and commencement of construction.

Within the Vietnamese legal framework, citizen rights to complain are protected by the Constitution and Laws on complaint and denouncement. As part of overall implementation of each sub-project, a GRM team will be established by Environmental and Social Unit of the university PMU. Its assignments will include readily receiving, handling, and
following up all grievances/complaints of affected people until they have been resolved satisfactorily. The key process and elements of the GRM include procedures for receipt and redress of complaints and grievance, a logbook to record complaints, time frame for resolving and responding, an appeal process, responsible persons/agencies, and contact information.

The complainant can lodge complaint in verbal or writing form, by telephone, fax, or email. They can be sent to the local authorities, contractor, construction supervision engineer, PMU, or the independent resettlement and environment monitoring consultants. Complaints will be registered and recorded in a logbook and sent to responsible persons/agencies for taking action. To facilitate the complaint redress process, the GRM will be disclosed to affected people during public meeting and consultations. It is also included in the sub-project information leaflets and distributed at the sub-project sites to provide practical information about grievances to local residents, including contact information and addresses.

5. Identify the key stakeholders and describe the mechanisms for consultation and disclosure on safeguard policies, with an emphasis on potentially affected people.

Consultations were conducted with the affected households during project preparation. The affected people and communities and other relevant stakeholders were consulted on the RAP, sub-project ESIAs, socio-economic studies, Grievance redress mechanism. Feedback from the consultations were incorporated into the project design, the RAP and sub-project ESIAs. In particular, relocation of 498 households and removal of church/pagodas/Temples and graves in the UD subproject were consulted with each affected household and community and they agreed to relocate with adequate compensation and support to be paid. Draft version of environmental and social safeguards instruments were consulted with different stakeholders and disclosed both locally at the sub-project PMUs, and sub-project areas, and at World Bank’s websites before appraisal. The final environmental and social safeguards instruments will be disclosed again at similar places and the Bank’s websites after the Bank approval. The Appraisal Stage - Integrated Safeguards Data Sheet of the project was also disclosed at the Bank’s websites.

B. Disclosure Requirements

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<thead>
<tr>
<th>Environmental Assessment/Audit/Management Plan/Other</th>
<th>Date of receipt by the Bank</th>
<th>Date of submission for disclosure</th>
<th>For category A projects, date of distributing the Executive Summary of the EA to the Executive Directors</th>
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<td>17-Feb-2020</td>
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"In country" Disclosure

Vietnam

25-Feb-2020

Comments
Resettlement Action Plan/Framework/Policy Process

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"In country" Disclosure
Vietnam
25-Feb-2020

Comments

C. Compliance Monitoring Indicators at the Corporate Level (to be filled in when the ISDS is finalized by the project decision meeting)

OP/BP/GP 4.01 - Environment Assessment

Does the project require a stand-alone EA (including EMP) report?
Yes
If yes, then did the Regional Environment Unit or Practice Manager (PM) review and approve the EA report?
Yes
Are the cost and the accountabilities for the EMP incorporated in the credit/loan?
Yes

OP/BP 4.11 - Physical Cultural Resources

Does the EA include adequate measures related to cultural property?
Yes
Does the credit/loan incorporate mechanisms to mitigate the potential adverse impacts on cultural property?
Yes

OP/BP 4.12 - Involuntary Resettlement

Has a resettlement plan/abbreviated plan/policy framework/process framework (as appropriate) been prepared?
Yes
If yes, then did the Regional unit responsible for safeguards or Practice Manager review the plan?
Yes

OP 7.50 - Projects on International Waterways
Have the other riparians been notified of the project?
No

If the project falls under one of the exceptions to the notification requirement, has this been cleared with the Legal Department, and the memo to the RVP prepared and sent?
Yes

Has the RVP approved such an exception?
No

The World Bank Policy on Disclosure of Information

Have relevant safeguard policies documents been sent to the World Bank for disclosure?
Yes

Have relevant documents been disclosed in-country in a public place in a form and language that are understandable and accessible to project-affected groups and local NGOs?
Yes

All Safeguard Policies

Have satisfactory calendar, budget and clear institutional responsibilities been prepared for the implementation of measures related to safeguard policies?
Yes

Have costs related to safeguard policy measures been included in the project cost?
Yes

Does the Monitoring and Evaluation system of the project include the monitoring of safeguard impacts and measures related to safeguard policies?
Yes

Have satisfactory implementation arrangements been agreed with the borrower and the same been adequately reflected in the project legal documents?
Yes

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APPROVAL

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