

# Project Administration Manual

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Socialist Republic of Viet Nam: University of Science  
and Technology of Ha Noi Development (New Model  
University) Project

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### **Project Administration Manual Purpose and Process**

The project administration manual (PAM) describes the essential administrative and management requirements to implement the project on time, within budget, and in accordance with government and Asian Development Bank (ADB) policies and procedures. The PAM should include references to all available templates and instructions either through linkages to relevant URLs or directly incorporated in the PAM.

The Viet Nam Academy of Science and Technology (VAST) is wholly responsible for the implementation of this ADB financed project, as agreed jointly between the borrower and ADB, and in accordance with government and ADB's policies and procedures. ADB staff is responsible to support implementation including compliance by the VAST of its obligations and responsibilities for project implementation in accordance with ADB's policies and procedures.

At Loan Negotiations the borrower and ADB shall agree to the PAM and ensure consistency with the Loan agreement. Such agreement shall be reflected in the minutes of the Loan Negotiations. In the event of any discrepancy or contradiction between the PAM and the Loan Agreement, the provisions of the Loan Agreement shall prevail.

After ADB Board approval of the project's report and recommendations of the President (RRP) changes in implementation arrangements are subject to agreement and approval pursuant to relevant government and ADB administrative procedures (including the Project Administration Instructions) and upon such approval they will be subsequently incorporated in the PAM.

## ABBREVIATIONS

ADB	–	Asian Development Bank
ADCM	–	architectural design competition management
ADF	–	Asian Development Fund
ADFHT	–	hard terms facility of the Asian Development Fund
AEC	–	architects and engineering consultants
BCC	–	building construction contractor
CLM	–	center for laboratory management
CLR	–	contract legal review
CTLE	–	center for teaching and learning excellence
DHE	–	Department of Higher Education
DMF	–	design and monitoring framework
DPF	–	Department of Planning and Finance
EESC	–	education equipment supply consultant
EMIS	–	education management information system
ETZ	–	education and training zone
FMSI	–	financial management and software installation
GAP	–	gender action plan
GDP	–	gross domestic product
GSCD	–	geological survey for construction design
HEI	–	higher education institution
HERA	–	Higher Education Reform Agenda
HHTP	–	Hoa Lac High Tech Park
IA	–	Independent audit
ICB	–	international competitive bidding
IEC	–	industry engagement center
JICA	–	Japan International Cooperation Agency
LFF	–	loan fact finding
LIBOR	–	London Inter-Bank Offered Rate
LMC	–	laboratory management center
MC	–	main contractor
M&E	–	monitoring and evaluation
MOET	–	Ministry of Education and Training
MOF	–	Ministry of Finance
MOJ	–	Ministry of Justice
MOST	–	Ministry of Science and Technology
NCB	–	national competitive bidding
NMU	–	new model university
OCR	–	ordinary capital resources
OSS	–	office of student services
PAM	–	project administration manual
PhD	–	Doctor of Philosophy
PMSC	–	project management and supervision for construction
PMU	–	project management unit
PMU- USTH	–	project management unit for USTH
PPMS	–	project performance monitoring system
PPR	–	procurement and project readiness
PPTA	–	project preparatory technical assistance
QA	–	quality assurance
QBS	–	quality based selection

QCBS	–	quality cost based selection
R&D	–	research and development
RFT	–	request for tender
RSC	–	research support center
SBV	–	State Bank of Viet Nam
SIC	–	services and infrastructure contractor
SOE	–	statement of expenditures
SOP	–	standard operating procedure
SPS	–	Safeguard Policy Statement
UIU	–	university implementation unit
UNESCO	–	United Nations Educational, Scientific and Cultural Organization
USTH	–	University of Science and Technology of Ha Noi
VAST	–	Viet Nam Academy of Science and Technology
VGU	–	Vietnamese-German University



## I. PROJECT DESCRIPTION

1. The project seeks to establish a new model university (NMU) focused on international standard teaching and research in science and technology. This NMU—the University of Science and Technology of Hanoi (USTH)—will demonstrate a new policy framework for the governance, financing, and quality assurance of universities in Viet Nam. The USTH will be established in partnership with the Government of France and the Viet Nam Academy of Science and Technology (VAST). The Government of France will provide about €100 million to support development and operating costs until at least 2020, including provision of curricula, research capacity, the rector, academic staff, and scholarships. The USTH opened in October 2010 using facilities at VAST and enrollments are expected to reach 1,000 by 2014. It will migrate to its new campus at Hoa Lac High Tech Park (HHTP), which is being developed in cooperation with the Japan International Cooperation Agency (JICA), once it is ready. The World Bank approved the development of an NMU—the Vietnamese-German University (VGU)—in June 2010. The design and monitoring framework<sup>1</sup> is in Appendix 1.

## II. THE PROJECT

### A. Rationale

2. **Economy.** Viet Nam has been one of Asia's fastest-growing economies, with growth in real gross domestic product (GDP) averaging 7.4% from 1989 to 2008. Viet Nam's rapid economic development has significantly changed the structure of the economy, with the industry share of GDP growing, while that of agriculture falling between 1995 and 2005. The modernization of the Viet Nam economy has had a big impact on the demand for skilled labor and the nature of skills required. There is increasing demand for skilled workers in those occupations that traditionally recruit tertiary education graduates, and in developing sectors such as manufacturing and electricity. From 1998 to 2004, the share of higher education graduates in the manufacturing, construction, and utilities sectors rose substantially in Viet Nam. Demand for skilled workers is being driven by both demand and supply factors.

3. **Achievements.** The higher education system in Viet Nam has changed markedly since 1990. In 2009–2010, there were more than 1.79 million Vietnamese enrolled in 376 higher education institutions (HEIs), 150 of which award degrees, compared with just 162,000 students in 110 HEIs in 1993, showing significantly increased access to higher education. Other improvements to the higher education system include a shift from small specialized institutes toward larger multidisciplinary universities, better integration of research within universities, and increased private financing and delivery of higher education. Despite these developments in increasing system capacity, the higher education system is ill-equipped to meet the needs of the fast-growing Vietnamese economy and the increasing need for innovation and higher-order skills.

4. **Access and staffing.** The higher education system could accommodate only one-third of those seeking admission in 2009. The gross enrollment ratio, estimated at no more than 16% in 2005, is below that of other high-performing countries such as the People's Republic of China (20%) and Malaysia (32%). Furthermore, there are wide disparities in access, with tertiary education enrollments from the richest quintile being about four times that of the lowest quintile. From 1987 to 2009, the student–teacher ratio increased more than fourfold, to 29:1. There are

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<sup>1</sup> Project preparation was carried out through: Asian Development Bank (ADB). 2010. *Preparing the Higher Education Sector Development Project*. Manila (TA-7105-VIE).

wide differences across HEI types, with the student–teacher ratio ranging from 15:1 at colleges to 54:1 at regional universities—above levels in many member countries of the Association of Southeast Asian Nations. Staff quality is below requirements due to low salaries and the cumbersome promotion procedures that limit rewards for academic achievement. Faculty qualifications are low, with less than half of academic staff having postgraduate qualifications, with most at the masters level. Quality control is also problematic.

5. **Governance.** The governance of the higher education system is overly centralized and pays too little attention to quality, outputs, and outcomes. Public HEIs have limited governance and management autonomy—university enrolments are strictly controlled through a quota system, tuition fees are capped, and the Ministry of Education and Training (MOET) makes most management decisions, including appointing the rector and establishing rules on budgeting, spending, and personnel management. Academic staff are poorly paid and, because they are public servants, the rules surrounding pay levels, staff promotion, and hiring and firing are made centrally. The MOET must approve institutional budgets.

6. **Financing.** Viet Nam's total expenditure on colleges and universities in 2002 was equal to just 0.41% of GDP—significantly lower than in other East Asian countries (1.62%) and lower than the 75 countries reporting tertiary education expenditures to the United Nations Educational, Scientific and Cultural Organization (UNESCO) (1.22%). Public universities generate too little funding from private sources—only one-third of revenues, which compares with more than 80% for semipublic, people-founded, and private universities. Public universities also generate little revenue from contractual research and development—only 1.3% of revenue, compared to 2.0%–2.5% for semipublic, people-founded, and private universities. Per-student spending on public universities was estimated at \$400 in 2009.

7. **Innovation.** The generation, diffusion, absorption, and application of new ideas are increasingly being seen as important factors in explaining economic growth and development. As the Vietnamese economy evolves, innovation and skill are likely to be called upon to play an increasingly important role in driving economic growth and development. Unfortunately, Viet Nam scores poorly compared to key Asian neighbors such as Thailand and Malaysia on a range of innovation measures, including the number of researchers in research and development (R&D), total expenditure on R&D as a percentage of GDP, university–company collaboration, and patents granted. The same is true for other indicators—e.g., the number of peer-reviewed articles published by Vietnamese academics is low and substantially lower than in neighboring countries.

8. **Research and development.** Developing the country's teaching and research base, particularly in the area of science and technology, will be critical if Viet Nam is to transform itself into a modern, industrialized nation and progress to lower-middle income status and beyond. University R&D can positively affect economic development, while the perceived quality of research institutions and public–private linkages are seen as having a significant positive impact on productivity and on the intensity of countries' R&D performance. In Viet Nam, the higher education system does not play the role of innovation incubator or provider of skilled labor that it does in successful middle-income countries, thus constraining knowledge creation—a key to improved productivity and competitiveness. This owes much to the weak state of higher education research in the country, which is due to factors such as low levels of state and nonstate research funding, the separation of teaching (typically conducted at universities) and research (conducted at specialized research organizations), a lack of research being undertaken by higher education academics, a lack of qualified academic staff, and limited numbers of postgraduate students.



9. **Higher Education Reform Agenda 2006–2020.** The Government of Viet Nam recognizes the need to address higher education challenges, as reflected in the Higher Education Reform Agenda (HERA), its strategy for developing a competitive higher education system with advanced teaching and research capacity. The HERA's main objectives are to (i) dramatically increase the participation rate in universities, (ii) boost quality and efficiency, (iii) strengthen research capacity in universities, and (iv) improve governance of the higher education system.

10. **Key features.** The project focuses on improving the teaching and research capacity of the Viet Nam higher education system by supporting the establishment of an NMU with (i) governance and management autonomy; (ii) a curriculum which fosters innovation and cross-disciplinary work, supported by the appropriate facilities; (iii) more flexible staffing and pay arrangements; (iv) higher levels of state recurrent funding, including research funding; and (v) increased scope for generating private revenue through tuition fees and other means. More broadly, the project will pilot the more flexible policy framework developed during project preparation, which will be refined during implementation, to serve as a basis for reforms that would allow it to be extended to other HEIs. The project places considerable emphasis on building strong links between the USTH and the private sector to ensure the quality and relevance of its teaching and research and to increase the institution's operating revenues. The USTH council will include private sector membership. The industry engagement center within the USTH will be a key channel for enhancing public-private links through developing regular interactions with industry, establishing knowledge exchange and technology transfer services, commercializing research, and developing industry internships for staff and students. The USTH will also develop a foundation to solicit philanthropic contributions from industry.

11. **Development partner support to the higher education sector.** A number of development partners operate in the higher education sector in Viet Nam, including the World Bank, JICA, France, and the Netherlands. The World Bank's Second Higher Education Project<sup>2</sup> and Higher Education Development Policy Program<sup>3</sup> support the implementation of the government's Socio-Economic Development Plan and HERA. The Second Higher Education Project seeks to increase the quality of teaching and research in universities to improve graduate employability and research relevance by developing policy and building central government capacity, and building capacity, relevance, and autonomy at the university level. The Higher Education Development Policy Program aims to strengthen governance, rationalize financing, improve teaching and research, improve accountability, and improve financial management in the higher education sector. The University of Science and Technology of Ha Noi Development (New Model University) Project is part of a two-track approach to achieving policy reform in higher education, with the institutional focus of ADB and World Bank NMUs complementing the broader reforms under the Second Higher Education Project and Higher Education Development Policy Program. ADB's Private Sector Operations Department supported the establishment of Royal Melbourne Institute of Technology (RMIT) International University Vietnam in 2001.

## **B. Impact and Outcome**

12. The expected impact of the project is that the contribution of higher education to innovation in Viet Nam is increased. The performance target is that Viet Nam's rank on the innovation pillar of the World Economic Forum's Global Competitiveness Index increases from

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<sup>2</sup> World Bank. 2007. *Vietnam: Second Higher Education Project*. Washington DC.

<sup>3</sup> World Bank. 2009. *Vietnam: Higher Education Development Policy Program*. Washington DC.

49<sup>th</sup> in 2010 to 45<sup>th</sup> by 2022. The project's expected outcome is a high-quality NMU that generates industry-relevant science and technology teaching and research.

### C. Outputs

13. The project will deliver four outputs: (i) an effective management and governance system for the USTH will be developed and implemented, (ii) systems to promote high-quality and relevant academic programs at the USTH will be developed and implemented, (iii) physical facilities at the USTH will be constructed and outfitted, and (iv) effective project management and implementation.

#### 1. **An Effective Management and Governance System for the University of Science and Technology of Hanoi Developed and Implemented**

14. Output 1 will assist in the development and implementation of the following:

- (i) **Rigorous management and governance systems.** This will include developing operating procedures for the USTH's council, academic board, and other committees.
- (ii) **Capacity building programs for USTH senior managers and governors.** This will focus on building leadership, management, and governance skills. It will involve short training modules, mentoring, and capacity building activities to support the establishment of USTH's governance and management systems, the roles and responsibilities of university leadership, strategic and financial planning, and personnel development and management.
- (iii) **University management and administrative systems.** This will include student administration, and management of finances, library collections, personnel, and information systems.
- (iv) **An office of student services.** This will include developing and implementing a student enrolment and academic record monitoring system; student advisory, financial counseling and student assistance, career, and job counseling services; and a medical clinic. It will also include development of strategies to promote interest in, and enrolment of, females and other targeted groups at the USTH.

#### 2. **Systems to Promote High Quality and Relevance in Academic Programs at the University of Science and Technology of Hanoi Developed and Implemented**

15. Output 2 will establish and support the operation of a number of centers within the USTH that will promote high quality and relevance in academic programs at the USTH:

- (i) **Center for teaching and learning excellence.** This will prepare graduate students to be university teachers and improve the teaching and curriculum development competencies of existing teachers.
- (ii) **Center for quality assurance.** This will embed a permanent internal quality assurance management service for USTH management and academic staff by, among other things, establishing a quality assurance framework and institutionalizing the use of peer review and other strategies.
- (iii) **Center for research support.** The center will provide USTH staff with high-level support in designing and publishing their research, applying for grants, and providing training in research strategies to postgraduate students.

- (iv) **Center for industry engagement.** The center will be responsible for building links with industry and other potential users of USTH's knowledge, expertise, and technologies. It will support researchers to establish industry links, develop joint research programs and contract research, and facilitate student placements, staff exchanges, and joint funding of infrastructure and services.
- (v) **Center for laboratory management.** The center will develop a centralized workshop system for the maintenance and repair of USTH's scientific laboratories and build the capacity of technical staff to sustain an international standard science and technology university.

### 3. Physical Facilities at University of Science and Technology of Hanoi Constructed and Outfitted

16. Output 3 will support the design, construction, and outfitting of the USTH physical facilities at the HHTP to support the university's initial design capacity of 5,000 students. This will include site preparation, and design and construction of teaching spaces, research laboratories, dormitories, student leisure facilities, administration buildings, infrastructure, and provision of furniture, fittings, and equipment. Construction will use a design-bid-build approach.

### 4. Effective Project Management and Implementation

17. Output 4 will support the establishment of systems and staff capacity required for effective project management and implementation. Procurement for the construction of the campus under output 3 will be managed by the central project management unit (PMU-USTH), while the university implementation unit (UIU) will manage the implementation of USTH's development (Outputs 1 and 2). The PMU-USTH will manage the development and implementation of a project monitoring and evaluation system, including preparation of required plans, data systems, and baseline studies.

## III. IMPLEMENTATION PLANS

### A. Project Readiness Activities

Indicative Activities	2011											2012			Responsibility
	3	4	5	6	7	8	9	10	11	12	1	2	3		
Establish project implementation arrangements				√											MOET
Loan negotiations	√														Government and ADB
ADB Board approval		√													ADB
Establish project implementation arrangements								√							MOET
Loan agreement signing									√						MOF and ADB
Government Legal Opinion Provided												√			MOJ
Loan Effectiveness														√	SBV and ADB

Note: Project implementation began from the date of project effectiveness (ie. 1 March 2012).

## B. Overall Project Implementation Plan

### Implementation Schedule

Activities		2012				2013				2014				2015				2016				2017				2018	
		I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II
Output 1. Effective Management and Governance Systems Developed and Implemented																											
Establishment of the UIU																											
Procurement of UIU Contracted Staff																											
1.1	Establishing the Governance, Leadership and Management for Councils and University Leaders																										
(i)	Program for short training workshops, and mentoring support delivered																										
(ii)	Governance structure agreed, operating manuals written, Boards established																										
(iii)	10 year Strategic Plan and 5 year Annual Business Plans completed																										
(iv)	International search for 2 <sup>nd</sup> council members completed, appointments made																										
(v)	International Search for 2 <sup>nd</sup> Rector completed, Rector approved																										
(vi)	USTH Charter reviewed and revisions to streamline and improve autonomy implemented																										
(vii)	Financial Mechanism for adequate recurrent financing from State budget reviewed and improvements implemented																										
1.2	Establishing University Management and Administrative Systems																										
(i)	Policies for recruitment, remuneration agreed, implemented																										
(ii)	Personnel management & IT system, operating manuals established																										
(iii)	Financial management system developed, established, training completed																										
(iv)	Library collection management & catalogue																										

Activities		2012				2013				2014				2015				2016				2017				2018	
		I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II
	systems established																										
(v)	All management information systems developed and operating, integrating administration and planning data																										
(vi)	Internal audit operations established, staff trained and operating																										
(vii)	Accountability reporting unit established and operating																										
(viii)	Internal procurement, & facilities management systems developed & staffed																										
<b>1.3</b>	<b>Establishing Student Services Systems and Programs</b>																										
(i)	Policy and approach to the management of student services developed																										
(ii)	Student enrolment system & academic record monitoring established																										
(iii)	Student advisory & mentoring program for academic support established																										
(iv)	Financial counselling and student fee assistance schemes established																										
(v)	Campus medical and social counselling services established																										
(vi)	Student employment counselling and assistance established																										
(vii)	Equity unit established - programs to support gender, poor and ethnic groups to enrol established and operating																										
(viii)	Implement Gender Action Plan																										
<b>Output 2. Systems to Promote High Quality and Relevance in Academic Programs at USTH Developed and Implemented</b>																											
<b>2.1</b>	<b>Establishing a Center for Teaching &amp; Learning Excellence</b>																										
(i)	Systems for development & approval of curriculum																										

Activities		2012				2013				2014				2015				2016				2017				2018	
		I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II				
	established, staff trained																										
(ii)	Train local staff in new pedagogy																										
(iii)	System for training in curriculum development and pedagogy established																										
a	Teaching Certification Programs for graduate students/staff developed																										
b	Programs for training staff for Teaching in English established																										
c	Institute a credit point system for all courses and programs																										
(iv)	Develop methodology for linking research/teaching in curriculum & practice																										
(v)	Establish assessment policy & software to link curriculum to assessment																										
(vi)	Full-time staffing for Teaching and Learning Centre established, trained, operating																										
2.2	<b>Establishing a Quality Assurance &amp; Academic Management Systems</b>																										
(i)	Design, staffing for permanent QAC & systems developed, approved																										
(ii)	Short training for academic leaders & teaching staff in quality culture, systems																										
(iii)	Training for QAC staff in use and continuous improvement of QA system																										
(iv)	System for regular research to monitor quality, including:																										
a	Establish university-based tracer studies of students																										
b	Establish other regular surveys of industry, feed-back to program design																										
c	Establish staff selection, performance and management system																										
d	Establish monitoring for appraisal of leadership																										

Activities		2012				2013				2014				2015				2016				2017				2018		
		I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	
for institutional change																												
<b>2.3 Establishing a Research Support Center</b>																												
(i)	Roles and staffing agreed, staff recruited and trained																											
(ii)	Short courses in research design, methodology, proposal writing established																											
(iii)	Program for continuous support for publishing developed, trained, established																											
a	Editing in English support service established																											
b	Support for sourcing international journals & quality control established																											
<b>2.4 Establishing an Industry Engagement Center</b>																												
(i)	Roles and staffing agreed, staff recruited and trained																											
(ii)	Legal advising service re IP and establishing joint agreements established																											
(iii)	Mechanisms established for identifying/establishing industry linkage opportunities																											
a	Setting up technology transfer and knowledge exchange services																											
b	Developing industry internship programs for undergraduate and post-graduate students																											
c	Working with established incubators																											
<b>2.5 Establishing a Laboratory Management Center</b>																												
(i)	Roles and staffing agreed, staff recruited and trained																											
(ii)	Technical career path agreed, remuneration and recruitment plan established																											
(iii)	Training program for technician staff delivered, embedded in system																											
(iv)	Unit for laboratory design, maintenance, and																											

Activities	2012				2013				2014				2015				2016				2017				2018		
	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	
refurbishing established, trained																											
(v) Unit for coordinating equipment procurement and maintenance established																											
a Software for systems for procurement management developed, installed																											
b Systems for procurement validation established and operating																											
c Equipment procured, installed, operating																											
Output 3. Physical Facilities at USTH Constructed and Outfitted																											
(i) Resettlement of USTH Site at HHTP																											
(ii) Architectural design competition																											
(iii) Urban design and architecture concept design for campus and buildings developed, appraised and completed through design competition																											
(iv) Design jury engaged and operating																											
(v) Architecture plans approved by PMU-USTH and UIU, ready for construction																											
(vi) Tender Process for main contractor (Construction Works)																											
(vii) Campus site works completed, site ready for buildings construction to start																											
(viii) Buildings construction and basic fit-out implemented																											
(ix) Campus hand-over process completed																											
(x) Student/staff transfer and systems/equipment installation (soft opening)																											
(xi) Campus opening, commencement of all operations on site																											
Output 4. Effective Project Management and Implementation																											
(i) Establishment of the PMU-USTH																											
(ii) Procurement of contracted staff																											
(iii) Procurement specialists (PMU-USTH and UIU engaged and operating)																											



Activities		2012				2013				2014				2015				2016				2017				2018	
		I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II
(iv)	Financial management and software installation engaged and operating																										
(v)	Resettlement specialist engaged and operating																										
(vi)	Probity monitor engaged																										
(vii)	Construction cost consultant engaged																										
(viii)	Architectural design competition management consultants engaged																										
(ix)	Project management company engaged																										
(ix)	Architects and engineering company engaged																										
(xi)	Main contractor engaged																										
(xii)	Independent auditor engaged and accounts audited annually																										
(xiii)	ADB Inception Mission																										
(xiv)	ADB Review Mission																										
(xv)	ADB Mid-Term Review																										
(xvi)	ADB Final Review																										

ADB = Asian Development Bank; DHE = Department of Higher Education; HHTP = Hoa Lac High Tech Park; ICT = information and communication technology; IP = intellectual property; M&E = monitoring and evaluation; MOET = Ministry of Education and Training; PMU-USTH = Project Management Unit – University of Science and Technology of Ha Noi; QA = quality assurance, QAC = quality assurance center; QS = quantity survey; UIU = university implementation unit; USTH = University of Science and Technology of Ha Noi

## IV. PROJECT MANAGEMENT ARRANGEMENTS

### A. Project Implementation Organizations – Roles and Responsibilities

Project Organization	Management Roles and Responsibilities
Project Management Unit – University of Science and Technology of Ha Noi (PMU-USTH)	<ul style="list-style-type: none"> <li>• Coordinate with UIU and other relevant agencies on project-specific matters that are relevant to PMU operations</li> <li>• Facilitate the processing and approval by VAST of the integrated procurement and implementation plan</li> <li>• Prepare the Project Procurement Plan and procure the different packages specific to Outputs 3 and 4</li> <li>• Establish and maintain an efficient financial management system, report and review withdrawal applications, and send requests for direct payments to ADB</li> <li>• Develop specific processes of expenditure from counterpart funds, submit these processes to concerned authorities for approval</li> <li>• Manage and effectively use counterpart funds; to perform disbursement, accounting, auditing in accordance with regulations of Viet Nam, integrate counterpart funds with other project funds effectively, ensure counterpart funds are paid on time for relevant activities</li> <li>• Consolidate project reports from UIU/other stakeholders, and forward them to VAST for comment</li> <li>• Prepare consolidated financial statements for the project as a whole, signed by VAST, and audited by the IA, for the information of the ADB</li> <li>• In close coordination with UIU, oversee the M&amp;E for the project</li> <li>• Ensure that recommendations in project reports are followed up effectively</li> <li>• Submit periodic and ad-hoc reports on project performance as required by concerned agencies</li> <li>• Liquidate investment cost of the project in accordance with applicable regulations.</li> </ul>
Project Director (PD), PMU-USTH	<ul style="list-style-type: none"> <li>• Senior Manager of PMU-USTH day-to-day business</li> <li>• Supervise and oversee project implementation</li> <li>• Ensure the project achieves agreed outputs and outcomes in respect of Outputs 3 and 4</li> <li>• Mobilize professional staff to support project implementation for Outputs 3 and 4</li> <li>• Supervise contractors specified for outputs 3 and 4</li> <li>• Ensure effective and cooperative coordination with all stakeholders, including VAST, oversight ministries, UIU and ADB, to achieve all project outcomes and complete the project on time</li> <li>• Maintain liaison with the PMU-VGU and World Bank, to share information and lessons</li> <li>• Oversee financial management and disbursement in accordance with the provisions of the PAM and the Loan Agreements; ensure timely processing of all financial transactions</li> <li>• Ensure that the planned timeline benchmarks in the project implementation plan and procurement sequence are maintained</li> <li>• Review and endorse key requests and documents (e.g. approval of bidding documents, bid evaluation results and contract awards for contracts procured by PMU-USTH; approval of overall and detailed implementation plans and cost estimates)</li> <li>• Manage contract award approval timelines to agreed standard</li> </ul>

<b>Project Organization</b>	<b>Management Roles and Responsibilities</b>
	<ul style="list-style-type: none"> <li>• Maintain close liaison with Project Director, UIU</li> <li>• Sign the contracts administered by PMU-USTH</li> </ul>
University Implementation Unit (UIU)	<ul style="list-style-type: none"> <li>• Responsible for implementing and supervising project activities relating to development of university management and systems and academic development; ensure project Outputs 1 and 2 achieve the expected outputs and outcome</li> <li>• Manage engagement of UIU procurement adviser and engage Education Services Consultant and Education Equipment contractor</li> <li>• Advise PMU-USTH on specifications for architectural design, especially facilities brief and laboratory specification</li> <li>• Manage procurement of laboratory equipment on an annual scheduled plan, and coordinate with PMC, and MC on equipment installation and initial training of laboratory technicians:</li> <li>• Provide representatives to work with PMU-USTH on all relevant matters of construction management</li> <li>• Report the progress of the UIU to the PMU-USTH</li> </ul>
ADB	<ul style="list-style-type: none"> <li>• Supervise project implementation and ensure compliance with the Loan Agreement and PAM</li> <li>• Conduct inception mission, regular review missions, mid-term review mission and final review mission with appropriately qualified experts to assess construction progress and university and academic development</li> </ul>

## **B. Key Persons Involved in Implementation**

### **Executing Agency**

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Email: cvminh@vast.vn

### **Implementing Agencies**

PMU-USTH

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Telephone: + 84 4 36231668  
Email: [nghuy@pmu-usth.edu.vn](mailto:nghuy@pmu-usth.edu.vn)  
PMU-USTH Central Email: [contact@pmu-usth.edu.vn](mailto:contact@pmu-usth.edu.vn)

University Implementation Unit  
(UIU)

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UIU Central Email: [uiu@usth.edu.vn](mailto:uiu@usth.edu.vn)

## ADB

Division Director

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## C. Project Organization Structure

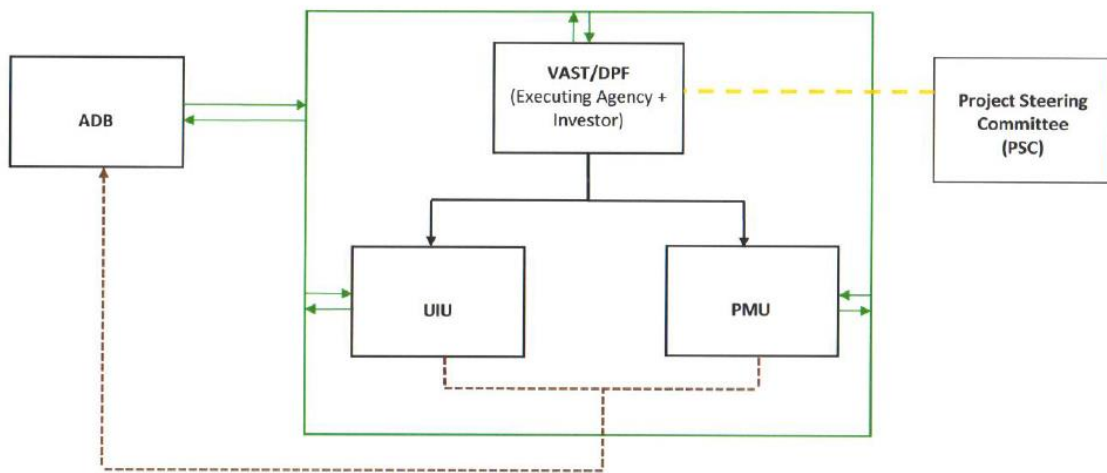
18. VAST succeeds MOET as Executing Agency for the Project.<sup>4</sup> PMU-USTH and the University Implementation Unit (UIU) are the implementing agencies (IAs). PMU-USTH will be responsible for: (i) implementing Outputs 3 and 4; (ii) processing withdrawal applications; (iii) monitoring USTH construction activities; and (iv) preparing project reports. The PMU-USTH will be headed by a full-time Project Director supported by 2 Deputy Project Directors and other staff in the areas of procurement and construction, planning and finance, and general administration. These key units will be headed by VAST-appointed/recruited staff.

19. UIU will be the IA for Outputs 1 and 2 and support PMU in the delivery of Output 4. Specific tasks of UIU include (i) managing contracts and providing oversight of USTH's internal management and academic development; (ii) determining the specifications and lists of specialized equipment for laboratories and the library; (iii) liaising closely with the construction project manager to advise on and support the design specifications of the buildings and laboratories to be built; (iv) processing withdrawal applications; and (v) managing the procurement of the laboratory equipment and ensuring coordination of procurement and installation of equipment to ensure they are appropriately linked to the construction schedule. The UIU will be headed by a Project Director. Senior UIU staff will be drawn from USTH, while staff below unit head level will be contracted from outside USTH. The overall project organization structure is in Figure 1 and the broad organizational structures for the PMU-USTH and the UIU are in Figures 2 and 3.

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<sup>4</sup> Based on the Prime Minister's Decision Ref No. 430/QĐ-TTĐ dated 18 March 2016 and ADB's approval of 15 November 2016.

**Figure 1: Project Organization Structure**

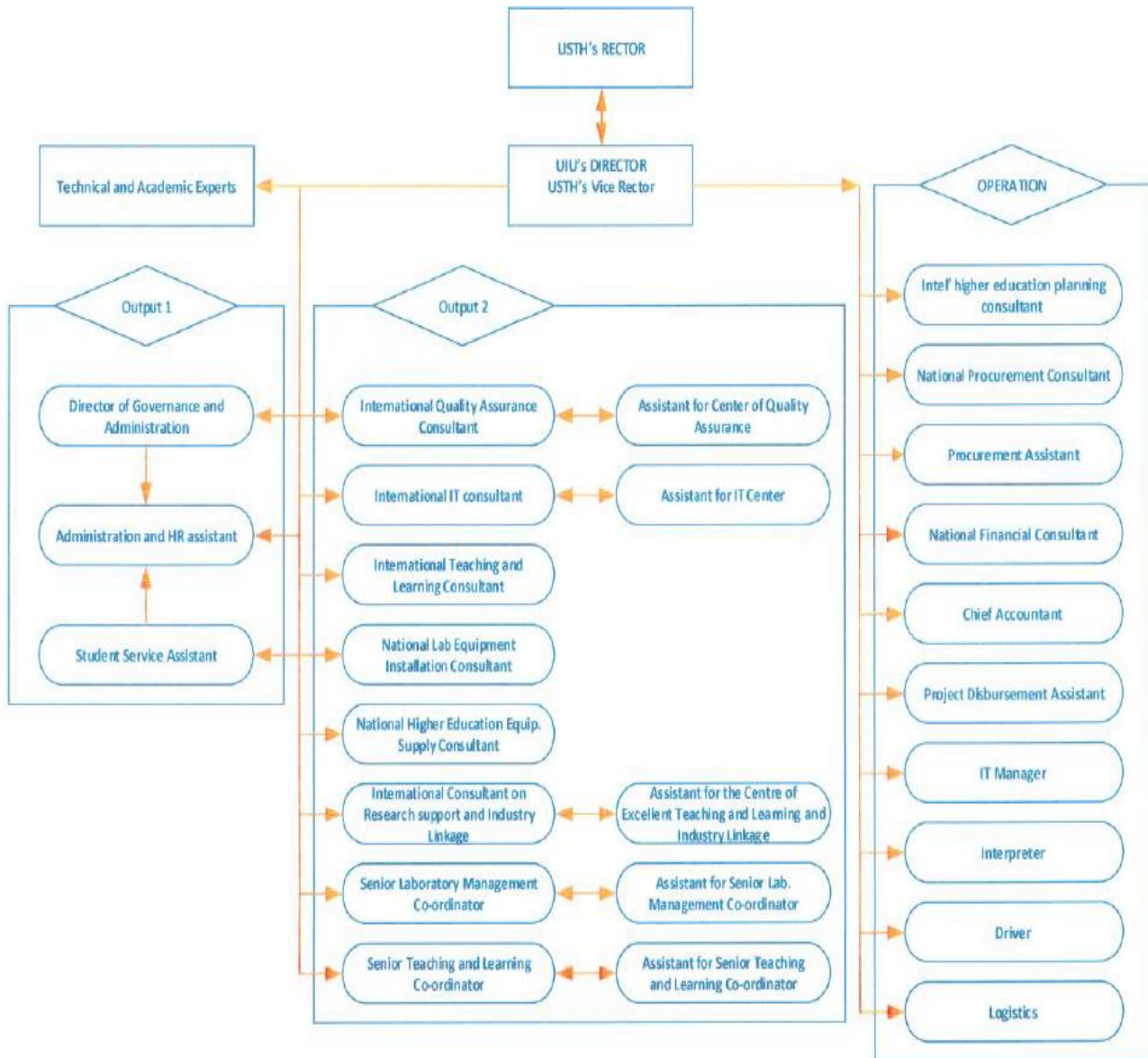


Note:

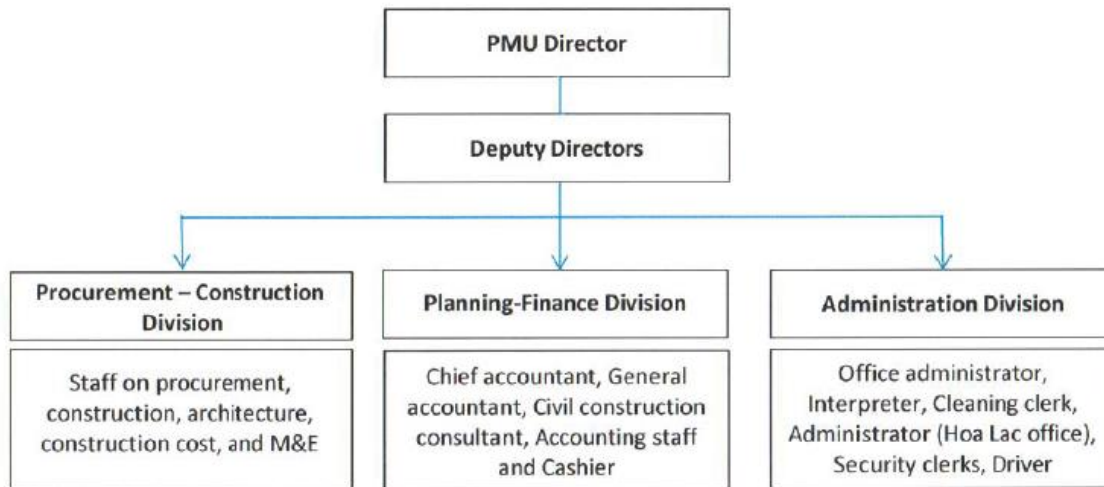
- ↔ : Collaborative relationship to implement the Project
- .-> : UIU/PMU to report to ADB (only) after having VAST's instruction/consultation.
- - - : Advisory Role.

The PSC will be responsible for monitoring and thoroughly mastering the project implementation and providing recommendations to VAST's President and possibly to ADB.

**Figure 2: Organization Chart for PMU-USTH**



**Figure 3: Organization Chart for the University Implementation Unit**



## V. COSTS AND FINANCING

20. The project cost is estimated at \$213.0 million, including physical and price contingencies, as well as taxes and duties, and resettlement and implementation costs of \$23.0 million to be financed by the government. The investment plan is summarized in Table 1.

**Table 1: Project Investment Plan**  
(\$ million)

Item	Amount <sup>a</sup>
<b>A. Base Cost<sup>b</sup></b>	
1. Effective management and governance systems for USTH developed and implemented	4.9
2. Systems to promote high quality and relevance in academic programs developed and implemented	47.8
3. Physical facilities for USTH constructed and outfitted <sup>c</sup>	123.9
4. Effective project management and implementation	3.7
<b>Subtotal (A)</b>	<b>180.3</b>
<b>B. Contingencies</b>	<b>21.4</b>
<b>C. Interest and Commitment Charges<sup>d</sup></b>	<b>11.4</b>
<b>Total (A+B+C)</b>	<b>213.0</b>

USTH = University of Science and Technology of Ha Noi

<sup>a</sup> Includes government contribution of \$23.0 million made up of the whole of taxes and duties (\$11.4 million), and of resettlement costs (\$3.0 million), and smaller contributions to other items.

<sup>b</sup> In 2010 prices.

<sup>c</sup> Physical contingencies are set at 5% for civil works and equipment. Price contingencies are computed at 2.3% on locally sourced, and 1% on foreign-sourced, expenditure.

<sup>d</sup> The cost ceiling for the project agreed with the Government of Viet Nam is \$210m excluding Resettlement Costs.

Source: Asian Development Bank estimates.

21. The government has requested a loan of \$170 million from ADB's ordinary capital resources (OCR) and a loan of \$20 million from the hard terms facility of the Asian Development Fund (ADFHT) to help finance the project. The OCR loan will have a 26-year term, including a grace period of 6 years, an annual interest rate determined in accordance with ADB's London interbank offered rate (LIBOR)-based lending facility, a commitment charge of 0.15% per annum on any undisbursed amount of the loan, and such other terms and conditions as set forth in the draft loan agreement. The ADFHT loan will have a 32-year term, including a grace period of 8 years, an interest rate of 2.02% per annum throughout the life of the loan, and such other terms and conditions as set forth in the draft loan agreement.

**Table 2: Financing Plan**  
(\$ million)

<b>Source</b>	<b>Amount</b>	<b>Share of Total (%)</b>
Asian Development Bank		
OCR	170.0	79.8
ADFHT	20.0	9.4
<b>Subtotal</b>	<b>190.0</b>	<b>89.2</b>
Government <sup>a</sup>	23.0	10.8
<b>Total</b>	<b>213.0</b>	<b>100.0</b>

ADFHT = hard terms facility of the Asian Development Fund, OCR = ordinary capital resources.

<sup>a</sup> Includes taxes and duties, resettlement costs, and contributions to other costs.

Source: Asian Development Bank.

22. The government has provided ADB with (i) the reasons for its decision to borrow under ADB's LIBOR-based lending facility, and (ii) an undertaking that this choice was its own independent decision and not made in reliance on any communication or advice from ADB. The OCR loan will fund 79.8% of the proposed project and the ADFHT will fund 9.4%, with the government accounting for the remaining 10.8% (Table 2). The Government of Viet Nam will also fund the costs of demining and landmine clearance on the proposed USTH site.



## A. Detailed Cost Estimates by Expenditure Category

Item		(VND Millions (a))			(US\$ '000)			Project Costs %	Local % of expenditure (b)
		Foreign	Local	Total	Foreign	Local	Total		
A. Investment Costs									
1	Capacity Building		42,811	42,811	\$6,187.5	\$2,051.3	8238.8		
1.1	Consultant Services – International (a)	129,133	0	129,133	6,187.5	\$0.0	\$6,187.5	2.9	0
1.2	Consultant Services – National	0	17,218	17,218	0.0	\$825.0	\$825.0	0.4	100
1.3	Rent & utilities	0	25,593	25,593	0.0	\$1,226.3	\$1,226.3	0.6	100
2	Systems Development and Training and Training	39,313	0	39,313	1,883.7	\$0.0	\$1,883.7	0.9	0
3	Scholarships	0	20,870	20,870	0.0	\$1,000.0	\$1,000.0	0.5	100
4	Equipment and Vehicles	704,258	124,281	828,539	33,745.0	\$5,955.0	\$39,700.0	18.6	15
5	Civil Works	904,334	1,356,501	2,260,835	43,331.8	64,997.6	108,329.4	50.9	60
6	Design and Construction Management	193,122	128,748	321,870	9,253.6	\$6,169.0	\$15,422.6	7.2	40
7	Project Management Unit Operations	5,533	49,799	55,333	265.1	\$2,386.2	\$2,651.3	1.2	90
8	Re-settlement	0	63,084	63,084	0.0	\$3,022.7	\$3,022.7	1.4	100
9	Subtotal (A) - Total Base Costs	1,974,858	1,784,841	3,759,699	94,626.7	85,521.9	180,148.5	84.6	
B. Contingencies		0							
10	Physical Contingencies	56,873	85,310	142,183	2,725.1	4,087.7	6,812.8	3.2	60
11	Price Contingencies	100,963	203,765	304,728	4,837.7	9,763.5	14,601.3	6.9	67
	Subtotal (B)	157,837	289,075	446,911	7,562.8	13,851.2	21,414.1	10.1	
C. Interest Charges									
	Interest and Commitment Charges on OCR Loan	216,073		216,073	10,353.3		\$10,353.3	4.9	0
	Interest Charges on ADFHT Loan	20,960		20,960	1,004.3		\$1,004.3	0.5	0
	Subtotal C FCDI	237,033		237,033	11,357.6		\$11,357.6	5.3	0
	Total (A+B+C)	2,370,563	2,075,168	4,445,731	113,587.1	\$99,433.1	\$213,020.2	100.0	47

<sup>a</sup> Dollar costs are converted to VND at VND20,870 = USD1.

<sup>b</sup> The percentages in this column are broad assumptions, based on the nature of the item and experience with previous projects. For item 11, the local-foreign split has been calculated based on the different rates of inflation assumed for local and foreign expenditure.

## B. Allocation and Withdrawal of Loan Proceeds

**Table 3: OCR Loan**

<b>ALLOCATION AND WITHDRAWAL OF LOAN PROCEEDS</b> (University of Science and Technology of Ha Noi Development [New Model University] Project)			
CATEGORY			ADB FINANCING
Number	Item	Amount Allocated Category	Percentage and Basis for Withdrawal from the Loan Account
1	Equipment	39,600,000	100.0% of total expenditure*
2	Works and Furniture	90,188,000	83.3% of total expenditure
3	Design and Construction Management**	8,544,000	60.9% of total expenditure*
4	Interest and Commitment Charges	10,353,000	100% of amount due
5	Unallocated	21,315,000	100% of amount due
	<b>Total</b>	<b>170,000,000</b>	

\* Exclusive of taxes and duties imposed within the territory of the Borrower

\*\* The remaining 39.1% of the expenditures for this category item shall be financed under the loan in the Special Operations Loan Agreement.

**Table 4: ADFHT Loan**

<b>ALLOCATION AND WITHDRAWAL OF LOAN PROCEEDS</b> (University of Science and Technology of Ha Noi Development [New Model University] Project)			
CATEGORY			ADB FINANCING
Number	Item	Amount Allocated (SDR) Category	Percentage and Basis for Withdrawal from the Loan Account
1	Capacity Building	5,076,000	100% of total expenditure*
2	Systems Development and Training	1,188,000	100% of total expenditure*
3	Scholarships	631,000	100% of total expenditure*
4	Design and Construction Management**	3,452,000	39.1% of total expenditure*
5	Project Management	1,503,000	89.9% of total expenditure
6	Vehicles	63,000	100% of total expenditure*
7.	Interest Charges	633,000	100% of amount due
8.	Unallocated	63,000	
	<b>Total</b>	<b>12, 609,000</b>	

\* Exclusive of taxes and duties imposed within the territory of the Borrower

\*\* The remaining 60.9% of the expenditure for this category item shall be financed under the loan in the Ordinary Operations Loan Agreement.

### C. Detailed Cost Estimate by Financier (\$ 000s)

		OCR Loan		ADFHT loan		Government of Vietnam		Total 1-3
		Amount	%	Amount	%	Amount (B)	%	Amount
<b>A</b>	<b>Investment Costs</b>							
1	Capacity Building			\$8,052.3	100			\$8,052.3
2	Systems Development and Training			\$1,883.7	100			\$1,883.7
3	Scholarships			\$1,000.0	100.0			\$1,000.0
4	Equipment and Vehicles	\$39,600.0	99.7	\$100.0	0.3			\$39,700.0
5	Works	\$90,188.0	91.6			\$8,293.3	8.4	\$98,481.3
6	Design and Construction Management	\$8,544.4	60.9	\$5,476.1	39.1			\$14,020.5
7	Project Management Unit Operations			\$2,383.5	89.9	\$267.8	10.1	\$2,651.3
8	Re-settlement	\$0.0	0.0			\$3,022.7		\$3,022.7
9	Taxes and duties (a)	\$0.0	0.0			\$11,427.6	100.0	\$11,427.6
A	Subtotal (A)	\$138,332.4	77.8	\$18,895.6	9.3	\$23,011.4	12.8	\$180,239.4
B	Contingencies	\$21,315.0	100.0	\$100.0	0.0	0		\$21,415.0
C	Interest Charges	\$10,353.3	100.0	\$1,004.3	30.2	0		\$11,357.0
	<b>Total Project Costs (A+B+C)</b>	<b>\$170,000.4</b>	<b>79.9</b>	<b>\$19,999.6</b>	<b>9.2</b>	<b>\$23,011.4</b>	<b>10.8</b>	<b>\$213,011.4</b>

ADB = Asian Development Bank, GVN = Government of Socialist Republic of Viet Nam.

Notes:

- (a) Items 5 and 6 are assumed to attract VAT at 10%, as are domestic expenditures in item 1. The Government of Viet Nam wishes to pay in full taxes and duties.
- (b) Government of Viet Nam contributions to items other than 11 have been allocated mainly to Civil Works to simplify payment processes, and adjusted to the agreed total of \$20m excluding resettlement.

Source: Staff estimates.

## D. Detailed Cost Estimate by Outputs/Components (\$ 000s)

			Output 1 - Effective Management and Governance, Scholarships		Output 2 - Development of Academic Programs, Equipment		Output 3 - Physical Facilities for USTH		Output 4 - Project Management	
			% of Cost Category		% of Cost Category		% of Cost Category		% of Cost Category	
	Total	Amount	Amount	% of Cost Category	Amount	% of Cost Category	Amount	% of Cost Category	Amount	% of Cost Category
<b>A</b>	<b>Base Costs</b>									
<b>1</b>	<b>Capacity Building</b>	<b>\$8,238.8</b>	<b>\$3,078.8</b>	<b>37.4</b>	<b>\$5,160.1</b>	<b>62.6</b>				
1.1	Consultant Services – International	6,187.5	2,351.3	38.0	3,836.3	62.0				
1.2	Consultant Services – National	825.0	313.5	38.0	511.5	62.0				
1.3	Rent & utilities	1,226.3	414.0	33.8	812.3	66.2				
<b>2</b>	<b>Systems Development and Training</b>	<b>\$1,883.7</b>	<b>\$678.1</b>	<b>36.0</b>	<b>\$1,205.6</b>	<b>64.0</b>				
<b>3</b>	<b>Scholarships</b>	<b>\$1,000.0</b>	<b>\$1,000.0</b>	<b>100.0</b>						
<b>4</b>	<b>Equipment and Vehicles</b>	<b>\$39,700.0</b>			<b>\$39,700.0</b>	<b>100.0</b>				
4.1	Scientific equipment for undergraduate work	17,000.0			17,000.0	100.0				
4.2	Scientific equipment for postgraduate work	18,000.0			18,000.0	100.0				
4.3	Library Stock	3,000.0			3,000.0	100.0				
4.4	Computers	1,600.0			1,600.0	100.0				
4.5	Vehicles	100.0			100.0	100.0				
<b>5</b>	<b>Works</b>	<b>\$108,329.4</b>					<b>\$108,329.4</b>	<b>100.0</b>		
5.1	Zone A - Administration and Learning Resources Centre	9,642.3					9,642.3	100.0		
5.2	Zone B - Academic	65,626.7					65,626.7	100.0		
5.3	Zone C - Dormitories and Student Activities	18,023.4					18,023.4	100.0		
5.4	Zone D - Services and Infrastructure	15,036.9					15,036.9	100.0		
<b>6</b>	<b>Design and Construction Management</b>	<b>\$15,422.6</b>	<b>\$130.8</b>	<b>0.8</b>	<b>\$1,715.1</b>	<b>11.1</b>	<b>\$12,560.6</b>	<b>81.4</b>	<b>\$1,016.1</b>	<b>6.6</b>
6.1	Project Management Contractor	3,393.5			440.0	13.0	2,953.5	87.0		
6.2	Education Services and Equipment Contractor	1,405.9	130.8	9.3	1,275.1	90.7				
6.3	Architect, Construction Cost Consultant	9,607.1					9,607.1	100.0		
6.4	Advance Procurement, Audit, Financial Systems, Probity	1,016.1							1,016.1	100.0
<b>7</b>	<b>Project Management Unit</b>	<b>\$2,651.3</b>						<b>0.0</b>	<b>\$2,651.3</b>	<b>100.0</b>
<b>8</b>	<b>Re-settlement</b>	<b>\$3,022.7</b>					<b>\$3,022.7</b>	<b>100.0</b>		
<b>Subtotal (A)</b>		<b>\$180,248.5</b>	<b>\$4,887.7</b>	<b>2.7</b>	<b>\$47,780.7</b>	<b>26.5</b>	<b>\$123,912.7</b>	<b>68.7</b>	<b>\$3,667.4</b>	<b>2.0</b>
12	Physical Contingencies	6,812.8			\$1,941.6	28.5	\$4,871.2	71.5		
13	Price Contingencies	14,601.3	\$287.5	2.0	\$3,071.7	21.0	\$11,009.9	75.4	\$232.1	1.6
14	Interest and Commitment Charges -OCR Loan	10,353.0	\$0.0	0.0	\$2,961.0	28.6	\$7,392.0	71.4	\$0.0	0.0
15	Interest charges - ADFHT Loan	1,004.0	\$271.1	27.0	\$386.5	38.5	\$215.9	21.5	\$130.6	13.0
<b>Subtotal (B)</b>		<b>32,770.8</b>	<b>558.6</b>	<b>1.7</b>	<b>8,360.8</b>	<b>25.5</b>	<b>23,489.0</b>	<b>71.7</b>	<b>362.6</b>	<b>1.1</b>
<b>Total</b>		<b>\$213,019.3</b>	<b>5,448.9</b>	<b>2.6</b>	<b>56,139.0</b>	<b>26.4</b>	<b>147,401.7</b>	<b>69.2</b>	<b>4,030.0</b>	<b>1.9</b>

Notes: Items 14 and 15 are attributed to outputs pro rata to each output's share of total base cost expenditure, in line with the allocations shown in Table B.

## E. Detailed Cost Estimate by Year (\$ 000s)

	Item	Total	2011	2012	2013	2014	2015	2016	2017
<b>A</b>	<b>Investment Costs</b>								
1	Capacity Building	8,238.8		823.9	1,235.8	1,235.8	1,647.8	1,647.8	1,647.8
2	Systems Development and Training	1,883.7		188.4	282.6	282.6	376.7	376.7	376.7
3	Scholarships	1,000.0		100.0	150.0	150.0	200.0	200.0	200.0
4	Equipment and Vehicles	39,700.0		0.0	1,985.0	5,955.0	5,955.0	11,910.0	13,895.0
5	Works	108,329.4		0.0	0.0	27,082.4	32,498.8	32,498.8	16,249.4
6	Design and Construction Management	15,422.6		771.1	2,313.4	3,855.7	3,084.5	3,084.5	2,313.4
7	Project Management Unit	2,651.3	0.0	450.7	450.7	450.7	450.7	450.7	397.7
8	Re-settlement	3,022.7	755.7	1,511.4	755.7				
	<b>Total Base Costs (A)</b>	<b>180,248.5</b>	<b>755.7</b>	<b>3,845.5</b>	<b>7,173.2</b>	<b>39,012.1</b>	<b>44,213.6</b>	<b>50,168.6</b>	<b>35,080.0</b>
<b>B</b>	<b>Contingencies</b>								
9	Physical Contingencies	6,812.8	0.0	0.0	0.0	1,703.2	2,043.8	2,043.8	1,021.9
10	Price Contingencies	14,601.0	15.1	126.0	292.0	2,439.2	3,523.0	4,655.7	3,550.0
11	Interest and Commitment Charges - OCR Loan	10,353.0		258.7	323.3	843.4	1,844.6	3,014.6	4,068.4
12	Interest Charges - ADFHT loan	1,004.0		17.4	63.0	124.7	194.5	267.0	337.3
	Total Contingencies & Interest (B)	32,770.8	30.9	402.1	678.3	5,110.6	7,605.9	9,981.2	8,977.6
	<b>Total (A+B)</b>	<b>213,019.3</b>	<b>770.8</b>	<b>4,247.6</b>	<b>7,851.4</b>	<b>44,122.7</b>	<b>51,819.4</b>	<b>60,149.8</b>	<b>44,057.6</b>

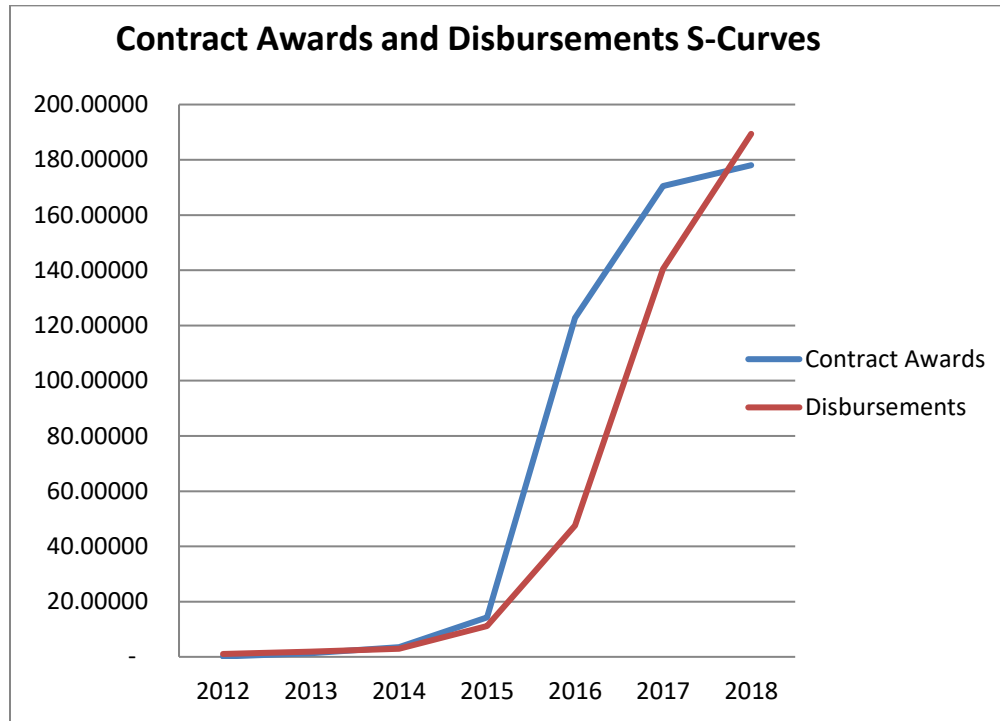
Notes:

1. Proportions of expenditure expected to be incurred in each year are as follows:

	2011	2012	2013	2014	2015	2016	2017	Total
Items 1-3		0.1	0.15	0.15	0.2	0.2	0.2	1.00
Item 4			0.05	0.15	0.15	0.3	0.35	1.00
Items 5 and 9				0.25	0.3	0.3	0.15	1.00
Item 6		0.05	0.15	0.25	0.2	0.2	0.15	1.00
Item 7		0.17	0.17	0.17	0.17	0.17	0.15	1.00
Item 8	0.25	0.50	0.25					

## F. Contract Award and Disbursement S-curve

23. Figure 4 shows contract awards and disbursement over the life of the project, based on the contract awards and disbursement projections in Table 5.



**Table 5: Annual Contract Awards and Annual Disbursements (\$ Millions)**

	2012	2013	2014	2015	2016	2017	2018
Cumulative Contract Awards	0.117	1.310	3.500	14.300	122.700	170.500	178.030
Cumulative Disbursements	1.052	1.910	2.900	11.110	47.560	140.510	189.380

## VI. FINANCIAL MANAGEMENT

### A. Financial Management Assessment

24. A Financial Management Assessment (FMA) was conducted to review and assess the EA's financial management including financial reporting, accounting, auditing internal control, disbursements, and cash flow management. The FMA also focused on the adequacy of management of project transactions, regular recording of and reliable financial statements, updating the asset inventory and financial audit management. ADB's Financial Management Assessment Questionnaire, *Loan Disbursement Handbook*, and the Guidelines for the Financial Governance and Management of Projects were used. Findings of the financial management assessment are in Appendix 12.

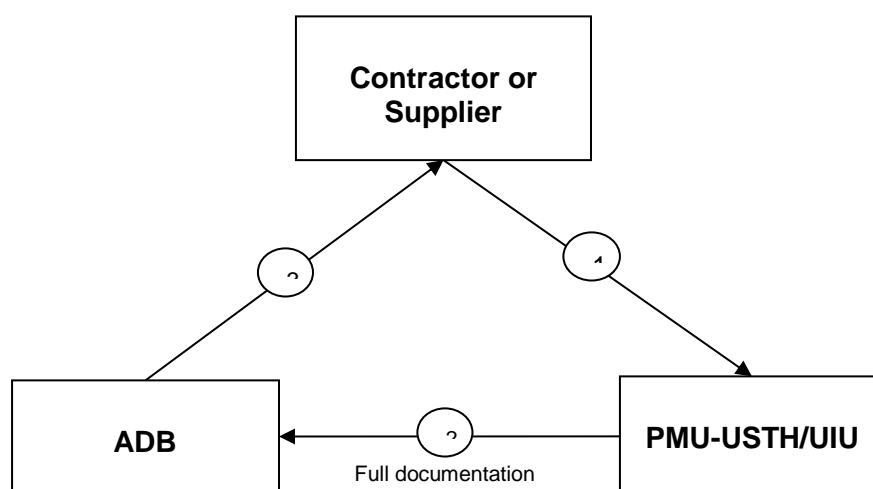
### B. Disbursement

25. The loan proceeds will be disbursed in accordance with ADB's *Loan Disbursement Handbook* (2007, as amended from time to time),<sup>5</sup> and detailed arrangements agreed upon between the government and ADB.

26. Pursuant to ADB's Safeguard Policy Statement [2009] (SPS),<sup>6</sup> ADB funds may not be applied to the activities described on the ADB Prohibited Investment Activities List set forth at Appendix 5 of the SPS. All financial institutions will ensure that their investments are in compliance with applicable national laws and regulations and will apply the prohibited investment activities list (Appendix 5 of the SPS) to subprojects financed by ADB.

27. **Direct Payment.** For all ICB contracts for goods and works, and for International consulting contracts over \$100,000, funds from the loan proceeds will flow from the ADB to the supplier/contractor. The process flow for direct payment is in Figure 5.

Figure 5: Direct Payment



28. **Imprest Accounts.** The PMU-USTH and UIU will each establish two imprest accounts (total of 4) to manage funds and payments that are not subject to direct payments. Each unit

<sup>5</sup> Available at: [http://www.adb.org/Documents/Handbooks/Loan\\_Disbursement/loan-disbursement-final.pdf](http://www.adb.org/Documents/Handbooks/Loan_Disbursement/loan-disbursement-final.pdf).

<sup>6</sup> Available at: <http://www.adb.org/Documents/Policies/Safeguards/Safeguard-Policy-Statement-June2009.pdf>

will establish a separate account for the OCR and the ADFHT loan amounts under their respective administration. These imprest accounts will be USD accounts, established at commercial banks acceptable to the ADB. Imprest Accounts 1 (OCR) and 2 (ADFHT) will be managed by PMU-USTH for construction related accounts and the Imprest Accounts 3 (OCR) and 4 (ADFHT) will be managed by the UIU for university management; academic and laboratory equipment related expenses; scholarships; and other gender action plan (GAP) related costs. The maximum ceiling for Imprest Accounts 1 and 3 will not exceed the estimated ADB-financed expenditures to be paid from the imprest accounts for the following 6 months or \$17 million in aggregate (10% of the OCR loan amount), whichever is lower. The maximum ceiling of Imprest Accounts 2 and 4 will not exceed the estimated ADB-financed expenditures to be paid from the imprest account for the following 6 months or \$2 million in aggregate (10% of the ADF loan amount), whichever is lower. The use of separate imprest accounts for the PMU-USTH and the UIU is the same practice being used under the World Bank's VGU project.

29. Before the submission of the first withdrawal application for the initial advance, the PMU-USTH and the UIU should submit to ADB sufficient evidence of the authority of the person(s) who will sign the withdrawal applications on behalf of the borrower, together with the authenticated specimen signatures of each authorized person, proof of opening of accounts and the comfort letters.

30. The request for initial advance to the imprest accounts should be accompanied by an Estimate of Expenditure Sheet<sup>7</sup> setting out the estimated expenditures for the first six (6) months of project implementation, and submission of evidence satisfactory to ADB that the imprest account has been duly opened. For every liquidation and replenishment request of the imprest accounts, the Recipient will furnish to ADB: (a) Statement of Account (bank statement) where the imprest account is maintained, and (b) the Imprest Account Reconciliation Statement (IARS) reconciling the above mentioned bank statement against the EA's records.<sup>8</sup>

31. The minimum value per withdrawal application is \$100,000, unless otherwise approved by ADB. PMU-USTH is to consolidate claims to meet this limit for reimbursement and imprest account claims. Withdrawal applications and supporting documents will demonstrate, among other things that the goods, and/or services were produced in or from ADB members, and are eligible for ADB financing.

32. The statement of expenditures (SOE) procedure will be used when seeking reimbursement of eligible expenditures and liquidating advances made into the imprest account according to the guidelines. Each payment to be reimbursed or liquidated under the SOE will not exceed the equivalent of \$50,000. SOE records and supporting documents should be maintained at the PMU-USTH and UIU offices and made readily available for review by ADB's disbursement and review mission or upon ADB's request for submission of supporting documents on a sampling basis, and for independent audit.<sup>9</sup>

33. The process flow for the Imprest Fund procedure is shown in Figure 6.

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<sup>7</sup> Available in Appendix 29 of the *Loan Disbursement Handbook*.

<sup>8</sup> Follow the format provided in Appendix 30 of the *Loan Disbursement Handbook*.

<sup>9</sup> Checklist for SOE procedures and formats is available at:

[http://www.adb.org/documents/handbooks/loan\\_disbursement/chap-09.pdf](http://www.adb.org/documents/handbooks/loan_disbursement/chap-09.pdf)

[http://www.adb.org/documents/handbooks/loan\\_disbursement/SOE-Contracts-100-Below.xls](http://www.adb.org/documents/handbooks/loan_disbursement/SOE-Contracts-100-Below.xls)

[http://www.adb.org/documents/handbooks/loan\\_disbursement/SOE-Contracts-Over-100.xls](http://www.adb.org/documents/handbooks/loan_disbursement/SOE-Contracts-Over-100.xls)

[http://www.adb.org/documents/handbooks/loan\\_disbursement/SOE-Operating-Costs.xls](http://www.adb.org/documents/handbooks/loan_disbursement/SOE-Operating-Costs.xls)

[http://www.adb.org/documents/handbooks/loan\\_disbursement/SOE-Free-Format.xls](http://www.adb.org/documents/handbooks/loan_disbursement/SOE-Free-Format.xls)



```

graph TD
    ADB[ADB] -- 1 --> PMU1[PMU-USTH Imprest Account 1 (OCR)]
    ADB -- 2 --> PMU2[PMU-USTH Imprest Account 2 (ADFHT)]
    ADB -- 3 --> UIU1[UIU Imprest Account 3 (OCR)]
    ADB -- 4 --> UIU2[UIU Imprest Account 4 (ADFHT)]
    ADB -- 5 --> MOF[MOF]
    ADB -- 6 --> VAST[VAST]
    MOF -- 7 --> VAST
    VAST -- 8 --> PMU_UIU[PMU-USTH/ UIU]
    PMU_UIU -- 9 --> Contractor[Contractor or Supplier]
    Contractor -- 10 --> PMU_UIU
    PMU_UIU -- 11 --> ADB
  
```

- ### C. Accounting

27

## **D. Auditing**

35. All auditing will be carried out in accordance with international and national standards by an auditor acceptable to ADB. The PMU-USTH will engage external auditors for this purpose, which will be financed from the loan proceeds. The one external auditor contractor will audit all accounts managed by both the PMU-USTH and the UIU, and the auditor will prepare one consolidated project audit report per audit action. The audited accounts will be submitted in the English language to ADB within 6 months of the end of the fiscal year by the EA. The annual audit report will include a separate audit opinion on the use of the imprest accounts, and the SOE procedures. The government and VAST have been made aware of ADB's policy on delayed submission, and the requirements for satisfactory and acceptable quality of the audited accounts. ADB reserves the right to verify the Project's financial accounts to confirm that ADB's share of the financing is used in accordance with ADB's policies and procedures.

## **VII. PROCUREMENT AND CONSULTING SERVICES**

### **A. Procurement of Goods, Works and Consulting Services**

36. All procurement of goods and works to be financed under the loan will be undertaken in accordance with ADB's *Procurement Guidelines*<sup>10</sup> (March 2013, as amended from time to time) and the procurement plan prepared and agreed between the government and ADB.

37. Under the project, international competitive bidding procedures will be used for works contracts estimated to cost \$2,000,000 or more, and contracts for goods valued at \$500,000 and above. Contracts for civil works of more than \$100,000 but less than \$2,000,000 will follow national competitive bidding procedures. Contracts for goods estimated below \$500,000 but above \$100,000 will be awarded on the basis of national competitive bidding. Items costing \$100,000 or less will be procured through shopping.

38. Before the start of any procurement, ADB and the government will review the public procurement laws of the central and state governments to ensure consistency with ADB's Procurement Guidelines.

39. An 18-month procurement plan indicating threshold and review procedures, goods, works, and consulting service contract packages and national competitive bidding guidelines is in Section C.

40. All consultants will be recruited according to ADB's *Guidelines on the Use of Consultants* (March 2013, as amended from time to time).<sup>11</sup> All consulting packages must be advertised in Consulting Services Recruitment Notice (CSRN) on ADB's website, [www.adb.org](http://www.adb.org) (<http://csrns.adb.org>). The minimum advertising period is 30 days. The government is advised to select electronic submission of Expressions of Interest (EOI) to be able to cross-check companies' performance records in ADB Consultant Management System (CMS). A framework for contracted activities for all consulting services is detailed in Appendix 4.

<sup>10</sup> Available at: <http://www.adb.org/Documents/Guidelines/Procurement/Guidelines-Procurement.pdf>

<sup>11</sup> [http://www.adb.org/Documents/Manuals/PAI/PAI-2.05-18Oct2010.pdf?bcsi\\_scan\\_7823DFCE46415F3E=Uywj4kQwlqFlkxOz6aMEpxkAAABk0lwb&bcsi\\_scan\\_filename=PAI-2.05-18Oct2010.pdf](http://www.adb.org/Documents/Manuals/PAI/PAI-2.05-18Oct2010.pdf?bcsi_scan_7823DFCE46415F3E=Uywj4kQwlqFlkxOz6aMEpxkAAABk0lwb&bcsi_scan_filename=PAI-2.05-18Oct2010.pdf) ; also available in Vietnamese: <http://www.adb.org/Documents/Guidelines/Consulting/Guidelines-Consultants.pdf> ; also available in Vietnamese: <http://www.adb.org/Documents/Translations/Vietnamese/Guidelines-Consultants-vn.pdf>

## B. Procurement Strategy

41. The implementation of procurement under the loan will be split between PMU-USTH and the UIU. The PMU-USTH will have the primary responsibility for the implementation of Output 3 (design, construction and outfitting of the campus), while the UIU will have primary responsibility for the implementation of Outputs 1 & 2.

## C. Procurement Plan

42. The procurement plan is prepared in accordance with ADB's generic or country specific templates as appropriate.

### Basic Data

<b>Project Name:</b> University of Science and Technology of Hanoi Development (New Model University) Project	
<b>Country:</b> Vietnam	<b>Executing Agency:</b> Ministry of Education and Training
<b>Loan Amount:</b> \$190 million	<b>Loan Number:</b> 2750-VIE and 2751-VIE
<b>Date of First Procurement Plan:</b> 10 Nov 2011	<b>Date of this Procurement Plan:</b> 2 October 2013

## A. Process Thresholds and Review

### 1. Project Procurement Thresholds

43. Except as the Asian Development Bank (ADB) may otherwise agree, the following process thresholds shall apply to procurement of goods and works.

### Procurement of Goods and Works

Method	Threshold
International Competitive Bidding (ICB) for Works	Above \$2,000,000
International Competitive Bidding for Goods	Above \$500,000
National Competitive Bidding (NCB) for Works	Beneath that stated for ICB, Works
National Competitive Bidding for Goods	Beneath that stated for ICB, Goods
Shopping for Works	Below \$100,000
Shopping for Goods	Below \$100,000

### 2. ADB Prior or Post Review

44. Except as ADB may otherwise agree, the following prior or post review requirements apply to the various procurement and consultant recruitment methods used for the project.

Procurement Method	Prior or Post	Comments
Procurement of Goods and Works		
ICB Works	Prior	Prior review of all bidding documents
ICB Goods	Prior	
NCB Works	Prior/Post	The first two contracts in English language version for NCB/Shopping goods and works will be reviewed using prior review procedure. Following that, post review will be used. ADB approved procurement documents will be used as a model for subsequent procurement.
NCB Goods	Prior/Post	
Shopping for Works		
Shopping for Goods		
Direct Contracting	Prior	
Recruitment of Consulting Firms		
Quality and Cost-Based Selection (QCBS)	Prior	Prior review for all contracts.
Quality-Based Selection (QBS)	Prior	

Procurement Method	Prior or Post	Comments
Least-Cost Selection (LCS) Consultants' Qualifications Selection (CQS)	Prior	
<b>Recruitment of Individual Consultants</b>		
Individual Consultants	Prior	

### 3. Goods and Works Contracts Estimated to Cost More Than \$1 Million

45. The following table lists goods and works contracts for which procurement activity is either ongoing or expected to commence within the next 18 months.

General Description	Contract Value (\$)	Procurement Method	Prequalification of Bidders (y/n)	Advertisement Date (quarter/year)	Comments
Services and Infrastructure Package	13,669,907	ICB	Y	Q4, 2014	International
Construction Package	84,811,263	ICB	Y	Q1, 2015	International

### 4. Consulting Services Contracts Estimated to Cost More Than \$100,000

46. The following table lists consulting services contracts for which procurement activity is either ongoing or expected to commence within the next 18 months.

General Description	Contract Value (\$)	Recruitment Method	Advertisement Date	International or National Assignment	Comments
<b>Consulting Services-Firms</b>					
<b>PMU-USTH</b>					
Architecture Design Competition Management	300,000	CQS	Q4,2012	International	Signing contract.
Architects & Engineering Consultant (AEC)	6,614,000	QBS	Q1,2014	International	Total 749 pm : Int x 217 pm ; Nat x 531pm
Geological Survey Consultant for Design (GSCD)	819,000	QBS	Q1,2014	National	
Project Management and Supervision for Construction (PMSC)	4,283,000	QCBS (80:20)	Q2, 2014	International	
<b>UIU</b>					
Higher Education Equipment Supply (HEES)	1,278,050	QCBS (80:20)	Q2, 2014	International	
Higher Education Services Consultant (HESC)	6,937,500	QCBS (80:20)	Q2, 2014	International	
<b>Individual Consultants and Staff</b>					
<b>PMU-USTH</b>					
Procurement and Project Readiness (PPR)					
International Consultant for Procurement and Project Implementation	546,000	ICS	Q2,2012	International 27 pm	Contract signed.
<b>UIU</b>					

General Description	Contract Value (\$)	Recruitment Method	Advertisement Date	International or National Assignment	Comments
International Higher Education Planning Consultant	648,000	ICS	Q2,2013	International 36 pm	Recruitment ongoing.

**5. Goods and Works Contracts Estimated to Cost Less than \$1 Million and Consulting Services Contracts Less than \$100,000**

47. The following table groups smaller-value goods, works and consulting services contracts for which procurement activity is either ongoing or expected to commence within the next 18 months.

General Description	Value of Contracts (\$)	Number of Contracts	Procurement/ Recruitment Method	Comments
<b>Goods</b>				
<b>PMU-USTH</b>				
Supply and Installation of Furniture for PMU	15,000	1	Shopping	Contract signed.
Furniture and Air Conditioners for the Temporary Office at HHTP	13,200	1	Shopping	Advertisement in Q4, 2014
Office Equipment and Software for PMU	95,000	1	Shopping	Contract signed.
Vehicles for PMU	48,400	1	Shopping	Contract signed.
<b>UIU</b>				
Supply and Installation of Furniture for UIU	15,000	1	Shopping	Advertisement in Q4, 2013.
Office Equipment and Software for UIU	80,000	1	Shopping	Advertisement in Q2, 2014.
Vehicle for UIU	50,000	1	Shopping	Advertisement in Q2, 2014.
Laboratory Equipment Package 1	1,000,000	1	ICB	Advertisement in Q2, 2014.
Equipment, Computers and Software for USTH 1	300,000	1	NCB	Advertisement in Q1, 2014.
Laboratory Equipment Package 2	2,000,000	4	ICB	Advertisement in Q4, 2014.
Laboratory Equipment Package 3	2,000,000	4	ICB	Advertisement in Q2, 2015.
Laboratory Equipment Package 4	20,000,000	4	ICB	Advertisement in Q4, 2015.
Laboratory Equipment Package 5	10,000,000	4	ICB	Advertisement in Q3, 2016.
Equipment Package Library Stock (E-library, textbooks, scientific journals, library equipment)	3,000,000	4	ICB	Advertisement in Q2, 2016.
<b>Works</b>				
Construction of Temporary Office at Hoa Lac	50,000	1	Shopping	Advertisement in Q4, 2013
Construction of Temporary Boundary Fence	582,000	1	NCB	Advertisement in Q1, 2014
<b>Consulting Services –Firms</b>				
Financial Management Software and Installation (FMSI)	20,000	1	CQS/National	Contract signed
Contract Legal Review (CLR)	96,250	1	CQS/National	Recruitment ongoing.
Independent Audit (IA) (FY2012)	15,000	1	LCS/National	Signing contract.

General Description	Value of Contracts (\$)	Number of Contracts	Procurement/ Recruitment Method	Comments
Independent Audit (IA) (FY2013)	15,000	1	SSS/National	Initiate recruitment in Q1/2014.
Architecture and Engineering of Boundary Fence (AEBF)	8,000	1	CQS/National	Recruitment ongoing.
Geology Survey (GS)	20,000	1	CQS/National	Recruitment ongoing.
<b>Individual consultants</b>				
<b>PMU-USTH</b>				
Procurement and Project Readiness (PPR)				
International Space Scheduler	72,000	1	ICS/International 4pm	Contract signed.
International Quantity Surveyor	36,000	1	ICS/International 2pm	Contract signed.
National Procurement Consultant 1	93,000	5	ICS/National 62 pm	Contract signed. Annual contracts.
National Procurement Consultant 2	43,200	3	ICS/National 36 pm	Contract signed. Annual contracts.
National Procurement Consultant 3	54,000	5	ICS/National 45 pm	Advertisement in Q2, 2014.
Project Operation Coordinator	93,000	5	ICS/National 62 pm	Contract signed. Annual contracts.
National Consultant on Construction Management	93,000	5	ICS/National 62 pm	Contract signed. Annual contracts
National Consultant on Construction Management 2	43,200	3	ICS/National 36 pm	Advertisement in Q3, 2014.
National Consultant on Architecture	74,400	5	ICS/National 62 pm	Contract signed. Annual contracts
National Consultant on Construction Cost	74,400	5	ICS/National 62 pm	Contract signed. Annual contracts
National Consultant on Construction Cost 2	46,800	3	ICS/National 39 pm	Advertisement in Q2, 2014.
National Consultant on Electrics and Mechanics	43,200	4	ICS/National 36 pm	Advertisement in Q3, 2014.
National Consultant on Higher Education Operation	43,200	3	ICS/National 36 pm	Contract signed.
National Consultant on Monitoring, Evaluation	57,600	4	ICS/National 48 pm	Contract signed.
Information Technology Administrator	74,400	5	ICS/National 62 pm	Contract signed. Annual contracts
National Consultant on Website Design and Development	8,000	1	ICS/National	Contract signed.
General Accountant	74,400	5	ICS/National 62 pm	Contract signed. Annual contract.
Payment Accountant	73,200	5	ICS/National 61 pm	Contract signed. Annual contracts.
Payment Accountant 2	54,000	5	ICS/National 45 pm	Advertisement in Q3, 2014.
Disbursement Accountant	54,000	5	ICS/National 45 pm	Advertisement in Q3, 2014.
Project Administrator	74,400	5	ICS/National 62 pm	Contract signed. Annual contracts.
Interpreter 1	74,400	5	ICS/National 62 pm	Contract signed. Annual contracts.
Interpreter 2	73,200	5	ICS/National	Contract signed.

General Description	Value of Contracts (\$)	Number of Contracts	Procurement/ Recruitment Method	Comments
Independent Resettlement Review (IRR)	25,000	1	61 pm ICS/National	Annual contracts. Contract signed. Lump-sum contract
National Internal Resettlement Monitor	14,400	1	ICS/National 12 pm	Advertisement in Q4, 2013.
<b>UIU</b>				
National Procurement Consultant	72,000	4	ICS/National 48 pm	Contract signed. Annual contracts.
National Gender Consultant	36,000	3	ICS/National 24 pm	Advertisement in Q4, 2013.
Project Financial Consultant	72,000	4	ICS/National 48 pm	Contract signed.
Project Disbursement Assistant	57,600	4	ICS/National 48 pm	Contract signed. Annual contracts.
Interpreter	62,400	4	ICS/National 52 pm	Contract signed. Annual contracts.
National HR Development Consultant	36,000	2	ICS/National 24 pm	Under consideration.
Project Assistant for HR & Administration	60,000	4	ICS/National 50 pm	USTH staff assigned.
Assistant to Teaching and Learning Consultant	60,000	4	ICS/National 50 pm	USTH staff assigned.
Assistant to Quality Assurance Consultant	60,000	4	ICS/National 50 pm	Re-advertisement in Q2, 2014.
Assistant to Laboratory Management Consultant	60,000	4	ICS/National 50 pm	Re-advertisement in Q2, 2014.
Assistant to Industry Linkage and Research Support Consultant	60,000	4	ICS/National 50 pm	Re-advertisement in Q2, 2014.

## B. Indicative List of Packages Required Under the Project

48. The following table lists goods and works contracts for which procurement activity is either ongoing or expected to commence within the next 18 months.

General Description	Estimated Contract Value (\$)	Procurement Method	Estimated Number of Contracts	Advertisement Date (quarter/year)	Comments
<b>Works</b>					
Services and Infrastructure Package	13,669,907	ICB	1	Q4, 2014	
Construction Package	84,811,263	ICB	1	Q1, 2015	
Construction of Temporary Office at Hoa Lac	50,000	Shopping	1	Q4, 2013	
Construction of Temporary Boundary Fence	582,000	NCB	1	Q1, 2014	
<b>Goods</b>					
Laboratory Equipment Package 1	1,000,000	ICB	1	Q1, 2014	
Laboratory Equipment Package 2	2,000,000	ICB	2	Q2, 2014	

Laboratory Equipment Package 3	2,000,000	ICB	2	Q1, 2015	
Laboratory Equipment Package 4	20,000,000	ICB	2	Q4, 2015	
Laboratory Equipment Package 5	10,000,000	ICB	4	Q3, 2016	
Equipment Package Library stock (E–Library, Textbooks, Scientific Journals, Library Equipment)	3,000,000	ICB	4	Q2, 2016	
Supply and Installation of Furniture for PMU	15,000	Shopping	1	Q3, 2012	Contract signed.
Office Equipment and Software for PMU	95,000	Shopping	1	Q3, 2012	Contract signed.
Vehicle for PMU	48,400	Shopping	1	Q3, 2012	Contract signed.
Supply and Installation of Furniture for UIU	15,000	Shopping	1	Q4, 2013	
Office Equipment and Software for UIU	80,000	Shopping	1	Q4, 2013	
Vehicle for UIU	50,000	Shopping	1	Q4, 2013	
Equipment, Computers and Software for USTH Package 1	300,000	NCB	1	Q4, 2013	
Equipment, Computers and Software for USTH Package 2	790,000	NCB	1	Q3, 2016	
Office Equipment, Supplies, and Software for USTH	510,000	NCB	4	Q3, 2016	

General Description	Estimated Contract Value (\$)	Recruitment Method	Estimated Number of Contracts	Advertisement Date (quarter/year)	Type of Proposal	Comments
<b>Consulting Services</b>						
Architecture Design Competition Management	300,000	CQS	1	Q4, 2012		Signing contract.
Architects and Engineering Consultant (AEC)	6,614,000	QBS	1	Q1, 2014	FTP	Total 749 pm Int x 217 pm Nat x 531pm
Geological Survey Consultant for Design (GSCD)	819,000	QBS	1	Q1, 2014	FTP	International
Project Management and Supervision for Construction (PMSC)	4,283,000	QCBS (80:20)	1	Q2, 2014	FTP	International
Higher Education Equipment Supply (HEES)	1,278,050	QCBS (80:20)	1	Q2, 2014	FTP	International
Higher Education Services Consultant (HESC)	6,937,500	QCBS (80:20)	1	Q2, 2014	FTP	International



Procurement and Project Readiness (PPR)					
International Consultant for Procurement and Project Implementation	546,000	ICS	1	Q2, 2012	Contract signed.
International Higher Education Planning Consultant	648,000	ICS	1	Q2, 2013	
International Space Scheduler	72,000	ICS	1	Q2, 2013	Contract signed.
International Quantity Surveyor	36,000	ICS	1	Q2, 2013	Contract signed.
Financial Management Software and Installation (FMSI)	20,000	CQS	1	Q4, 2012	Contract signed.
Contract Legal Review (CLR)	96,250	CQS	1	Q2, 2013	Recruitment ongoing.
Independent Audit (IA)	180,000	LCS/SSS	6	Q1 annually	FYs 2012-2018
Architecture and Engineering of Boundary Fence (AEBF)	8,000	CQS	1	Q4, 2012	Recruitment ongoing.
Geology Survey	20,000	CQS	1	Q1, 2012	Recruitment ongoing.
National Procurement Consultant 1 PMU-USTH	93,000	ICS	5 (Annual)	Q3, 2012	Contract signed.
National Procurement Consultant 2 PMU-USTH	43,200	ICS	3 (Annual)	Q3, 2012	Contract signed.
Project Operation Coordinator	93,000	ICS	5 (Annual)	Q2, 2012	Contract signed.
National Consultant on Construction Management	93,000	ICS	5 (Annual)	Q3, 2012	Contract signed.
National Consultant on Architecture	74,400	ICS	5 (Annual)	Q3, 2012	Contract signed.
National Consultant on Construction Cost	74,400	ICS	5 (Annual)	Q3, 2012	Contract signed.
National Consultant on Higher Education	43,200	ICS	3 (Annual)	Q2, 2013	Contract signed.
National Internal Resettlement Monitor	14,400	ICS	1	Q3, 2012	Contract signed.
National Consulting on Monitoring Evaluation	57,400	ICS	4 (Annual)	Q2, 2013	Contract signed.
Information Technology Administrator	74,400	ICS	5 (Annual)	Q3, 2012	Contract signed.
National Consultant on Website Design and Development	8,000	ICS	1	Q3, 2012	Contract signed.
General Accountant	74,400	ICS	5	Q3, 2012	Contract

			(Annual)		signed.
Payment Accountant	73,200	ICS	5 (Annual)	Q4, 2012	Contract signed.
Project Administrator	74,400	ICS	5 (Annual)	Q3, 2012	Contract signed.
Interpreter 1 PMU-USTH	74,400	ICS	5 (Annual)	Q3, 2012	Contract signed.
Interpreter 2 PMU-USTH	73,200	ICS	5 (Annual)	Q4, 2012	Contract signed.
Independent Resettlement Review (IRR)	25,000	ICS	1	Q3, 2012	Contract signed.
National Procurement Consultant UIU	72,000	ICS	4 (Annual)	Q2, 2013	Contract signed.
National Gender Consultant UIU	36,000	ICS	3 (Annual)	Q4, 2013	
Project Financial Consultant UIU	72,000	ICS	4 (Annual)	Q2, 2013	Contract signed.
Project Disbursement Assistant UIU	57,600	ICS	4 (Annual)	Q2, 2013	Contract signed.
Interpreter UIU	62,400	ICS	4 (Annual)	Q2, 2013	Contract signed.
National HR Development Consultant	36,000	ICS	2 (Annual)	Q4, 2013	
Project Assistant for HR and Administration	60,000	ICS	4 (Annual)	Q4, 2013	
Assistant to Teaching and Learning Consultant	60,000	ICS	4 (Annual)	Q4, 2013	
Assistant to Quality Assurance Consultant	60,000	ICS	4 (Annual)	Q4, 2013	
Assistant to Laboratory Management Consultant	60,000	ICS	4 (Annual)	Q4, 2013	
Assistant to Industry Linkage Consultant	60,000	ICS	4 (Annual)	Q4, 2013	
Assistant to Research Support Consultant	60,000	ICS	4 (Annual)	Q4, 2013	

## **C. National Competitive Bidding**

### **1. General**

49. The laws to be followed for national competitive bidding are set forth in (i) the Law on Procurement No. 61/2005/QH11 of 29 November 2005, (ii) the Construction Law no. 16/2003/QH11 of 26 November 2003, (iii) the Amendment Law No. 38/2009/QH12 of 19 June 2009 amending and supplementing key articles of the above-mentioned two laws, and (iv) the processes described in Decree No. 85/2009/ND-CP of 15 October 2009 on “Guiding Implementation of Procurement Law and Selection of Construction Contractors under the Construction Law”. Whenever any procedure in the national procurement laws is inconsistent with the ADB Procurement Guidelines (April 2010, and as amended from time to time), the ADB Guidelines shall prevail, amongst others on the following.

### **2. Registration**

- (i) Bidding shall not be restricted to pre-registered firms and such registration shall not be a condition for participation in the bidding process.
- (ii) Where registration is required prior to award of contract, bidders: (i) shall be allowed a reasonable time to complete the registration process; and (ii) shall not be denied registration for reasons unrelated to their capability and resources to successfully perform the contract, which shall be verified through post-qualification.
- (iii) Foreign bidders shall not be required to register as a condition for submitting bids.
- (iv) Bidder's qualification shall be verified through pre- or post-qualification process.

### **3. Eligibility**

- (i) National sanction lists may only be applied with approval of ADB<sup>12</sup>.
- (ii) A firm declared ineligible by ADB cannot participate in bidding for an ADB financed contract during the period of time determined by ADB.
- (iii) A firm which has been engaged by the borrower to provide consulting services for the preparation or implementation of a project, and any of its affiliates, shall be disqualified from subsequently providing goods, works, or services, resulting from or directly related to the firm's consulting services for such preparation or implementation.

### **4. Prequalification and Post qualification**

- (i) Post qualification shall be used unless prequalification is explicitly provided for in the loan agreement/procurement plan. Irrespective of whether post qualification or prequalification is used, eligible bidders (both national and foreign) shall be allowed to participate.
- (ii) In the event where pre-qualification is used, interested firms shall be given no less than 42 days to prepare their pre-qualification submission.
- (iii) When pre-qualification is required, the evaluation methodology shall be based on pass/fail criteria relating to the firm's experience, technical and financial capacities.

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<sup>12</sup> Section 52 of the Integrity Principles and Guidelines allows ADB to sanction parties who fail to meet ADB's high ethical standards based on the decisions of third parties, such a decision can only be made by the Integrity Oversight Committee on the basis of ADB's own independent examination of the evidence. As such, the process should follow the normal assessment and investigative processes prescribed by the Integrity Principles and Guidelines. <http://www.adb.org/Documents/Guidelines/Integrity-Guidelines-Procedures/integrity-guidelines-procedures-2006.pdf>

- (iv) Qualification criteria shall be clearly specified in the bidding documents, and all criteria so specified, and only criteria so specified, shall be used to determine whether a bidder is qualified. The evaluation of the bidder's qualifications should be conducted separately from the technical and commercial evaluation of the bid.
- (v) In carrying out the post-qualification assessment, the Employer/ Purchaser shall exercise reasonable judgment in requesting, in writing, from a bidder missing factual or historical supporting information related to the bidder's qualifications and shall provide reasonable time period (a minimum of 7 days) to the bidder to provide response.

## **5. Preferences**

- (i) No preference of any kind shall be given to domestic bidders or for domestically manufactured goods.
- (ii) Regulations issued by a sectoral ministry, provincial regulations and local regulations which restrict national competitive bidding procedures to a class of contractors or a class of suppliers shall not be applicable.
- (iii) Foreign bidders shall be eligible to participate in bidding under the same conditions as local bidders, and local bidders shall be given no preference (either in bidding process or in bid evaluation) over foreign bidders, nor shall bidders located in the same province or city as the procuring entity be given any such preference over bidders located outside that city or province

## **6. Advertising**

- (i) Invitations to bid (or prequalify, where prequalification is used) shall be advertised in Government Public Procurement Bulletin. In addition, the procuring agency should publish the advertisement in at least one widely circulated national daily newspaper or freely accessible, nationally-known website allowing a minimum of twenty-eight (28) days for the preparation and submission of bids and allowing potential bidders to purchase bidding documents up to at least twenty-four (24) hours prior the deadline for the submission of bids. Bidding of NCB contracts estimated at \$500,000 or more for goods and related services or \$1,000,000 or more for civil works shall be advertised on ADB's website via the posting of the Procurement Plan.
- (ii) Bidding documents shall be made available by mail, or in person, to all who are willing to pay the required fee, if any.
- (iii) The fee for the bidding documents should be reasonable and consist only of the cost of printing (or photocopying) the documents and their delivery to the bidder. (Currently set at 1 Mln VND, increase subject to approval of ADB)

## **7. Standard bidding documents**

- (i) The Borrower's standard bidding documents, acceptable to ADB, shall be used. The bidding documents shall provide clear instructions on how bids should be submitted, how prices should be offered, and the place and time for submission and opening of bids.
- (ii) Bidders shall be allowed to submit bids by hand or by mail/ courier.

## **8. Bid Opening**

- (i) All bids received after the deadline for submission indicated in the bidding documents will be rejected.

- (ii) All bids received before the bid submission deadline shall be opened except those with proper notice of withdrawal.
- (iii) A copy of the bid opening record shall be promptly provided to all bidders who submitted bids.

## **9. Bid Evaluation**

- (i) Merit points shall not be used in bid evaluation.
- (ii) Bidders shall not be eliminated from detailed evaluation on the basis of minor, non-substantial deviations.<sup>13</sup>
- (iii) Except with the prior approval of ADB, no negotiations shall take place with any bidder prior to the award, even when all bids exceed the cost estimates.
- (iv) A bidder shall not be required, as a condition for award of contract, to undertake obligations not specified in the bidding documents or otherwise to modify the bid as originally submitted.
- (v) Bids shall not be rejected on account of arithmetic corrections of any amount. However, if the Bidder that submitted the lowest evaluated bid does not accept the arithmetical corrections made by the evaluating committee during the evaluation stage, its bid shall be disqualified and its bid security shall be forfeited.

## **10. Rejection of All Bids and Rebidding**

- (i) No bid shall be rejected on the basis of a comparison with the owner's estimate or budget ceiling without the ADB's prior concurrence.
- (ii) Bids shall not be rejected and new bids solicited without the ADB's prior concurrence.

## **11. Participation by Government-owned enterprises**

50. Government-owned enterprises shall be eligible to participate as bidders only if they can establish that they are legally and financially autonomous, operate under Enterprise law and are not a dependent agency the contracting entity. Furthermore, they will be subject to the same bid and performance security requirements as other bidders.

## **12. Participation by Foreign Contractors and Suppliers. Joint Ventures and Associations**

- (i) Foreign suppliers and contractors from eligible countries shall, if they are interested, be allowed to participate without being required to associate or form joint ventures with local suppliers or contractors, or to subcontract part of their contract to a local bidder.
- (ii) A bidder declared the lowest evaluated responsive bidder shall not be required to form a joint venture or to sub-contract part of the supply of goods as a condition of award of the contract.
- (iii) License for foreign contractors operation in Vietnam would be provided in a timely manner and will not be arbitrarily withheld.

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<sup>13</sup> Minor, non-substantial deviation is one that, if accepted, would not affect in any substantial way the scope, quality, or performance specified in the contract; or limit in any substantial way, the Contracting entity rights or the Bidder's obligations under the proposed contract or if rectified, would not unfairly affect the competitive position of other bidders presenting substantially responsive bids.

### **13. Publication of the Award of Contract. Debriefing.**

- (i) For contracts subject to prior review, within 2 weeks of receiving ADB's "No-objection" to the recommendation of contract award, the borrower shall publish in the Government Public Procurement Bulletin, or well-known and freely-accessible website the results of the bid evaluation, identifying the bid and lot numbers, and providing information on: i) name of each bidder who submitted a bid; ii) bid prices as read out at bid opening; iii) name and evaluated prices of each bid that was evaluated; iv) name of bidders whose bids were rejected and the reasons for their rejection; and v) name of the winning bidder, and the price it offered, as well as the duration and summary scope of the contract awarded.
- (ii) For contracts subject to post review, the procuring entity shall publish the bid evaluation results no later than the date of contract award.
- (iii) In the publication of the bid evaluation results, the borrower shall specify that any bidder who wishes to ascertain the grounds on which its bid was not selected, should request an explanation from the procuring entity. The procuring entity shall promptly provide an explanation of why such bid was not selected, either in writing and / or in a debriefing meeting, at the option of the borrower. The requesting bidder shall bear all the costs of attending such as debriefing. In this discussion, only the bidder's bid can be discussed and not the bids of competitors.

### **14. Handling of Complaints**

51. The national competitive bidding documents shall contain provisions acceptable to ADB describing the handling of complaints in accordance with Chapter X of Decree No. 85/2009/ND-CP, read with Articles 72 and 73 of the Law on Procurement No. 61/2005/QH11.

### **15. ADB Member Country Restrictions**

52. Bidders must be nationals of member countries of ADB, and offered goods, works, and services must be produced in and supplied from member countries of ADB.

### **16. Fraud and Corruption**

53. ADB will sanction a party or its successor, including declaring ineligible, either indefinitely or for a stated period of time, to participate in ADB-financed activities if it at any time determines that the firm has, directly or through an agent, engaged in corrupt, fraudulent, collusive, or coercive practices in competing for, or in executing, an ADB-financed contract.

### **17. Right to Inspect/Audit**

54. Each bidding document and contract financed from by ADB shall include a provision requiring bidders, suppliers, contractors to permit ADB or its representative to inspect their accounts and records relating to the bid submission and contract performance of the contract and to have them audited by auditors appointed by ADB.

55. A procurement capacity assessment is in Appendix 14.

## **VIII. SAFEGUARDS**

56. The involuntary resettlement category is A. The site requires clearance and resettlement, with over 300 affected persons identified for resettlement and/or compensation. A resettlement plan has been prepared. The total cost of resettlement compensation and relocation is estimated at \$3.0 million. The indigenous peoples' categorization is C, as the project is not expected to have either positive or negative impacts on indigenous people. The

environmental categorization is B. During construction of the campus, contractors will keep noise and dust within locally acceptable levels, as well as manage fill, excavated material, and solid waste in a manner that does not create a permanent impact. Guidelines have been prepared to ensure that buildings, especially laboratories, are secure and capable of proper management of toxic laboratory materials. Water supply in the dormitories will meet national drinking water quality standards.

## IX. GENDER AND SOCIAL DIMENSIONS

### Gender Action Plan

Project Outputs	Actions
Output 1: Effective Management and Governance System for USTH Developed and Implemented	<ul style="list-style-type: none"> <li>• Ensure at least 2 female senior managers and university council members by 2017</li> <li>• Ensure that at least 1 out of the 6 university council members representing the private sector is female, by 2012</li> <li>• Ensure at least 30% female representation in capacity building programs for university council members, senior managers, technical and administrative staff</li> <li>• By 2017 ensure that at least 20% of academic staff are female</li> <li>• Develop university management, human resources and administrative policies/procedures to facilitate an increase in and retention of female students, faculty and management.</li> <li>• Develop equity strategies by end of 2012, with implementation by 2014, to increase participation of female and ethnic students, including scholarships, transition courses, accommodation, secondary school outreach programs, counselling and mentoring for female and ethnic students, etc</li> <li>• Ensure 40% of dormitory occupants are female by 2017</li> <li>• Ensure that (i) at least 50% of staff counsellors in the office of student services are female; (ii) staff in the office of student services are trained in gender issues; and (iii) all promotional materials depict positive images of women working in science and technology</li> <li>• Develop and implement a policy and code of conduct (COC) on prevention of sexual harassment/exploitation and train all management, faculty and dormitory staff on COC and gender issues</li> <li>• Ensure that the education management information system (EMIS) data are collected, disaggregated and analyzed by gender and ethnicity</li> </ul>
Output 2: Systems to promote high quality and relevant academic programs at USTH developed and implemented	<ul style="list-style-type: none"> <li>• Ensure 30% female representation in faculty and senior managers training on quality assurance and pedagogical methods by 2014</li> <li>• Ensure that all curriculum/program materials depict positive images of women in science and technology by 2014</li> <li>• Ensure at least 30% females in post-graduate courses</li> <li>• Ensure 30% recipients of post-graduate scholarship programs are females</li> <li>• Ensure appropriate gender balance in industry placement programs by 2017</li> <li>• Include sex disaggregated data and gender analysis in tracer studies of recent graduates by 2017</li> </ul>
Output 3: Physical Facilities at USTH Constructed	<ul style="list-style-type: none"> <li>• Construct facilities conducive to increasing female enrolment and supporting needs of female faculty</li> <li>• Contracts for civil works will specify recruitment of local labor and will promote equal opportunities for women and men</li> <li>• Target 15% female unskilled laborers in civil works</li> <li>• Male and female unskilled laborers will receive equal pay for equal work</li> <li>• Separate male/female latrines will be provided in the construction sites</li> </ul>
Output 4: Effective project	<ul style="list-style-type: none"> <li>• Train all PMU-USTH and UIU staff including the M&amp;E staff in gender and ethnicity issues, including gender analysis</li> </ul>

<b>Project Outputs</b>	<b>Actions</b>
management and implementation	<ul style="list-style-type: none"> <li>• Ensure gender balance in all training provided to PMU-USTH and UIU staff</li> <li>• Ensure that GAP targets are included in OSS operating manuals and EMIS</li> <li>• All project reports to include reporting and analysis on progress against GAP</li> </ul>
Implementation Arrangements	All actions included in the GAP are integral parts of the overall activities and performance indicators articulated in the project DMF and thus should inform, guide and be funded as part of overall implementation. One gender specialist will be recruited for 24 person months (intermittent) as part of the UIU under the supervision of the Rector to guide and oversee implementation of the GAP. S/he will also support the Rector and play a coordinating and liaising role between the UIU and PMU-USTH, in highlighting gender issues in policy and cross-agency dialogue. S/he will be required to support training and/or identify and coordinate suitable consultancies to provide capacity development activities. The gender specialist will also engage with the gender unit in VAST in keeping them abreast of key issues and developments and undertake relevant coordination. The gender specialist in consultation with the Rector will prepare an exit strategy to ensure that gender related roles and responsibilities and activities are mainstreamed within the university structures and processes.

COC = code of conduct, DMF = design and monitoring framework, EMIS = education management information system, GAP = gender action plan, M&E = monitoring and evaluation, PMU = project management unit, PMU-USTH = project management unit for University of Science and Technology of Hanoi, VAST = Viet Nam Academy of Science and Technology

Notes:

- Senior Managers include Deans (6), Vice Rectors (5) and Rector (1). This adds up to a total of 12 persons. The project aims for a target of 2 females amongst senior managers by 2017.
- University Council (UC) members are a collection of the key stakeholders, including representation from MOET, Ministry of Science and Technology, industry representatives, retired academics as well as representatives from private companies. The aim of the project is to support 20% female representation in the University Council by 2017.
- Target of 20% female academic staff by 2017 will support recruitment and retention of female staff at the undergraduate, post graduate and PhD and research levels.
- All targets and records are to be based on Vietnamese staff.

## **X. PERFORMANCE MONITORING EVALUATION, REPORTING AND COMMUNICATION**

### **A. Project Design and Monitoring Framework**

57. The detailed DMF is in Appendix 1.

### **B. Monitoring**

#### **Project performance monitoring<sup>14</sup>**

58. A detailed monitoring and evaluation framework for monitoring the DMF outcome and outputs has been developed during preparation and is at Appendix 1. The PMU-USTH will employ one national consultant to set up a recording and reporting data base against the indicators and the ADB Review Missions will ensure that these are checked each mission.

59. The USTH will receive capacity building to establish its own internal education management information system (EMIS). This will be embedded into the Quality Assurance

<sup>14</sup> ADB's project performance reporting system is available at:  
<http://www.adb.org/Documents/Slideshows/PPMS/default.asp?p=evaltool>



Center (QAC) and be used for both informing internal quality monitoring of programs and for external reporting. The EMIS will also be used as a source of data for monitoring some of the indicators in the DMF, particularly focusing on achievement of quality improvement indicators, and research output.

60. USTH is also encouraged to undertake its own regular graduate tracer studies and desk reviews of labor market statistics as they are updated, to better identify industrial development and forecast skill needs and areas for research development. This data will facilitate identification of key market triggers that can be used to inform, amongst other things, educational planning to assist the program and curriculum development to be more responsive to labor market needs, and better meet employer skills needs and other opportunities for workforce development. The employment surveys will be an important source of data for monitoring some of the indicators in the DMF, particularly graduate employment outcomes and industry destinations. The management of these surveys is also intended to be embedded into the QAC, as this feedback is an essential element of university quality management.

61. Responsibility for the monitoring of project implementation performance will lie with the M&E coordinator in the PMU-USTH. Data on selected outputs will also be collected regularly by the M&E coordinator and ADB review missions, using data from the university surveys and field visits. The Project Director, PMU-USTH will prepare quarterly reports on project implementation and submit them to ADB within 30 days after each quarter. These reports, which will include data on the implementation targets and their achievement, problems and constraints faced, and proposed actions and solutions, will be submitted in English, in a format acceptable to ADB.

62. ADB will conduct an inception mission within 2 months of Project effectiveness. ADB and the government will jointly conduct regular review missions to: (i) Examine the appropriateness of implementation arrangements and schedules of activities, (ii) Review compliance with agreed procurement procedures, (iii) Monitor the implementation of the safeguard requirements, and (iv) Resolve other project implementation issues that may arise. The midterm review mission will take place at the end of the third year or in the beginning of the fourth year of project implementation. It will: (i) Assess the project performance against targets and benchmarks; and (ii) Identify and recommend necessary changes in the project design and implementation arrangements.

63. The midterm review will also inform planning for the second half of the Project. The findings will be discussed at the midterm seminar to be attended by VAST leadership and senior staff, representatives of government ministries and agencies concerned the international strategic partner, consultants and ADB.

64. A final Review Mission will take place within six months of the physical completion of the Project. The ADB mission will: (i) Assess the project performance against all targets and benchmarks (including any revised at the Mid-Term Review) and expected project impact; (ii) Identify any incomplete activities, or project funds not used for approved purposes; and (iii) Determine the project satisfactory rating.

65. Not later than 6 months after the physical completion of the Project, the EA will submit to ADB a project completion report analyzing project implementation, project performance and achievements against the targets, and expected project impact.<sup>15</sup> This completion report will give the government's assessment of the project effectiveness, and will note and take account of the findings of the ADB final Review Mission.

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<sup>15</sup> Project completion report format available at: <http://www.adb.org/Consulting/consultants-toolkits/PCR-Public-Sector-Landscape.rar>

66. **Compliance monitoring.** All project covenants will be monitored regularly by the project director, and twice a year during ADB project review missions. The project covenants are in Loan Agreements.

67. **Safeguards monitoring.** The involuntary resettlement category is A. The project provides for monitoring of the resettlement process by an independent external agency and specifies the indicators to be used. The indigenous peoples' categorization is C, as the project is not expected to have either positive or negative impacts on indigenous people. The environmental categorization is B.

68. **Gender and social dimensions monitoring.** A summary poverty reduction and social strategy was prepared for the project based on the social analysis conducted during project preparation. The project is designed to address key constraints to female access and participation in higher education studies in science and technology fields, female perceptions of science and technology studies and careers; and gender imbalance in academic staff at the higher education level. The project includes a Gender Action Plan (GAP) to facilitate and promote increased female participation and benefits from the project. The GAP addresses access and equity issues by setting targets and gender-responsive design features, including: (i) development and implementation of equity strategies, such as scholarships, outreach programs, and mentoring; (ii) 40% of dormitory places reserved for girls; (iii) quota of 2 females in senior management, academic staff and university council positions; (iv) 30% female representation in capacity building programs; (v) gender balance in industry placement programs; (vi) provision of gender training to key stakeholders; (vii) gender inclusive design of physical facilities; and (viii) development of monitoring and evaluation indicators to track GAP implementation.

69. The GAP is also based on a social analysis, and is developed in accordance with the ADB *Policy on Gender and Development* (1998). Specific actions and targets are set out in the GAP, with some of these targets included in the DMF and in the human resource development plan. The project director will be responsible for supporting the UIU to develop and implement actions for the GAP, and for monitoring and reporting progress on the GAP. They also will be responsible to ensure specific targets (and sex-disaggregated indicators) are incorporated into the PPMS.

## **C. Evaluation**

70. The ADB, through its Independent Evaluation Department (IED), may commission separately an independent impact evaluation to assess the extent to which the demonstration of new approaches to higher education governance and financing policy has been a catalyst for the adoption of similar policy and regulatory reform across the whole of the Viet Nam higher education sector and the extent that such changes have worked to improve the general quality and relevance of the whole system. This independent evaluation will be conducted at an appropriate time after the completion of the project and be funded separately from the loan, and may be conducted jointly with the government (represented by Ministry of Planning and Investment [MPI] as the agency responsible for evaluation of ODA), the World Bank and other interested donors.

## **D. Reporting**

71. VAST will provide ADB with (i) quarterly progress reports in a format consistent with ADB's project performance reporting system; (ii) consolidated annual reports including (a)

progress achieved by output as measured through the indicator's performance targets, (b) key implementation issues and solutions; (c) updated procurement plan and (d) updated implementation plan for next 12 months; and (iii) a project completion report within 6 months of physical completion of the project. To ensure projects continue to be both viable and sustainable, project accounts and the executing agency audited financial statements, together with the associated auditor's report, should be adequately reviewed.

## **E. Stakeholder Communication Strategy**

72. The PMU-USTH and the UIU will prepare press releases and professional conferences outlining the purpose of the project and the content to sensitize and popularize the project among the general public at the initial implementation stage and at various intervals during the duration of the project. The PMU-USTH and UIU will also organize discussion sessions amongst higher education professionals to promote interchange of information and lessons learned to other universities, and seek consensus on how system wide policy reform can benefit from the demonstration effect of USTH. Reports on lessons from the demonstration and how they can benefit all universities will also be produced and provided to key stakeholders at the national and local levels - prospective students, other universities (public and private) in the Vietnamese higher education system, the National Assembly, Party Education Committees, the Provincial People's Committees, national level enterprises, professional associations, relevant industry ministries and organizations, etc.

## **XI. ANTI-CORRUPTION POLICY**

73. ADB reserves the right to investigate, directly or through its agents, any violations of the Anticorruption Policy relating to the project. All contracts financed by ADB shall include provisions specifying the right of ADB to audit and examine the records and accounts of the executing agency and all project contractors, suppliers, consultants and other service providers. Individuals/entities on ADB's anticorruption debarment list are ineligible to participate in ADB-financed activity and may not be awarded any contracts under the project.

74. ADB's *Anticorruption Policy* (1998, as amended to date) was also explained to and discussed with the project Executing Agency and the Project Implementing Agencies. Consistent with its commitment to good governance, accountability and transparency, ADB reserves the right to investigate any alleged corrupt, fraudulent, collusive, or coercive practices relating to the project.

75. VAST, as the project EA, has indicated its commitment to promote good governance and establish a corruption-free environment under the project. Further to this, a number of good governance and anticorruption provisions have been included in the Loan Agreement. These include the requirements for VAST to: (i) carry-out periodic inspections of the project contractor's activities related to fund withdrawals and settlements; (ii) ensure that relevant provisions of ADB's *Anticorruption Policy* (1998), as amended to date, are included in all bidding documents for the project; (iii) incorporate provisions in all ADB-financed contracts specifying the right of ADB to audit and examine the records and accounts of VAST, contractors, suppliers, consultants, and other service providers as they relate to the project; (iv) establish a project website to disclose information about various project-related issues, including procurement and other contracts awarded under the project.

76. The website shall be updated within 1 week of each contract award. On the procurement-related information, the website shall disclose: (i) the list of participating bidders,

(ii) name of the winning bidder, (iii) basic details on bidding procedures adopted, (iv) amount of contract awarded, (v) the list of goods and services procured, and (vi) the intended and actual utilization of grant proceeds under each contract being awarded. Any bidder may request an explanation from the EA/IA as to why a bid was unsuccessful and the EA/IA should respond within 20 working days; and (v) establish a grievance redress task force to receive and resolve complaints/grievances or act upon reports from stakeholders on possible misuse of funds and other irregularities. The task force shall (i) review and address grievances of stakeholders of the project, in relation to either the project, any of the service providers, or any person responsible for carrying out any aspect of the project; (ii) liaise with the relevant law enforcement agencies as relevant; and (iii) report immediately to ADB on any malfeasance or maladministration that occurred under the project.

## **XII. ACCOUNTABILITY MECHANISM**

77. People who are, or may in the future be, adversely affected by the project may address complaints to ADB, or request the review of ADB's compliance under the Accountability Mechanism.<sup>16</sup>

## **XIII. RECORD OF PAM CHANGES**

78. All revisions/updates during course of implementation should retain in this Section to provide a chronological history of changes to implemented arrangements recorded in the PAM.

<b>No.</b>	<b>Date Approved</b>	<b>Description</b>	<b>Proposed Change</b>
1	20 January 2012	Implementation Plan	Update to capture delayed loan effectiveness and inclusion of the architectural design competition.
2	20 January 2012	Project Management Arrangements	Updated the management roles and responsibilities.
3	20 January 2012	Advance Contracting and Retroactive Financing	Delete the whole section.
4	20 January 2012	Procurement Strategy	Delete the section on Procurement Strategy and Summary of Main Contracts.
5	10 May 2012 and thorough discussion during Inception Mission on 26 March 2012.	Organizational Chart for PMU-USTH	Change in the organizational structure to include specialized personnel on construction management, procurement, finance, office administration, information technology, and translation.
6	10 May 2012 and thorough discussion during Inception Mission on 26 March 2012.	Operation costs for PMU-USTH and UIU.	Allocation for operation costs such as stationeries, telecommunication, electricity, small tools, etc.
7	10 May 2012 and thorough discussion	Changes in Procurement Plan	
		a. Procurement and Project Readiness	Change from firm to three individual consultants to include one international

<sup>16</sup> For further information see: <http://compliance.adb.org/>.

No.	Date Approved	Description	Proposed Change
	during Inception Mission on 26 March 2012.	Consultant	consultant on procurement and project implementation and two national procurement consultants.
		b. Office Equipment and Furniture for PMU-USTH and UIU	Allocation to procure office equipment and furniture for PMU-USTH and UIU.
		c. Capacity Building Program	Provision for seminars and study tours to visit and discuss with representatives from the French and other European top universities on standard of excellence of universities.
		d. Independent Resettlement Review	Provision to recruit individual consultant to monitor, review, report on resettlement progress.
		e. Geological Survey	Provision to recruit consultant to conduct geological survey through CQS.
		f. Boundary Fence	(i) Provision to recruit consultant to design boundary fence; and (ii) construction of boundary fence.
		g. Design Competition	Implement design competition. Provision to recruit a consultant to manage design competition through CQS.
8	8 March 2013	Changes in Procurement Plan	
		a. Probity Monitor and Contract Legal Review Consultant	Change to recruit a Contract Legal Review Consultants through CQS instead of a Probity Monitor. The first will provide advisory services on legal aspects of the larger contracts.
		b. Architecture Engineering consultant	Change in recruitment method from QCBS to QBS.
		c. Project Management Consultant	Change name of Project Management Consultant to Project Management and Supervision for Construction Consultant (PMSC). Recruitment method remains to be QCBS.
		d. Construction Cost Control Consultant	Integrate the functions of the Construction Cost Control consultant to the PMSC.
9	2 May 2013	Change in Procurement Pan	
		a. Main Contractor	Split one contract to two contracts, ie, services infrastructure package and construction package.
10	27 May 2013	Technical Academic Experts	Invite foreign university experts to share expertise through advisory meetings, training courses or workshops.
11	3 September 2013	Change in Procurement Plan	
		a. Geological Survey Consultant for Design	Separate the work of the detailed geological survey from the Architecture Engineering Consultant.
		Appendix 2: Outputs 1 and 2	Refined appendix 2.

No.	Date Approved	Description	Proposed Change
12	March 2014	List of Appendixes	
		Appendix 1	No change.
		Appendix 2	No change.
		Appendix 3	Refined and updated.
		Appendix 4	Deleted
		Appendix 5	Renumbered as Appendix 4
		Appendix 6	Deleted
		Appendix 7	Renumbered as Appendix 5
		Appendix 8	Renumbered as Appendix 6
		Appendix 9	Renumbered as Appendix 7
		Appendix 10	Renumbered as Appendix 8
		Appendix 11	Renumbered as Appendix 9
		Appendix 12	Renumbered as Appendix 10
		Appendix 13	Renumbered as Appendix 11
		Appendix 14	Renumbered as Appendix 12
		Appendix 15	Renumbered as Appendix 13
		Appendix 16	Renumbered as Appendix 14
		Appendix 17	Deleted
13	22 April 2014	Page 25	Update Contract Awards and Disbursements S-Curves
14	January 2017	Change in Executing Agency (EA), main focal persons, and implementation arrangements following these changes	All sections describing MOET as EA, implementation arrangements, and capacity assessments in the PAM main text and relevant appendices were revised to reflect VAST and the revised implementation arrangements. The Procurement Plan was also updated following the loan review mission of 12-18 January 2017, but this will be uploaded separately through ADB's Procurement Review System.

## APPENDIX 1

### Design and Monitoring Framework

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks
<b>Impact</b>  Improved performance of the higher education system in Viet Nam	<p>Viet Nam's rank on the innovation pillar of the World Economic Forum's Global Competitiveness Index increases from 49<sup>th</sup> in 2010 to 45<sup>th</sup> by 2022.</p> <p>The annual number of English-language scientific articles by Vietnamese authors increases from 875 in 2008 to at least 1,500 in 2022.</p> <p>Annual number of USPTO registered patents increases from 1 in 2008 to at least 25 by 2022.</p>	<p>World Economic Forum annual Global Competitiveness Report</p> <p>Thomson Reuters Web of Knowledge database</p>	<b>Assumptions</b> <p>Viet Nam economy continues to grow on a sustainable basis.</p> <p>Development of higher education sector remains a priority for Government of Viet Nam.</p>
<b>Outcome</b>  A high-quality new model university that generates industry-relevant science and technology teaching and research	<p>100% of firms, research organizations, and other universities with exposure to USTH express favorable view of its research and graduates by 2017.</p> <p>Favorable independent assessment of university governance and funding frameworks by 2017.</p> <p>100% of courses and programs offered by USTH meet international standards as determined by independent review by 2017.</p>	<p>Independent survey of universities, firms, and research organizations</p> <p>Independent assessment of USTH funding, governance and quality assurance frameworks, and USTH courses and programs</p>	<b>Assumption</b> <p>Government of Viet Nam remains committed to the concept of new model universities.</p>
<b>Outputs</b>  1. Effective management and governance systems for USTH developed and implemented	<p>Management and administrative systems, office of student services, and quality assurance systems in place, by 2014.</p> <p>20 senior managers, university council members, and academic leaders, of whom 30% are female, at USTH receive capacity building and mentoring, by 2016.</p> <p>The number of university council members representing the private sector equals six, of whom 1 is female, by 2012.</p> <p>\$1 million in equity scholarships awarded, of which 30% are for females, by 2017.</p>	<p>Independent assessment of USTH funding, governance and quality assurance frameworks, and USTH courses and programs</p> <p>University financial and administrative records</p>	<b>Assumption</b> <p>USTH governance provides sufficient academic and managerial autonomy to ensure international standard science and technology teaching and research.</p> <b>Risk</b> <p>Foreign strategic partner cannot sustain support for USTH at level required for capacity building.</p>
2. Systems to promote high quality and relevance in academic programs at USTH developed and implemented	<p>100% of USTH academic staff, including 20% females, have PhDs, by 2017.</p> <p>Number of patents granted by USPTO to USTH academics increases from 0 in 2010 to at least 10, by 2018.</p> <p>90% of graduates, including 35% females, are in related employment or undertaking further study, by 2018.</p> <p>At least 50% of research projects undertaken in collaboration with private sector, by 2017.</p> <p>USTH research and consulting revenues represent 10% of total revenues by 2018.</p>	<p>USTH administrative and financial records</p> <p>Independent evaluations of courses, programs, and research activity</p> <p>Tracer studies</p> <p>World Economic Forum annual Global Competitiveness Report</p>	<b>Assumption</b> <p>Government recurrent funding continues to be provided at level to ensure international standard S&amp;T teaching and research.</p> <b>Risk</b> <p>Foreign strategic partner cannot sustain support for USTH at level required for program development.</p>

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks
3. Physical facilities at USTH constructed and outfitted	Design and quality of USTH academic facilities and accommodation meet international standards and are gender, ethnicity, and disability sensitive, by 2017.  New campus accommodating 5,000 students available for USTH, from 2017.  At least four dormitory buildings, of which 40% space is for females, are constructed, by 2017.	Independent evaluation of design and construction  Civil works supervision report  Civil works and equipment receipt minutes	<b>Risk</b> Delays in start of campus construction due to slower than anticipated development of HHTP or delays in government approval of USTH site plan.
4. Effective project management and implementation	PMU-USTH and UIU established and operational, by Q4 2011.  Monitoring and evaluation system functional, by Q4 2012.  All contracts procured in timeframe agreed in procurement plan.	Progress reports	
<b>Activities with Milestones</b>		<b>Inputs</b>	
<b>1. Effective management and governance system for USTH developed and implemented</b>		<b>Financing (\$ million)</b>	
1.1 New university council established, Vietnamese members receive induction, and operating effectively, by Q4 2011		<b>ADB</b>	
1.2 University council and internal regulations established, by Q4 2012		<b>OCR: \$170.0 million</b>	
1.3 Governance charter for USTH reviewed and adapted to reflect lessons from first 2 years, by Q3 2014; new financing regulation on recurrent funding implemented, by Q2 2013		<b>Item</b>	<b>Amount</b>
1.4 New university financial management system developed, tested, and operating, by Q3 2013		Equipment	39.60
1.5 Second rector appointed after international merit selection and recommendation by council; second rector oversees planning for move to new campus, by Q1 2017		Works	90.20
1.6 All university systems developed, tested, and ready for move to new campus for full operations, by Q4 2017		Project design and supervision	8.50
1.7 All university management systems fully installed in new campus and operating at full capacity, assessed by independent review as operating at international standard, by Q4 2017		<b>Subtotal</b>	<b>138.30</b>
		Contingencies	21.30
		Interest and commitment charges	10.40
		<b>Total</b>	<b>170.00</b>
		<b>ADF: \$20.0 million</b>	<b>Amount</b>
		<b>Item</b>	
		Vehicles	0.10
		Capacity building	8.10
		Systems development and training	1.90
		Scholarships	1.00
		Project design and supervision	5.50
		Project management	2.40
		<b>Subtotal</b>	<b>18.90</b>
		Interest charges	1.00
		<b>Total</b>	<b>20.00</b>
		<b>Government – \$23.0 million</b>	
		<b>Item</b>	
		Civil works	8.30
		Project management	0.30
		Resettlement	3.00
		Taxes and duties	11.40
		<b>Total</b>	<b>23.00</b>
<b>2. Systems to promote high quality and relevant academic programs developed and implemented</b>			
2.1 CTLE established and operating to support development of quality programs and teaching skills; academic staff trained for sustainability, by Q4 2014; final training completed for full operation at new campus, by Q4 2017			
2.2 Quality assurance center established and operating; senior management, academics, and staff of center initially trained for sustainable operation, by Q4 2014; final training completed for full operation at new campus, by Q4 2017			
2.3 Research support center established and operating to support development of new research programs and increasing publications; a publications target is established and programs under way to support them, by Q4 2014; final training completed for full operation at new campus, by Q4 2017			
2.4 Industry engagement center established and operating; targets for new industry contracts developed, and programs under way for first round, by Q4 2014; final training completed for full operation at new campus, by Q4 2017			



Activities with Milestones	Inputs
<p>2.5 Laboratory management center established; career path for laboratory technicians developed, training delivered, and equipment maintenance and depreciation plans established and implemented, by Q4 2014; final training completed for full operation at new campus, by Q4 2017</p> <p>2.6 All academic systems and support centers have been evaluated, refined, and have plan for move and re-establishment at full capacity in new campus, by Q4 2017</p> <p>2.7 All academic systems and centers set for optimum operation, adequately funded, and evaluated as contributing effectively to sustainable academic quality in university programs, by Q4 2017</p> <p><b>3. Physical facilities at USTH constructed and outfitted</b></p> <p>3.1 Recruitment of initial procurement adviser completed, by Q2 2012</p> <p>3.2 Resettlement and site clearance completed, by Q2 2013</p> <p>3.3 PMSC engaged and ready to commence, by Q3 2013</p> <p>3.4 Architectural design phase completed, construction plans completed, and works ready to commence, by Q1 2014</p> <p>3.5 Main campus construction and fit out finalized ready for final testing in soft opening, by Q2 2017</p> <p>3.6 Commencement of academic and student transfer (soft opening, 4 months) to new premises, by Q3 2017</p> <p>3.7 Commencement of USTH at full operation in new campus, with first new intake on permanent campus, by Q1 2018</p> <p><b>4. Effective project management and implementation</b></p> <p>4.1 UIU established and staff recruited, by Q4 2011</p> <p>4.2 Project monitoring and evaluation system, including tracer studies, and baseline studies developed and implemented, by Q4 2012</p> <p>4.3 All procurement completed in accordance with the agreed procurement plan timelines</p>	

ADB = Asian Development Bank, ADF = Asian Development Fund, CTLE = Center for teaching and learning excellence, HHTP = Hoa Lac High Tech Park, OCR = ordinary capital resources, PhD = doctor of philosophy, Q = quarter, R&D = research and development, UIU = university implementation unit, USPTO = United States Patent and Trademark Office, USTH = University of Science and Technology of Hanoi.

Source: Asian Development Bank

## **APPENDIX 2**

### **Detailed Description of Outputs 1 and 2**

#### **Output 1: Effective Management and Governance Systems for USTH Developed and Implemented**

##### **1.1 Governance, Leadership and Management for Councils and University Leaders**

1. A Capacity Building program will be provided for the Vietnamese Chair of the Council, Vietnamese Vice-Rectors, other key leadership positions, and Council members, to assist them to understand their role in the new autonomous environment and to manage the transition to new ways of university leadership and management. This will involve a mix of short training modules, mentoring support and capacity building activities to support the following roles and functions: (i) Understanding the Charter, roles and responsibilities; (ii) Planning and developing supporting structures of council and the university; (iii) Establishing the long term strategy for new research/teaching/industry integration; (iv) Prioritizing for program development and preparing annual operating and financing plans to build research and academic strength; (v) Planning and managing for high quality personnel - recruitment and development.

2. The training program will support the appointed founding Chair of Council and Rector, and Council members to establish the detailed structure of USTH's governing system, establish the range of Council committees and sub-committees, determine USTH's strategic directions and prepare a university business plan for the establishment period. It will also support the development and embedding of the internal operating regulations, and the search and selection for the second Council, and Chair of Council positions.

##### **1.2 University Management and Administrative Systems**

3. A program of support and capacity building to establish and strengthen university management and administrative systems, including: (i) Student enrolment system and academic record monitoring system; (ii) Student administration system and operating manuals; (iii) Financial management system and financial operating manuals; (iv) Library collection management and catalogue systems and operating manuals; (v) Personnel management systems and operating manuals; (vi) Installing and maintaining all management information systems - data collection, processing and use of data for planning and for monitoring of quality.

4. The capacity building will support the establishment of internal management systems and data collection for monitoring of academic inputs and outputs, and for USTH financial management. USTH will need to establish new systems, based on the needs of the university to operate in an autonomous environment, and to facilitate the financial reporting, annual independent auditing and systematic surveying for quality monitoring that will be necessary to sustain academic standards and promote world class university status. These systems will also be critical to the needs of USTH to engage in regular evaluation of its activities to comply with government accountability requirements under the performance agreement (tied to funding) and the external quality assurance system. A rigorous data collection system is also needed to report on the performance indicators sought by the ADB to measure loan performance. Associated training programs for financial managers and for leaders in financial/resources management will also be necessary.

##### **1.3 Student Services**

5. A program of support and capacity building to establish an Office of Student Services (OSS) including: (i) Student advisory and mentoring service for study and academic support;

(ii) Financial counselling and student assistance schemes (fee rebates and other assistance); (iii) Medical services (referral clinic) and social counselling services (SCC); (iv) Employment services; and (v) Specialized facility to support programs under USTH's equity promotion policies to develop and deliver pro-active plans to increase enrolment of high quality women, students from ethnic minorities and students with disabilities in science and technology courses. The SCC will also be responsible for development and implementation of the project GAP.

## **Output 2: Systems to Promote High Quality and Relevance in Academic Programs at USTH Developed and Implemented**

### **2.1 Center for Teaching and Learning Excellence (CTLE)**

6. The project will provide assistance a program of support and capacity building to establish a CTLE with the capacity to prepare graduate students to be university teachers and improve the teaching and curriculum development competencies of existing teachers. Capacity-building will support the development and embedding the following into USTH systems: (i) upgrading of teaching, curriculum, assessment and advisory/supervisory skills of academic staff; (ii) integrating research and scholarship into teaching and learning; teaching certification programs for graduate students wishing to become university teachers; and programs for graduate students whose first language is not English.

7. The project will support the development of software that will coordinate curriculum development with assessment design. Additionally 2-4 full time instructional design consultants should be assigned to the CTLE and supported by at least one clerical and one technical staff during the establishment period. Although assessment strategies will become an integral part of curriculum design, additional money will be provided initially to establish a broader university-wide assessment program, with a gradual decrease in funding so that by the 5th year the assessment processes are completely integrated into and funded by the university.

### **2.2 Quality Assurance Centre (QAC) and Academic Management Systems**

8. The project will provide support and capacity building to staff of USTH to embed a permanent internal QA management service for management and academic staff. The capacity building will include the following activities:

- (i) Senior management level (including deans of faculties and heads of departments): understanding new QA and quality culture and development of internal systems to manage all facets of building and maintaining quality and standards in research and in teaching;
- (ii) Staff of the QAC: training for understanding quality culture and using the systems and processes to support academic staff in development and approval for new programs and for data management, and use of monitoring surveys to measure the standards of teaching and learning and complying with national accreditation and QA system; and
- (iii) Senior academic staff: training in short courses for understanding key features of internal quality assurance; strategies that staff may use to monitor and improve teaching quality; the Viet Nam QA and accreditation framework; and the use of peer review and other strategies to improve teaching practice.

9. The QAC should also be the locus for managing USTH's own regular research for monitoring quality and using it to feed back into continuous improvement processes. The project will provide training to establish capacity to design, conduct and analyse data from

regular surveys of industry and other key research users' needs. Graduate tracer surveys will provide ongoing information about employer needs. The QAC will also be the base for developing and managing plans to assess staff performance. This will be provided to develop and implement programs dealing with staff performance assessment and counselling, academic leadership and management and managing institutional change.

### **2.3 Research Support Center (RSC)**

10. This will provide capacity building and support funding to establish the RSC and its programs, and embed them into the university culture. The RSC will provide staff with high level support in designing and publishing their research, applying for grants and providing research training to postgraduate students. This will provide initial full-time specialist to develop the services and procedures, and to train recruited staff. The RSC should have full time support staff supplemented with 'consultants' from academic faculties with relevant experience, or from mentor partner universities. The RSC should provide assistance in editing papers and guidance in submitting papers to peer reviewed journals, assistance in research design, research methodology and statistical analysis. Its priority will be to support the university to continually build research capacity and excellence, and to give special support to bring research results to publication to further the university in gaining international recognition and ranking.

### **2.4 Industry Engagement Center (IEC)**

11. This will fund capacity building to assist in establishing an engagement center that will have responsibility for building relationships with industry and other potential users of USTH's knowledge, expertise and technologies. The IEC's priority will be to support researchers to establish connections with companies and other organizations in HHTP and elsewhere to gain a better understanding of their needs, and of the scope for contract research and training, and for joint funding of infrastructure and services and to access industry advice to the university on teaching and research that would be relevant to industry needs. This will support the IEC in building competencies in: (i) Establishing regular interaction with industry, and undertake surveys to gain an understanding of industry needs for education, training and research services; (ii) Setting up technology transfer and knowledge exchange services, preferably in cooperation with technology parks and their tenants, and specifically with the new technology transfer centers that are planned to be established in HHTP; (iii) Developing internship programs with industry for university undergraduate and postgraduate students and researchers; and (iv) Understanding and making full use of the provisions in existing laws and regulations, especially in relation to incentives for technology transfer.

### **2.5 Laboratory Management Center (LMC)**

12. This will provide resources and capacity building to assist the establishment of an LMC and a centralized workshop system to provide for the maintenance and repair needs of the laboratories and the broad base of technician knowledge and skill to sustain a world class technical university. The LMC will be established to support three fundamental areas: skill development, infrastructure and equipment, all geared to ensuring maintenance of the highest standards of laboratory capabilities. Responsibilities of the LMC include: (i) Streamlining and monitoring equipment acquisition; (ii) Implementing income generating activities; (iii) Providing staff training; and (iv) Advising on laboratory design and management.

13. The LMC will be responsible for developing acquisition plans for all laboratory equipment. This will be an on-going function, but in the establishment period, the LMC will appoint working groups of relevant academics from the thematic groups to review and determine the initial procurement of laboratory equipment. The project identifies a lump-sum for

science laboratory equipment. A detailed list has been compiled to determine the amount. Due to implementation delays and changes in equipment development, and the possibility of changes in the focus of USTH's research program, the list of equipment may be adapted throughout the project implementation. Any changes must be determined by the Science Council and approved by the Rector. The Rector may appoint a sub-committee of specialist staff to advise the Science Council and the Rector of items to be procured. The LMC will be assisted by the Education Services Consultant or Education Equipment Supply contractor in managing the sourcing, procurement and installation of equipment.

14. Some equipment may be procured in advance of completion of new site buildings, and may be installed in the temporary premises for use in the early year programs, then moved to the new buildings for re-installation. In the event of such arrangements, USTH's Science Council must demonstrate that it is feasible to ensure appropriate conditions in the temporary buildings, and safe handling for removal, transport and re-installation in the permanent locations of the new campus. Equipment required for an approved academic program may be installed in the premises of an industry partner of USTH, subject to the program and the partners being approved using the university's QA procedures, and on the assurance that the site conditions are appropriate to the safe handling and maintenance of the equipment. Any such out-deployed equipment must remain the legal property of USTH and be subject to asset audits and maintenance actions within the university's planned program of maintenance and depreciation.

## **2.6 Specialized Software for Laboratory Management Systems**

15. The LMC will require specialized software to support the equipment maintenance and repair/replacement management programs it develops. Such training will involve a 'cascade' model of staff training focused on the technicians employed for the 'hands-on' work of data generation. Standard Operating Procedures (SOPs) will be developed, using Office programs, for laboratory operations such as the laboratory quality manual and a management system for an equipment and reagent inventory, instrument calibration, etc. On the other hand, laboratories such as the chemistry analytical, biology and environment would require a specialized Laboratory Management Information System (LMIS). This software is expensive and the off-the-shelf versions tend to limit laboratory operations to comply with the software. Ideally, the software should be adapted to accommodate specific laboratory operations. However the more configurable the system, the more it costs to develop and maintain. The LMC should also provide services to the discipline laboratories through the maintenance and calibration of equipment. A calibration laboratory would be required in each of the key areas of temperature, mass and volume. Decisions on the approach should be made in consultation with the discipline research leaders and the Science Council and incorporated into the strategic plan of the university. This will support the management in the development of these plans.

16. This will establish a training program and curriculum for the development of Technician support staff, and develop a structure for a career path for Technicians to ensure maintenance of this crucial skill within the university. It will also support the establishment of a culture of systematic technical training. It will establish formal training, with set course outlines, and on-job-training. This will include support to method and develop practices for: (i) On-job-training that allows for a flexible approach, which is easily adjusted to the training needs established by a competency assessment; (ii) Competency assessment of practical skills as the means of identifying the on-going training needs of technicians and certifying attainment of competence; and (iii) Training for practical responsibilities of the technicians, and as such will be set up to be conducted on-site as equipment becomes available. Technician training should emphasize practical aspects of equipment use and its maintenance.

## **APPENDIX 3**

### **Detailed Description of Output 3: Physical Facilities at USTH Constructed and Outfitted**

1. Output 3 will develop the physical facilities at USTH through: (i) Providing supervision of design and construction and assisting the PMU-USTH in project management for construction; and (ii) Undertaking site planning, architectural and engineering for the design of the campus, site infrastructure works, and construction and basic fit-out of USTH campus (Phase I buildings to accommodate the initial design capacity of 5000 students).

#### **3.1 The Site**

2. The site for USTH is an area of 65 hectares within the Education and Training Zone (ETZ) at Hoa Lac Hi-Tech Park (HHTP). Its boundaries are benchmarked on the map prepared by surveyors in September 2010, and approved by HHTP and by MOET. The PMU-USTH has electronic copies of this map. Within the ETZ, the area to the south of the USTH site is occupied by a private university – FPT University – dedicated to information technology. The construction of FPT University has recently been completed. To the north of the USTH site, the ETZ provides two sites which are to be occupied by tertiary education and training providers not known at the time of writing.

3. Overall responsibility for the development of HHTP rests with the Ministry of Science and Technology (MOST) which has delegated day-to-day responsibility to the HHTP Management Board, with the assistance of consultants funded by JICA. There are certain requirements relating to, for example, plot density and building height which apply throughout HHTP – information on this is available from the HHTP Management Board. HHTP Management Board is responsible for provision of access roads and the supply of services to the USTH site boundary. Roads and services within the USTH site form part of the USTH project.

4. Planning for USTH needs to reflect developments in the other HHTP zones. For example the PPTA Team took into account in its work that there were plans for a stadium and a business incubator elsewhere in HHTP. Checks about the latest state of other investments in HHTP will need to be made with the HHTP Management Board at each relevant stage of planning. Before the USTH site can be available for construction works, the site needs to be legally allocated for the use of USTH and the existing occupiers have to be resettled.

#### **3.2 Planning the Use of the USTH Site**

5. The USTH site needs to be developed in accord with an approved Master Plan on a scale of 1:2000. A Master Plan was approved some years ago, before the brief for USTH as it is now conceived was prepared. The Plan needs now to be substantially amended. In the loan agreement, the Government has undertaken to provide within 3 months of the effective date loan an amended 1:2000 scale Master Plan that reflects the new 2010 agreed zones for academic, administration and residential areas, in accordance with the revised planning law (Law No. 30/2009/QH1T, 29 June 2009 and Decree No. 37/2010/ND-CP, April 7, 2010), and is approved by the Management Board of HHTP. It has since been agreed by the PMU-USTH, UIU, French Government and ADB that the 1:2000 Master Plan will only be updated once the campus concept has been developed as part of the architectural design competition.

6. The PPTA Team Architect prepared Campus Design Guidelines for USTH.<sup>1</sup> They look to ensure: (i) the provision of facilities for teaching and research of international standard, using space standards derived from international good practice, and (ii) a landscape which respects and enhances natural features, notably the lakes, has substantial green space, and is sustainable, with a low carbon imprint. The PPTA Team, working with the MOET Institute of School Design and the French international partner prepared proposals for the Master Plan in line with these Guidelines, and presented them during the Loan Fact Finding (LFF) Mission in September 2010 (see Figure 1).<sup>2</sup> The Plan covers development to a size of about 10,000 students, distinguishing buildings to be erected in the first phase for 5,000 students from future development. Most buildings are 5-6 storeys in height in a green setting. The main car park is at the site entrance. Internal roads give access to the buildings; for aesthetic and economic reasons they do not bridge the water.

**Figure 1**  
**Campus Site Development Plan**



7. There was agreement during the LFF on most aspects of the campus development plan proposed by the PPTA Team. The main outstanding issue was the principal access to the sites to the north of USTH within the ETZ. In the original Master Plan it was envisaged that this would be via a public road through the USTH site. A road carrying through traffic across the USTH site would detract from the security and amenity of the university. Under the PPTA Team's proposal, the principal access to these northern sites would be from a road built just north of the northern boundary from an existing HHTP trunk road, along the line of an existing track. There would be local access points for staff and students who travel between USTH and one or other

<sup>1</sup> See Paper C in Part 4 of Vol. II of the PPTA Mid-Term Report.

<sup>2</sup> Joint USTH and ADB Team Presentation on the Campus Masterplan, Powerpoint, 01/09/2010.

of the northern sites. The cost estimates allow 22,000 m<sup>2</sup> for roads on the basis that there will not be a through road. MOET agreed at the LFF that they would not mandate tenderers to provide a public road through the USTH site.

8. Most of the PPTA Team's work on USTH focused on the establishment phase in which the capacity of the university would be 5,000 students, and a consolidation phase where, subject to funding, a second phase might double capacity to 10,000 students. There was some discussion at the LFF Mission of an expansion phase which might take USTH up to as many as 15,000 students by, say, 2030. The 65 hectare site is big enough, in terms of the plot densities permitted in HHTP, to accommodate 15,000 students. There is merit in terms of USTH's objective of attaining international standard at an affordable unit cost in expanding to 15,000 when the conditions are right. But the desired time-frame for such expansion needs to be clarified for the planning documents. If for example the aim were to complete expansion to 15,000 within the next 20 years, it would be prudent to increase some building heights now.

#### **4.1 Facilities for Teaching and Research**

9. The terms of reference for the PPTA required the Team to specify the standards and facilities required, and to prepare material for bidding documents and cost estimates. To respond well to these terms, data, or a basis for making plausible assumptions, were needed for the following items: (i) The number of students, in total and by program; (ii) The ratios of staff to students, and hence staff numbers; (iii) The programs of teaching and research to be pursued by USTH and their requirements for specialized and general teaching spaces; (iv) Space standards expressed in m<sup>2</sup>; and (v) Cost of construction per m<sup>2</sup> for different types of space. This information was needed to prepare and cost schedules of the spaces which USTH will require.

10. For the report on the USTH completed by the PPTA Team in March 2010 the key data sources for these items were: (i) 3600 undergraduate and 1400 postgraduate students; (ii) Academic staff numbers based on student to staff ratios of 20:1 undergraduate, and 15:1 postgraduate; (iii) Undergraduate and post-graduate education organized on a subject basis, broadly as envisaged in the MOET proposal to establish USTH, but modified by the PPTA Team; a four year undergraduate course; (iv) research organized according to the six themes agreed between Viet Nam and France; students split evenly (with one or two exceptions) between the various subjects and themes; (v) Space standards based on international practice as described in the Education Planning Guidelines<sup>3</sup>; and (vi) Construction costs in Viet Nam based on the quarterly reports prepared by Davis, Langdon and Seah. Some estimation was needed since the types of building needed for USTH are not directly covered by the DLS data. Within this framework the PPTA Team prepared space schedules and cost estimates.

11. For the post-PPTA extension from August to October 2010, some new parameters came into play: (i) USTH had published<sup>4</sup> initial information about the teaching and research programs proposed. These included a three year undergraduate course with a common foundation year, followed by orientation towards one of the six themes; and course outlines for the Masters programs in Biotechnology & Pharmacology, and Materials Science & Nanotechnology; and (ii) in the preparation of the draft Project Detailed Outline, MOET and the ADB agreed limits to base costs of \$98 million for buildings, and \$40 million for equipment. In the light of these new parameters the PPTA Team, working with the PMU and the French partner, revised the space schedules and cost estimates.

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<sup>3</sup> These form part of the Campus Design Guidelines.

<sup>4</sup> At [www.usth.edu.vn](http://www.usth.edu.vn)



12. The additional information about teaching and research programs was limited. There was nothing about how the new thinking on years two and three of the undergraduate curriculum would translate into space and equipment requirements, and no new information about post-graduate education and research in four of the six themes. The Government wished to retain the 5000 student target, so undergraduate intakes were assumed to increase to take up the capacity released by reducing the bachelor course from four years to three. It was agreed that the PPTA Team should revise the space schedule to take into account the teaching and research plans as then known, but that a further revision would be needed before request for tender to take into account later information.

13. The final space schedule<sup>5</sup> prepared by the PPTA Team Architect in late September 2010 provides for: (i) in Zone A (Administration) the management structure of USTH as set out in the then current draft of the Charter; (ii) in Zone B (Academic) a Faculty for Humanities, Arts and Social Sciences to undertake the “cross-cutting” work envisaged in USTH’s curriculum plans; six further faculties, one for each theme; “shared facilities” for teaching which the PPTA Team was not able to impute to individual faculties; a research administration center, shared research facilities, and six research centers with facilities appropriate to the respective themes; (iii) in Zone C (Dormitories and Student Activities) savings through reducing space standards in the dormitories<sup>6</sup> and placing indoor sports spaces within the ground floors of the residence blocks; and (iv) in Zone D (Services and Infrastructure) savings through reducing space for Storage. Zones have been used to conceptualize budgets and space requirements and will not necessarily translate into physically separate buildings. Activities described in different zones may integrate and overlap each other.

14. The absence of detailed information about teaching and research plans for USTH also limited the work that could be done on how to reduce equipment costs funded from the loan. The initial equipment amount was based on a detailed list prepared by Dr. Webber and circulated to all parties, but more time is needed for USTH academic staff to define equipment needs relevant to the teaching and research programs, and specify equipment to be procured within the revised lower amount. The breakdown of equipment spending shown in the PAM is based on a temporary “lump sum” solution agreed during the LFF mission.<sup>7</sup> The equipment allocation will need to be reviewed alongside the space schedules when more information on USTH’s teaching and research plans is known, as a basis for tendering. Equipment provision will be supported by the French contribution to USTH as well as by the ADB loan.

## **4.2 Review of the Space and Equipment Schedules**

15. The Education Planning Guidelines indicate that flexibility and versatility are key concepts in planning the USTH campus. Over time, teaching and research needs change, as do the ways in which universities organize to meet them. The building design should, for example, permit the re-partitioning of class teaching spaces and offices, and provide laboratory shells that can be converted to new uses through re-equipment. Space scheduling is not about setting in concrete current thinking about the university’s teaching and research programs, but about ensuring a built environment in which those programs can evolve. An international space scheduler will be engaged as an individual consultant to assist USTH and the PMU-USTH to up-date the space schedule so that it is available as part of the bidding document when tenders are requested. Outline terms of reference for this scheduler are provided in Appendix 4.

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<sup>5</sup> Supplied to the PMU-USTH.

<sup>6</sup> Four students per room for undergraduates, and two for postgraduates, instead of two and one respectively.

<sup>7</sup> See note from Robert Horne on Campus Development Information to Mr. Cuong (PMU) on 28-09-10 for details.

16. The space scheduler will require substantial input from USTH. In particular, USTH will need to produce detailed decisions or working assumptions on matters such as organizational structures and faculties, and outlines of teaching and research programs to enable a scheduler to identify needs for general purpose and specialist accommodation, and the broad types of specialist activity which are planned. This is an exacting task for USTH and the French international partner has undertaken to assist USTH with it. It is envisaged that USTH will have its own space scheduler who understands the thinking which has gone into the development of USTH in its French and Vietnamese context, and is able to represent USTH needs in dialogue with the project space scheduler and the PMU-USTH.

17. The scheduling of equipment will primarily be the responsibility of USTH, assisted by the French partner and the procurement adviser to be funded from the ADB loan for Outputs 1 and 2. A start needs to be made on this concurrently with the space scheduling, paying attention to equipment which has particular needs for space, ventilation etc.; and also to the total equipment needs of USTH, whether funded from the ADB loan or the French contribution. The aim is to plan out a series of equipment packages to be procured over time by the Education Equipment Supply Contractor, with more detail on the packages listed for procurement early in the contract.

## **5.1 Management and Supervision for Construction**

18. The construction of the entire campus from a greenfield site at HHTP is an extremely complex set of activities. It is essential that it is managed in the most efficient manner. The successful establishment and development of USTH will be very strongly dependent on the construction of the new campuses being completed on time, within the timeframe of the loan. It is also important to manage the timelines efficiently to minimize price escalation.

19. Integrated management and procurement systems will be essential. Neither the University of Construction, the MOET Institute for Research in School Design and Architecture, nor the MOET Department of Facilities have sufficient experience to meet the requirements of the international standard construction and the complex integrated planning required for USTH. Neither do any of these agencies or departments have the human resource capacity or experience with international standard construction to take a lead role in the project. It is expected these agencies would provide support services, but not leadership or supervision management. Accordingly the loan provides for the procurement of an international firm as Project Management and Supervision for Construction (PMSC) to provide overall construction supervision to support the PMU-USTH and the UIU in the management of the campus construction and equipment and fit-out.

20. **Project Management and Supervision for Construction (PMSC).** An experienced international company will provide project management and supervision services and will be selected under a Quality- and Cost-Based Selection (QCBS) method pursuant to the *Guidelines on the Use of Consultants by the Asian Development Bank and its Borrowers* (March 2013 as amended from time to time). Outline Terms of Reference for the PMSC are provided in Appendix 4.

21. **AEC Procurement.** The campus development will be implemented using a Design-Bid-Build approach. The Architects and Engineering Consultants (AEC) will be a consortium of design and engineering consultants selected via QBS through an architectural design competition, which will be managed by an Architectural Design Competition Management (ADCM) firm. The selected AEC will develop detailed drawings and specifications to form part of the tender documents for the selection of the two MCs. Outline Terms of Reference for the AEC are provided in Appendix 4.

22. **Geological Survey for Construction Design (GSCD).** PMU-USTH will select a qualified Geological Survey Consultant for Design (GSCD) to conduct appropriate geological survey including: (i) development of a schedule of survey; (ii) and conduct additional topographic survey, and subsoil survey to be used for the basic and technical designs for the construction of the university buildings. Outline terms of reference for the GSCD are provided in Appendix 4.

23. **Site Preparation and Buildings Construction and Basic Fit-out. Site Preparation and Buildings Construction and Basic Fit-out.** Two experienced international construction firms or consortia will be engaged as MCs to implement the construction of all services and infrastructure and building works. The MCs will be separately procured by the PMU-USTH with the assistance and guidance of the PMSC. Two single contracts are to be awarded, which will assign the MCs the entire responsibility for undertaking construction activities directly with its own workforce, and for engaging and managing a range of sub-contractors for specific works and fit-out as appropriate. The MCs, a Services and Infrastructure Contractor (SIC) and a Building Construction Contractor (BCC), will employ international experts as full-time project staff and will be responsible for ensuring international standards in construction. This should be achieved through the use of foreign expert firms and individuals where necessary, adopting a skill transfer approach of training local management staff wherever possible, and using local sub-contracting firms where they have relevant technical expertise. The MCs and the local sub-contractors should use local labor wherever feasible (including a target of 15% of unskilled workers being women). Outline terms of reference for the MCs are provided in Appendix 4.

24. **Fit-Out and Laboratory Equipment Installation.** The funding for and selection of laboratory equipment under Output 2 will be managed by the UIU. However, the PMSC, in association with the MCs, shall: (i) manage a process throughout the construction period to work closely with the UIU to assist it to coordinate the procurement and installation of laboratory equipment; and (ii) provide access to the buildings as appropriate to facilitate the training of relevant university staff in its use and maintenance (which should form part of procurement contracts). Equipment installation may be by the UIU's Education Services Consultant (ESC) or by a separate Education Equipment Supply Consultant (EESC), as determined by the UIU and the ESC on a case-by-case basis. The activities related to equipment installation must, nevertheless, be integrated with other campus development works and should be responsive to the guidance of the PMSC.

## APPENDIX 4 Outline Framework for Contracted Activities

### SUPPORT CONTRACTS

#### Procurement and Project Readiness (PPR) Consultants

1. The primary task of the PPR consultants will be to assist the PMU-USTH to establish its procurement procedures and procure the following: Contract Legal Review (CLR) consultant, Financial Management and Software Installation (FMSI), Architectural Design Competition Management (ADCM), Independent Audit (IA) and PMSC. It will also assist the PMU-USTH and UIU to revise and finalize the facilities brief prior to tendering for the AEC, and provide on-the-job training for procurement staff of the PMU-USTH. Four individual consultants will be engaged to undertake PPR activities:

- (i) An **International Consultant for Procurement and Project Implementation (International, 27 person-months)** to support procurement planning and implementation actions. The consultant must have some experience with ADB procurement guidelines, have at least five years' relevant experience in construction procurement and be familiar with the methodology for international standard 'Design-Bid-Build' contracting;
- (ii) A **Procurement Specialist (National, 62 person-months)** with experience in design and construction to assist the International Consultant for Procurement and Project Implementation.
- (iii) A **Space Scheduler (International, 4 person-months)** to work with USTH specialists to refine and detail the internal space scheduling for the construction, for inclusion in the RFT documents for the AEC. The consultant must have experience in space scheduling for university design and construction; and
- (iv) A **Quantity Surveyor (International, 2 person-months)** to refine the project cost plan including guidance on authority processes and lifecycle costing. The consultant should have experience in Vietnam, in education and research facilities and in lifecycle costing).

2. The **Consultant for Procurement and Project Implementation (International)** will: (i) Assist the PMU-USTH to develop the project procurement manual and templates for the overall procurement plan, procedures for the annual revision of the plan in consultation with the PMSC, covering both construction and capacity building across all components; (ii) Support the PMU-USTH to manage the project and all procurement actions in accordance with the detailed project timeline; (iii) Advise on specialist criteria for recruitment of the procurement staff of the PMU-USTH and UIU and assist the PMU-USTH and UIU recruit staff; (iv) Provide training in ADB procurement requirements to PMU-USTH staff; (v) Assist the PMU-USTH to prepare documentation to obtain ADB and MOET approval of the procurement strategy for the CLR, FMIS, ADCM, AEC, IA and PMSC; (vi) Assist the PMU-USTH to undertake the procurement action for contracts for the CLR, FMIS, ADCM, AEC and PMSC; (vii) Work with the CLR, FMSI, ADCM, AEC, and PMSC to assist the PMU-USTH to refine the design guidelines, tender specifications and bidding processes<sup>1</sup> for the PMSC and AEC, and support the PMSC tender evaluation and contract award process;<sup>2</sup> and (viii) Assist the PMU-USTH to prepare the tender documents for the IA and support the selection and contract award.

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<sup>1</sup> The design guidelines for the construction and tendering specifications were included in the PPTA final report (Volume 8), but due to developments subsequent to their submission, they will require revision and refinement.

<sup>2</sup> Once the PMSC has commenced, they will support the PMU-USTH for subsequent procurement actions for the AEC and the MCs, including acting as a project manager for those two procurement actions.

3. The **Space Scheduler (International)** will: (i) Revise the space schedules given in the final report of the PPTA Team in the light of advice from the USTH management and the French partner about the space requirements for the USTH teaching and research functions, and about office and ancillary spaces and infrastructure; (ii) Update the space scheduling spreadsheets, and liaise with the quantity surveyor checking that the building and infrastructure cost remains within the approved ADB loan amount; (iii) Monitor the preparation by the UIU, USTH and the French partner of the equipment schedule to ensure that the documentation meets tendering requirements and the cost estimate remains compatible with the approved ADB loan amount.
4. An international space scheduler will be engaged as an individual consultant to assist USTH and the PMU-USTH to up-date the space schedule so that it is available as part of the bidding document when tenders are requested.
5. The international space scheduler will require substantial input from USTH. In particular, USTH will need to produce detailed decisions or working assumptions on matters such as organizational structures and faculties, and outlines of teaching and research programs to enable a scheduler to identify needs for general purpose and specialist accommodation, and the broad types of specialist activity, which are planned.
6. The scheduling of equipment will primarily be the responsibility of USTH, assisted by the French partner and the procurement adviser to be funded from the ADB loan for Outputs 1 and 2. A start needs to be made on this concurrently with the space scheduling, paying attention to equipment which has particular needs for space, ventilation etc.; and also to the total equipment needs of USTH, whether funded from the ADB loan or the French contribution. The aim is to plan out a series of equipment packages to be procured over time by the EESC, with more detail on the packages listed for procurement early in the contract.
7. The **Quantity Surveyor (International)** will: (i) Review the project budget as established in the PAM and develop a more detailed project cost plan based on rates established by the construction industry in Viet Nam for construction of internationally accepted standard in the education and research sector; (ii) Include authority processes including time and cost implications; (iii) Develop a framework for evaluating lifecycle costing (both capital and operating expenses) with attention to environmental systems and initiatives; and (iv) Liaise with the space scheduling specialist checking that the cost for buildings and infrastructure remains within the totals approved by ADB for the loan.

### **Financial Management and Software Installation (FMSI)**

8. An **FMSI Specialist (International, 4 person-months) and FMSI Specialist (National, 4 person-months)**. A firm will be engaged to provide FMSI services to the project. Services to be provided include: (i) Establishment of the PMU-USTH chart of accounts for the project, taking account of the ADB cash flow system for the project; (ii) Establishment of the operating software and customization of the chart of accounts, cash flow requirements, and project reporting needs, including linking reporting to the government monitoring system; (iii) Review the VGU financial manual and certify that its procedures are consistent with those of ADB and are suitable for common usage; (iv) Review the capacity of PMU-USTH financial management staff and assess their skills and competencies against Project requirements. The FMSI will ensure the set up and correct installation of the financial management accounts at the PMU-USTH and UIU, and the financial management staff are adequately trained in its use.
9. The PMU-USTH and the PMU for VGU will operate separate accounts, but the software may be shared or based on systems and software established under the World Bank loan if it is

appropriate to the needs of the ADB loan. The specialist will review the existing system in the PMU and provide advice on the appropriateness and need for adaptation.

10. **Contract Legal Review (CLR) Specialists (International, 3.5 person-months, and National 3.5 person-months).** A firm will be engaged to provide CLR services to the project. Services to be provided include the review of legal aspects of the contracts with AEC, PMSC, and MCs, in order to protect the EA's rights and benefits, ensure appropriate assignment of risks during contract implementation, and avoid possible disputes, if any.

### **Independent Audit (IA)**

11. The project will engage an international firm to provide independent audit services for all project related accounts and financial records, including those from the PMU-USTH, the UIU and VAST. The firm will provide one Independent **Audit Professional (National, 10 person-months)**. The firm will undertake an annual audit of project financial records, within two months of the close of the financial year. The firm will report directly to VAST on the consolidated annual financial statements prepared by the PMU-USTH, as well as on the propriety and efficiency of the financial management of the loan and the government funds.

## **CAMPUS DESIGN AND CONSTRUCTION CONTRACTS**

### **Architectural Design Competition Management (ADCM)**

12. A firm will be engaged to provide ADCM services to the project: ADCM Specialists **(International, 18 person-months)** and ADCM Specialists **(National, 12 person-months)**. Services to be provided include: (i) Development of design competition rules and process; (ii) Development of criteria for bidders; (iii) Development of design competition invitation; (iv) Establishment of the evaluation board; (v) Prepare and approve the short list of competitors; (vi) Evaluation and ranking of design proposals; (vii) Negotiation and signing of contract with the winning firm.

### **Architects and Engineering Consultants (AEC)**

13. Campus development will be implemented using a Design-Bid-Build approach. The Architects and Engineering Consultants (AEC) will be a consortium of design and engineering consultants selected via QBS through an architectural design competition, which will be managed by an ADCM firm. The selected AEC will provide architectural concept design for the site layout and all buildings. A firm will develop detailed drawings and specifications to form part of the tender documents for the selection of the Services and Infrastructure Contractor (SIC) and the Building Construction Contractor (BCC). The selected AEC will provide:

14. The selected AEC will provide:

- (i) Technical expertise in architectural planning and detailed drawings to guide the construction (based on the winning architectural concept as awarded);
- (ii) Technical expertise for Green Building Design and landscaping and appropriate certification with international standards for this expertise;
- (iii) Supervision as necessary to ensure construction adherence to design drawings and standards specified;
- (iv) Liaison with the PMSC and PMU-USTH as appropriate to coordinate the design and works schedules;

- (v) Liaison with UIU to support end-user input into final design specifications and refinement of facilities schedules and laboratory design requirements;
- (vi) Assurance that provisions for in-campus roads (including limits on total roadway area, security, security requirements and vehicular usage) that are included in the design brief are adhered to in the architectural specifications.

15. The AEC will provide architectural concept design for the site layout and buildings. A firm will be required to deliver these services. Selection method is QBS, using a design competition. An estimated **217 person-months of AEC services (International)** and **531 person-months of AEC Services (National)** will be required. The approved concept will provide detailed specifications and drawings for tender to identify the SIC and BCC. The AEC will provide oversight of construction as the design is implemented by the SIC and BCC. Indicative personnel are listed below in Table 1, though the final list will be determined at tender stage.

**Table 1: Indicative AEC Consultant Requirements**

		Person Months		
		International	National	Total
1.	Team Leader/Senior Architect/support architects	66	120	186
2.	Engineers	80	160	240
3.	Drafting personnel	71	141	212
4.	Administration and office services	-	112.	112.
<b>Total</b>		<b>217</b>	<b>531</b>	<b>748</b>

16. The AEC, working through the PMU-USTH and the PMSC, will ensure that, as the architectural plans are detailed, the university is enabled to take the lead for the planning for the use of each of the buildings and the allocation of the built spaces to specific teaching and research functions, and will seek the consensus of the university for all major decisions affecting the functional uses of the campus site and buildings.

### **Geological Survey for Construction Design**

17. PMU-USTH will select a qualified Geological Survey Consultant for Design (GSCD) to conduct appropriated geological survey including: (i) development of a schedule of survey; (ii) conduct additional topographic survey; and (iii) subsoil survey (drillings) to be used for the basic and technical designs for the construction of the university buildings.

18. The GSCD will be selected according to QBS method, pursuant to the *Guidelines on the Use of Consultant by ADB and Its Borrower* (March 2013, amended from time to time).

19. PMU-USTH's preliminary survey documents on Hoa Lac USTH campus include topography survey 1/500 made by Thien Loc Company. The survey documents and materials will provide sufficient information for tasks of designing competition.

### **Project Management and Supervision for Construction (PMSC)**

20. The PMSC will provide overall project management and supervision for construction works, participating in the tendering processes for the two main contractors SIC and BCC and performs services to ensure the project is delivered on time and within the funds available. A firm will be required to provide these services. Indicatively, it is estimated that the PMSC will require **92 person-months of PMSC services (International)** and **313 person-months of PMSC services (National)**. This will include the following specific services:

- (i) Technical expertise in overall management for the campus development including infrastructure development, construction and fit-out of the campus and buildings including the time scheduling for and the procurement and installation of laboratory equipment;
- (ii) Guide the PMU-USTH for the procurement of the two Main Contractors (MCs);
- (iii) Scheduling and coordination of works to control the efficient phasing of all works, and reviewing the construction plan on a regular basis, and advising the PMU-USTH and the UIU on any requirements for adaptations or variations;
- (iv) Monitoring building QA, environmental and social controls, quantity ordering controls, and advisory services in management and control of a large construction workforce, including occupational health and safety management and inspectors, and support for social monitoring and disease control; and
- (v) Management of works cost control and oversight of invoicing for services. It shall be mandatory that all invoices for work done or goods procured by any contractor should be agreed by the PMSC and verified by his own construction cost controller (CCC).

21. The use of the PMSC is a key tool in QA for international standards of construction and risk management. The PMSC's primary responsibility is to manage, supervise and coordinate implementation, and to provide regular reports to VAST on construction progress.

22. Personnel will be determined at the time of Request for Proposal. An indicative list is shown in Table 2.

**Table 2: Indicative PMSC Consultant Requirement**

<b>Position</b>	<b>International (Person-months)</b>	<b>National (Person-months)</b>	<b>Total (Person-months)</b>
Team Leader/Project Executive/Construction Manager	36		36
Contract/Document Specialist	26		26
Interior and Finishing Architect	16	12	28
M&E Engineer	34	27	61
Cost Controller	36	30	66
Assistant Team Leader		37	37
Supervision Engineer 1		27	27
Supervision Engineer 2		27	27
Interpreter		34	34
Office Staff		27	27
HSE Engineer		27	27
<b>Total</b>	<b>148</b>	<b>248</b>	<b>396</b>

23. The PMSC will provide a Project Executive (Team Leader) to manage, supervise, coordinate and integrate all services and act as the senior representative of the PMSC in dealings with VAST, the PMU-USTH and the USTH. The PMSC will: (i) design and plan the management approach to implementing the construction project and manage the inputs and finances to deliver the outputs on time and within budget; (ii) liaise closely with the PMU-USTH and USTH on all aspects of design and specifications and ensure local views are taken into account, consistent with maintaining the international standards of the buildings and systems development, and working within costs; (iii)



ensure that local employment is used to the maximum extent, consistent with maintaining standards and working within costs; and (iv) review the indicative Design-Bid-Build procurement plan and refine the details of the plan for implementing the services and construction within the budget, and submit it for approval of USTH, the PMU-USTH, VAST and the ADB.

24. The PMSC will provide quantity surveyors (Construction Cost Controller) to support the development of the request for tender (RFT) and contract documents and, subsequently, to assist the PMU-USTH in its role of construction monitoring and supervision, to manage the cost effectively, and to inspect works and verify invoices before payment. This will include the following specific services: (i) assisting the PMU-USTH to review the detailed specification for the RFT, refining construction cost estimates, supporting the finalization of tender and contract documentation for construction and assisting in the assessment of tenders and MCs; (ii) Supporting the PMU-USTH during campus construction by assisting in monitoring the design, development and construction costs; (iii) Providing monitoring (inspection and certification services) for building quality assurance, environmental controls, quantity ordering controls, and managing any design change Instructions and other variations; (iv) Certifying work progress and advising the PMU-USTH on approvals for contractors' progress payments; and (v) Providing regular progress reports to VAST and the ADB.

25. The PMSC must supply at least two quantity surveyors/construction cost controllers (one international and one national) to advise on construction procurement and management, and for inspections and verifying of works, supplies and invoicing. The PMSC is encouraged to include Vietnamese national consultant in tenders, who have appropriate experience and who may benefit from long-term training on the job while supporting the quantity surveying activities. The amount of time is to be managed flexibly to meet the on-going needs of the PMU-USTH. To support this, the PMSC firm will maintain his full team in Hanoi during the construction of the campus.

26. In addition, the PMSC will: (i) Oversee and manage the implementation of the campus construction, including supporting the procurement and contracting to manage activities and consultants to prepare tender documents for the construction work; (ii) Manage the tender processes to identify the MC for the works; and (iii) Manage the SIC and BBC contracts to implement works for infrastructure and building construction of the approved campus and buildings.

27. Under the Design-Bid-Build model, the PMSC will also deploy a senior financial manager and contracts manager, and the system for financial management for the PMSC and the PMU-USTH need to be synchronized.

28. The key responsibilities of the MCs include but are not necessarily limited to:

- (i) Assuming control over the allocated campus land (65 hectares) and maintain that control until all the buildings and landscaping of the approved plan for the initial design capacity of 5,000 students is completed and handed over to USTH, – there should be no limited occupation while construction is continuing;
- (ii) Developing a construction plan (in consultation with the PMSC) to be done in one integrated process, with all the specified buildings being undertaken in a coherent sequence, and managing its implementation within the approved contract budget and time period;
- (iii) Constructing site infrastructure and buildings consistent with the principle (to be incorporated into the architectural plans) that project funds should maximize investment in education facilities, and minimize investment in site infrastructure; and accordingly, ensure that architectural provisions for in-campus roads (including limits

on total roadway area, security requirements and vehicular usage) are reflected in the construction;

- (iv) Liaising with the AEC, and PMU-USTH through the PMSC, to coordinate the works schedule;
- (v) Liaising with UIU (through the PMSC) to coordinate the schedule of equipment procurement (managed by the UIU) with the timelines for installation in buildings and facilitate and assist the UIU in managing the installation as necessary;
- (vi) Completing the campus construction and hand-over in time for teaching services to commence in the indicated time frame (third-quarter of 2017);
- (vii) Applying professional standards and ensuring construction to international standard buildings and fit-out;
- (viii) Managing social responsibilities and ensuring harm avoidance strategies are adopted to prevent spread of HIV and other diseases amongst the construction workforce and local populations;
- (ix) Maintaining accounting of the construction costs using accepted international standards and submitting valid invoices for works completed, and developing a viable risk management plan to ensure appropriate use of the funds and goods obtained with the contract payments;
- (x) Assisting the PMSC in the preparation of all reports on construction required to be sent to the PMU-USTH and the ADB; and
- (xi) Maintaining adequate full-time professional staff in Vietnam to ensure effective management and works delivery on a continuous basis.

29. The MCs, working in coordination with the PMSC and the UIU's Higher Education Services Consultant, will ensure that USTH is kept fully informed and consulted in the detailed planning for the use of each of the buildings and the allocation of the built spaces to specific teaching and research functions.

30. Two experienced international construction firms or consortiums will be engaged as main contractors to implement the construction of all the services and infrastructure and building works. The MCs will be separately procured by the PMU-USTH with the assistance and guidance of the PMSC and AEC. Two single contracts are to be awarded, which will assign the MCs the entire responsibility for undertaking construction activities directly with their own workforce, and for engaging and managing a range of sub-contractors for specific works and fit-out as appropriate. The MCs will employ international experts as full-time project manager and will be responsible for ensuring international standards in construction; and pursuant to the Vietnamese constructions laws and regulations. This should be achieved through use of foreign and national experts when and where necessary; adopting a skill transfer approach of training local management staff wherever possible, and using local sub-contracting firms where they have relevant technical expertise. The MCs and the local sub-contractors should use local labor wherever feasible (including a target of 15% of unskilled workers being women).

31. The two Main Contractors are named, SIC: Services and Infrastructure Contractor, and BCC: Buildings Construction Contractor.

32. The two contractors are responsible for the following but not necessarily be limited to:

i) **SIC:**

**Zone D:** Services and Infrastructure: waste management, drainage and sewerage systems – maintenance and storage – security and life safety center – infrastructure: parking area; passenger road; landscape; service network: i) main water distribution; ii) water pumping station; iii) power house; iv) cable distribution and iv) lighting of the campus.

ii) **BCC:**

**Zone A:** Administration- facilities for conference – university club – office of the Rector board – learning support center (library).

**Zone B:** Academics and Research – humanities, arts and social sciences, biotechnology and pharmaceutical department – material sciences and nanotechnology department – energy department – departments of water, environmental and oceanography – IT and communication department - aerospace department – shared facilities of undergraduate and postgraduate level – common and typical training areas.

**Zone C:** Dormitory and student activities: indoor sport – outdoor sport – dormitories.

33. The MCs will implement the construction of the campus to the design, on time and within budget. To undertake this, the MCs will provide full-time project managers and a range of technical international and national specialists (some of whom may be sub-contractors) to perform the works.

34. Indicative list of management and specialist positions are shown in Tables 3 and 4. The lists are provisional/indicative and will be refined by the MCs in their tenders and implementation planning.

**Table 3: Main Contractors - Indicative Management and Technical Personnel  
For the BCC**

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1. Project Manager
2. Senior Site Manager/s
3. Senior Project Engineer (Mechanical Services)
4. Senior Project Engineer (Electrical Services)
5. Senior Project Engineer (Laboratory Specialist)
6. Senior Project Structural Engineer
7. Senior Project Interior Designer
8. FF&E Coordinator
9. Senior Contract Administrator
10. Environment Coordinator
11. Health & safety specialist
12. Miscellaneous other technical specialists as required (pool)
13. Office administration, translation, services, miscellaneous

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**Table 4: Main Contractors - Indicative Management and Technical Personnel  
For the SIC**

- 
1. Project Manager
  2. Senior Project Engineer (Mechanical Services, Water + Waste Management)
  3. Senior Project Engineer (Electrical Services)
  4. Senior Landscape Architect
  5. Senior Contract Administrator
  6. Environment Coordinator
  7. Health & safety specialist
  8. Miscellaneous other technical specialists as required (pool)
  9. Office administration, translation, services, miscellaneous
- 

35. The MCs will provide international and national (bilingual) staff and experts for: (i) liaising with the PMSC, and through the PMSC with the PMU-USTH, and UIU; (ii) developing a campus construction plan and managing its implementation within the approved budget and time period; (iii) providing expertise in site and civil works, structures, mechanical/electrical, laboratory construction and fit-out, specialist materials handling, IT fit-out, academic library construction, interior design, lighting, landscape design, graphic design, and acoustics; (iv) ensuring quality assurance, environmental controls, quantity ordering controls, occupational health and safety management support for social monitoring and disease control; (v) reviewing, with the PMSC and AEC, the construction plan on a regular basis, and advising on the need for adaptations or variations; (vi) procuring sub-contractors and supervising their works implementation; (vii) oversight of the completion of campus construction and hand-over in time for teaching services to commence in the agreed timeframe; (viii) applying professional standards and ensuring international standard construction for buildings and fit-out; (ix) managing social responsibilities and adopting harm avoidance strategies; (x) maintaining accounting of the construction costs using accepted international standards and submitting valid invoices for works completed, and developing a viable risk management plan to ensure appropriate use of the funds and goods obtained with the contract payments; (xi) assisting the PMSC in the preparation of all reports required to be sent to the PMU-USTH; and (xii) maintaining adequate full-time professional staff in Vietnam to ensure effective management and works delivery on a continuous basis.

## **Group 2: Contracts Managed by the UIU (Outputs 1 and 2)**

### ***Procurement Specialist***

36. An individual **Higher Education Planning and Procurement Specialist (International, 48 person-months)** will be engaged to support to support university development, including strategic planning and procurement activities. The consultant must have experience with higher education planning, development and procurement, preferably within and ADB procurement guidelines and least five years' relevant experience.

### **Higher Education Services Consultant (Firm)**

37. A firm will be engaged to provide capacity-building and other services to assist in the development of USTH.

38. The **Team Leader (International)** will have responsibilities that include (i) Providing leadership and guidance on technical issues relevant to the package and ensure that the management and academic development programs outlined in this PAM are used to guide the implementation and the objectives met in the policies and systems developed; (ii) Advising the Rector and Senate in developments relating to the nominated field of work of the package and lead consultations as necessary; (iii) Preparing work plans and guide and coordinate activities of international and national consultants; (iv) Coordinating and integrate social and gender aspects in

project implementation as relevant to the field of activities; (v) guide and direct the preparation and presentation of technical reports and ensure coherence across all consultants reports; (vi) assist the UIU to prepare progress reports for the PMU-USTH; (vi) take a lead role in seminars and workshops to aid the capacity building; and (vii) serve as facilitator in coordinating the activities across other packages to ensure coherent technical advice and smooth and timely implementation.

39. **Sub-team Leaders and Group Consultants as per specialty.** Each technical specialist in the team will have responsibilities to: (i) Provide technical advice on the issues relevant to the field of expertise assigned in each package to assist USTH to develop and implement the management and academic development programs detailed in the PAM; (ii) Conduct reviews and advise on actions necessary to develop the functions and services that form the specification of the package; (iii) Provide technical material and reports relevant to the field of expertise assigned; (iv) Ensure that all advice and actions are taken only after close consultation and coordination with USTH management, teaching and research staff, and are designed to develop the capacity of the function or service to be embedded into the permanent operations of USTH; (v) Design and provide technical training via seminars, workshops and one-on-one mentoring of relevant Vietnamese leaders and staff to this end; (vi) Prepare user-friendly technical materials and manuals of processes or services relevant to the field of assignment such that future university staff can use them to sustain the Capacity after the assistance; (vii) Ensure highly professional work at all times and deliver services at high international standard; and (viii) Prepare reports on activities, as necessary, to contribute to progress reports for the PMU-USTH.

40. Each team will provide services according the requirements for capacity building associated with the package. These are outlined below.

### ***Leadership, Structures and Regulations***

41. This will involve a total of **50 person-months** for USTH over a six-year period, with emphasis in early years and close to the time for the move to the new premises. The focus will be on developing and providing a program of assistance to build the capacity of the USTH leadership – President, Rector, other key leadership positions and Council members – to assist them to understand their role in the new autonomous environment and to manage a significant transition to new ways of university leadership and management.

42. This will involve a mix of short training modules, mentoring support and Capacity building activities to support the following roles and functions: (i) Understanding the Charter and roles and responsibilities in governance and management; (ii) Planning and developing supporting structures of council and the university; (iii) Establishing the long term strategy for new research/teaching/industry integration; (iv) Prioritizing for program development and preparing annual operating and financing plans to build research and academic strength; (v) Understanding university financial management and balanced allocation of resources, aligned with the strategic plan, and understanding of financial accounts as necessary; (vi) Planning and managing for high quality personnel - recruitment and development; (vii) Understanding new university accountability requirements and standards to be expected in over-sighting accountability to the government, students and the public; and (viii) Understanding of international standards for new approaches to university management and analyzing the strengths and weaknesses of the initial arrangements to feed into a review of the Charter.

43. The training program will support the founding Council Chair and President and Council members to establish the detailed structure of the university's governing system, establish and commence the operations of Council committees and sub-committees, determine USTH's strategic directions and prepare a business plan for USTH for the establishment period. It will also support the

development and embedding of the internal operating regulations, and the search and selection for the appointment of the second Council and President.

### ***Management Systems and Software Development***

44. This will involve a total of **50 person-months** for USTH over a six-year period, with emphasis in early years and close to the time for the move to the new premises. The focus will be on developing and implementing a capacity building program to establish USTH's management and administrative systems, including: (i) A student enrolment system and academic record monitoring system; (ii) Student administration system and operating manuals; (iii) Financial management system and financial operating manuals; (iv) Library collection management and catalogue systems and operating manuals; (v) Personnel management systems and operating manuals; and (vi) Installing and maintaining all management Information systems - data collection, processing and use of data for planning and for monitoring of quality.

45. The consultants will provide capacity building to: (i) Support the establishment internal management systems and data collection for both monitoring of academic inputs and outputs, and for financial management for each university; (ii) Assist USTH to establish new systems, based on its need to operate at more sophisticated levels of management that are required in an autonomous environment, and to facilitate the financial reporting, annual independent auditing and systematic quality monitoring that will be necessary to sustain the standards expected of USTH and essential to underpin striving for achieving international excellence; (iii) Assist USTH to develop systems and data to engage in regular evaluation of their own activities to comply with the government's requirements for accountability under the performance agreement (tied to funding) and the external QA system, and to ensure a rigorous system for data collection to report on the performance Indicators sought by the ADB to measure the achievement of loan objectives; and (iv) Provide associated training programs for financial managers and for leaders in financial/resources management.

46. Within this package special attention and technical expertise is required to support the development of the internal financial management system for the university and, simultaneously, to work with VAST and MOF to review and adapt the special financial regulation that supports the provision of State budget support to USTH. In respect of the review of the financial regulation, the specific Terms of Reference include:

- (i) To work with representatives of the government, USTH and international and domestic partners to develop mechanisms for the recurrent funding of USTH based on international good practice;
- (ii) The mechanisms are to enable the university to meet its objectives as a university of science and technology of international standing on a sustainable basis, and to respect the autonomy of USTH as defined in its Charter, and to provide for strong accountability to government;
- (iii) The consultant should develop a special international study tour for selected officials in VAST DPF, MOF and Office of Government, (selected for those who actively work on the refinement of the regulation) to support knowledge development from review of university specific financing for autonomous operation in selected OECD countries (details of the funding provision for the study tour are in the Human Resources Development Plan in Appendix 11);
- (iv) The consultant should propose mechanisms for application during the remainder of the Establishment Phase, and for the Consolidation Phase of USTH, and a road-map for the transition from one to another. A starting point for the Establishment Phase mechanism

is to review and recommend if revision of the special financial mechanism that may have been prepared by MOF is warranted; and

- (v) The ADB receives a copy of the consultant's report. The government gives an opportunity for the ADB to comment on the issue of financial sustainability before taking decisions on the report.

### ***Development of the Office of Student Services and Support Programs***

47. This will involve a total of **37 person-months** for USTH over a six-year period, with emphasis in early years and close to the time for the move to the new premises. The focus will be on developing and implementing a capacity building program to establish and operate an office of student services, including: (i) Student advisory and mentoring service for study and academic support; (ii) Financial counseling and student assistance schemes (fee rebates and other forms of financial assistance); (iii) Medical services (referral clinic) and social counseling services; and (iv) Employment services.

48. It will also include development of a specialized facility to support programs under USTH's GAP and equity promotion policies to develop and deliver pro-active plans to increase enrolment of high quality women, students from ethnic minorities and students with disabilities into science and technology courses and implement the special scholarship fund established to facilitate increased participation of women, ethnic minorities and students with disabilities. The specialist supporting this work will assist the university to develop the GAP policies and a specific program to use the \$1 million fund for gender scholarships under the loan; and develop approaches and systems to embed on-going implementation of the schemes into the university's normative practices for promoting social equity in the university.

### ***Establishment of the Specialized Centers for Academic Development***

49. This will involve a total of 195 person-months for USTH over a six-year period, with emphasis in early years and close to the time for the move to the new premises. The focus will be on four of the five sub-outputs under Output 2. The consultants will design and implement an integrated program of capacity building across the sub-outputs, ensuring that appropriate linkages across the functions create a coherent and seamless culture for high excellence in academic programs. The consultant team will develop four specialist centers/units to support the core of quality academic programs: (i) CTLE; (ii) QAC; (iii) RSC; and (iv) IEC.

50. The consultants will develop internal university capacity for the CTLE to improve the teaching and curriculum development competencies of existing teachers and also to prepare graduate students who seek to be university teachers with modern pedagogy knowledge and practice. Consulting services will support the development and embedding into USTH systems the following key functions of these centers:

- (i) Upgrading teaching, curriculum, assessment and advisory/supervisory skills of academic staff;
- (ii) Integrating research and scholarship into teaching and learning;
- (iii) Teaching certification programs for graduate students wishing to become university teachers; and
- (iv) Programs for graduate students whose first language is not English.

51. The consultant will also: (i) Develop software to enable a systematic approach to curriculum development that will coordinate curriculum development with assessment design; (ii) Establish a

university-wide student assessment program, so that by the end of the Establishment phase the assessment processes are completely integrated into and funded by the university; and (iii) Train 2-4 full time instructional design consultant and one clerical and one technical staff to support the ongoing work of the CTLE.

52. For the QAC, the consultants will build capacity among all USTH staff to embed a holistic and permanent internal QA management service for use by management and academic staff. The capacity building will include the following:

- (i) **Senior Management (including deans of faculties and heads of departments).** Training for understanding new QA and quality culture and development of internal systems to manage all facts of building and maintaining quality and standards in research and in teaching;
- (ii) **QAC Staff.** Training for understanding quality culture and using the systems and processes to support academic staff in development and approval for new programs and for data management and use of monitoring surveys to measure the standards of teaching and learning and complying with national accreditation and QA system; and
- (iii) **Senior academic staff.** Training in short courses for understanding key features of internal quality assurance; strategies that staff may use to monitor and improve teaching quality; the Viet Nam quality assurance and accreditation framework; and the use of peer review and other strategies to improve teaching practice.

53. The consultant will also: (i) Develop the center to be the locus for managing USTH's own regular research for monitoring quality and using it to feed back into continuous improvement processes; (ii) Provide training to staff to design, conduct and analyze data from regular surveys of industry and other key research users' needs; (iii) Establish a program for conducting graduate tracer surveys to contribute ongoing information about employer needs; (iv) Develop staff performance appraisal methods and integrated them with other institutional quality measures; (v) Develop and implement programs to train academic leaders in staff counseling, academic leadership and management and managing institutional change.

54. The consultants will support the establishment of the RSC and its programs and embed them into the USTH culture. Its priority will be to support USTH to continually build research capacity and excellence, and to give special support to bring research results to publication to further the university in gaining international recognition and ranking. Tasks shall include, but not be limited to: (i) Provide staff with high level support in designing and publishing their research, applying for grants and providing research training to postgraduate students, including assistance in editing papers and guidance in submitting papers to peer reviewed journals, assistance in research design, research methodology and statistical analysis; (ii) Develop the services and procedures needed to sustain this assistance to researchers, assist the university to recruit and train staff for the service; (iii) Establish a network with the full time support staff supplemented with 'consultants' from academic faculties with relevant experience, or from mentor partner universities.

55. The consultants will assist in establishing an RSC that is responsible for building relationships with industry and other potential users of their knowledge, expertise and technologies. The RSC's priority will be to support researchers in establishing linkages with firms and other organizations to gain a better understanding of their needs, to assess the scope for contract research and training, as well as for joint funding of infrastructure and services. The Consultant will support the RSC to build competencies in:

- (i) Establishing regular interaction with industry, and conducting surveys to gain an understanding of industry's education, training and research needs;



- (ii) Setting up technology transfer and knowledge exchange services, preferably in cooperation with technology parks and their tenants, and specifically with the new Technology Transfer Centers that are planned to be established elsewhere in HHTP;
- (iii) Developing industry internship programs with industry for university undergraduate and postgraduate students and researchers; and
- (iv) Understanding and making full use of the provisions in existing laws and regulations, especially in relation to incentives for technology transfer and intellectual property in Viet Nam as it applies to products from research projects and consultancy services undertaken by USTH.

56. The consultant will also: (i) assist the university to establish a staffing structure, recommend an appropriate number of staff and assist to recruit and train a small number of permanent staff for the center; (ii) provide training or sensitizing workshops for senior university management and members of the University Council to facilitate strengthening of mutual understanding between academic and industry commercial cultures and drivers.

### ***Development of the Center for Laboratory Management***

57. This will involve a total of **73 person-months** for USTH over a six-year period, with emphasis in early years and close to the time for the move to the new premises. The consultants will support the establishment of a CLM and a centralized workshop system to provide for the maintenance and repair needs of the laboratories and the broad base of Technician knowledge and skill to sustain a high quality technical university. The Center must be established to support three fundamental developmental areas: skill development, infrastructure and equipment, all geared to ensuring maintenance of the highest standards of laboratory systems. The consultant will develop the center with responsibilities to: (i) Streamline and monitor equipment acquisition; (ii) Implement income generating activities; (iii) Provide staff training; and (iv) Advise on laboratory design and management.

58. The consultants will: (i) Assist the CLM to develop specialized software to support the equipment maintenance and repair/replacement management programs; (ii) Develop a training program that uses a 'cascade' model of staff training focused on the technicians employed for data generation; (iii) Develop SOPs for laboratory operations, including the laboratory quality manual and a management system for an equipment and reagent inventory, and instrument calibration, etc.; (iv) Develop a specialized LMIS – for the chemistry analytical, biology and environmental laboratories- which is built to accommodate the specific laboratory operations; (v) Develop the CLM's capacity to provide services to laboratories through the maintenance and calibration of equipment; (vi) Assist the university to review and specify the equipment list for all laboratories within the CLM; (vii) Consult with the discipline research leaders and the Science Council to assist the incorporation of the laboratory maintenance plan into the early strategic plan of the university; and (viii) Establish a training program and curriculum for the development of technician support staff.

59. The consultants will also develop a structure for a technician career path and a formal training program with method and practices for: (i) On-job-training that allows for a flexible approach, which is easily adjusted to the training needs established by a competency assessment; (ii) Competency assessment of practical skills as the means of identifying the on-going training needs of technicians and certifying attainment of competence; and (iii) Practical training for technicians, which will be conducted on-site as equipment becomes available. The consultants will embed a methodology that ensures that the training for technicians is focused on practical aspects such as the proper use and maintenance of equipment, rather than on theory.

60. **Team Expertise and Experience.** As an indication, it is expected that the international technical experts selected will have, across the group, an appropriate combination of expertise and

experience. In particular, the Team Leader and Sub-group Team Leaders should have expertise in university institutional management and a background in academic leadership. They should possess the following:

- (i) Team leadership skills and experience;
- (ii) Experience in activity implementation in developing countries, preferably with some prior experience in Viet Nam (desirable though not essential due to the limited range of such prior activities in higher education);
- (iii) Demonstrated skills and experience in consultative approaches, facilitation and negotiation;
- (iv) Technical expertise relevant to the activity (essential);
- (v) Problem solving and analytical abilities; and
- (vi) Advanced verbal and written communication skills - especially report writing.

61. **Team core expertise.** The Team should have the following core expertise:

- (i) University strategic planning and development of quality improvement plans for institutions;
- (ii) University chancery management, or aspects of university and faculty management;
- (iii) Project implementation skills in a university environment focusing on special activities to develop quality improvement programs or research capacity;
- (iv) Capacity building (human resource development and institutional strengthening); and
- (v) Strong skills in training workshop delivery and experience working with translators in training delivery.

62. **Technical expertise/skills.** The Team should have the following technical expertise/ skills:

- (i) Tertiary qualifications in a relevant social science, statistics, and in science and technology research. A majority of the team should have post-graduate qualifications, and be comfortable in engagement with university rectors and senior academics and researchers;
- (ii) Knowledge, background and experience in university institutional development and operation;
- (iii) Specific expertise and relevant experience in the nominated field of activity for each person; and
- (iv) Some relevant experience in activity implementation in their field of technical expertise, in developing countries.

63. **Inter-personal skills and other knowledge:**

- (i) Well-developed people and team skills;
- (ii) Effective cross-cultural communication and negotiation skills;
- (iii) Analytical and policy development skills;
- (iv) Understanding of development and government issues relevant to aid programs; and
- (v) Relevant language skills.

64. The consultants will provide general management of the capacity building for Outputs 1 & 2. An indicative list of services packaging is shown in Table 4 below. To implement these services packages the consultants will arrange the supply of individual specialists, or of smaller sub-contracting firms, as may be appropriate. The UIU will determine if the consultants should manage the provision of the Education Equipment Supply (EES) services, via a sub-contractor, or if it is more appropriate,

given timelines and logistics, to procure a separate EES contractor. This packaging is provisional and may be adjusted by the UIU and education consultant after commencement to suit the needs to the emerging design and timetable. Any adaptations will be shown in revised procurement plans.

**Table 4: Consulting Services Groupings for Capacity Building**

<b>Summary – Service Groupings for Outputs 1 and 2</b>		<b>Person Months</b>		
		<b>International</b>	<b>National</b>	<b>Total</b>
1 Procurement advisor		6	0	6
2 <b>Education Services Consulting:</b>		34	16	50
(i). Leadership, structures, regulations				
(ii). Management systems & software		50	20	70
(iii) Student Services		21	16	37
(iv) Academic Development, (Teaching, QA, Research, Industry links)		120	75	195
(v) Laboratory Management systems and training		50	23	73
3 Education Equipment Supply		37	90	127
<b>Total</b>		<b>318</b>	<b>240</b>	<b>558</b>

**Provisional Outline of Service Groupings for Capacity Building Services**

<b>Leadership, Structures &amp; Regulations</b>		<b>Person Months</b>		
		<b>International</b>	<b>National</b>	<b>Total</b>
Team Leader, University structures, council and management specialist		12	6	18
University academic recruitment and HR System design specialist		10	4	14
University Strategic Planning and Financial Management		12	6	18
<b>Total</b>		<b>34</b>	<b>16</b>	<b>50</b>

<b>Management Systems &amp; software development</b>		<b>Person Months</b>		
		<b>International</b>	<b>National</b>	<b>Total</b>
Team Leader, university systems development (IT specialist)		12	4	16
Student administration system (enrolment and academic records) development specialist		4	4	8
University financial management system Development specialist		10	4	14
Library collection and Catalogue development specialist (x2)		10	4	14
Personnel Management system (IT) development		6	4	10
MIS design and development, installation specialists(x 2)		8	-	8
<b>Total</b>		<b>50</b>	<b>20</b>	<b>70</b>

<b>Student Services</b>		<b>Person Months</b>		
		<b>International</b>	<b>National</b>	<b>Total</b>
Team Leader & Student Advisory, mentoring services		6	6	12
Financial counseling and assistance schemes development		6	3	9
First aid and healthy living advisory services establishment (x 2)		3	2	5
Employment services (advisory and data collection)		3	2	5
Gender and equity adviser		3	3	6
<b>Total</b>		<b>21</b>	<b>16</b>	<b>37</b>

<b>Academic Development</b>		<b>Person Months</b>		
		<b>International</b>	<b>National</b>	<b>Total</b>
Team Leader, Academic Development		24	12	36
Center for Teaching and learning Excellence:				
Teaching, curriculum and assessment development specialist		12	11	23
Integration of teaching and research development specialist		5	3	8
Teaching certification specialist		5	3	8
TESOL program specialist		5	3	8
Quality Assurance Center				
University QA systems specialist		10	5	15
Academic management Systems specialist		7	5	12

Quality Data system specialist	8	5	13
<i>Research Support Center</i>			
Research Design and Methodology specialist	10	6	16
Publication editing specialist	10	-	10
<i>Industry Engagement Center</i>			
Survey development and management specialist	6	6	12
Technology transfer specialist	6	6	12
Internship design specialist	6	4	10
Intellectual Property specialist	6	6	12
<b>Total</b>	<b>120</b>	<b>75</b>	<b>195</b>

<b>Laboratory Management Development</b>	<b>Person Months</b>		
	<b>International</b>	<b>National</b>	<b>Total</b>
Team Leader, and Laboratory Management specialist	12	6	18
Equipment Acquisition systems design specialist	8	3	11
Laboratory data management Information system (IT) specialist	9	3	12
Laboratory maintenance service and depreciation management specialist	7	3	10
Laboratory calibration specialist	7	3	10
Laboratory technician career development and training specialist	7	5	12
<b>Total</b>	<b>50</b>	<b>23</b>	<b>73</b>

<b>Education Equipment Supply</b>	<b>Person Months</b>		
	<b>International</b>	<b>National</b>	<b>Total</b>
Team Leader/Science laboratory Equipment sourcing specialist	12	12	24
Library Equipment specification and sourcing specialist	5	12	17
Individual science Discipline equipment advisors (several as required)	20	66	86
<b>Total</b>	<b>37</b>	<b>90</b>	<b>127</b>

65. Seven groups of International consultants and national consultants providing a cumulative of 558 person-months of input will be recruited by the UIU to support university management and academic development. The consultants will work closely with the university's leadership and domestic staff and the Rector and Senate at USTH. International consultants will lead and plan in their respective areas of expertise in collaboration with national consultants and university staff. The national consultants will advise international consultants on the local situation to enable them to adjust their analysis and recommendations to local conditions. Consultants will help the international team leaders prepare and conduct workshops and seminars, prepare reports, and carry out other tasks in their areas of expertise, which will be identified during project implementation, in addition to specific tasks assigned to them.

66. A detailed Human Resources Plan elaborates areas for development and training tasks to be provided. The Human Resources plan is at Appendix 11.

## **APPENDIX 5**

### **Reform of Policies for University Governance to Support USTH to Attain International Standards**

#### **A. Objectives and Concept**

1. Outputs 1 and 2 will provide assistance to USTH to establish its internal management structures, roles and systems and to build capacity in the Vietnamese management personnel for understanding the new operating environment of an autonomous university and develop skills necessary to sustain the university at international standards after the completion of the loan and the French establishment assistance. Capacity building advisers will be engaged to provide support in the design of systems, development of operating manuals and internal regulations, mentoring for management practice, and training through action learning workshops and seminars.

2. Details of the range of tasks related to capacity building are in Appendix 2 and in the Procurement Plan and Framework for Consulting Services. This Appendix outlines the principles and policies recommended to achieve the level and style of governance suitable to produce a true 'new model' for universities in Viet Nam. These principles and policies are intended to be used by the capacity building specialists and USTH as the new governance and management systems are developed for USTH. Adherence to these principles and policies will be monitored by the ADB review missions throughout the loan period.

#### **B. Core Principles for USTH to Attain International Standards**

3. A research university is a creator of new knowledge, through research, a synthesizer of knowledge through scholarship, and a disseminator of that knowledge through teaching. To be accepted as having developed into international standard research university USTH will have to demonstrate that it fulfils these criteria: (i) Be operating as a university offering the full range of courses for bachelor degrees, masters degrees and doctorates; and (ii) have a high reputation for its courses, research and service, and be held in high esteem by peer institutions and their staff, not only nationally but also internationally. The indicator measures for this recognition will be:

- (i) Ability to attract the best qualified and most able students;
- (ii) The proportion of academic staff with doctorates from high ranked institutions in Viet Nam and other countries, and the international experience of those staff;
- (iii) The rigour and relevance of its academic programs and their responsiveness to the rapidly changing needs for knowledge to serve the discipline and society, its internal quality assurance system for sustaining the rigour, and for continuous improvement to maintain relevance to modern labour market demands;
- (iv) The success of its graduates in professional employment or in further study at leading overseas universities, especially where Viet Nam graduates win competitive overseas scholarships;
- (v) The quality of its research as measured by publications and citations, external research grants and partnership links with industry; and
- (vi) The standing and reputation of its international partners.

4. In addition the concept of an 'international' university is more than the quality of programs, the teachers and the graduate outcomes alone; it also includes a notion of a 'community of scholars' that both enables and encourages inter-communication for the generation of innovative thinking and approaches and has the resources from a critical mass of students and staff, and

research funding, to develop new programs of research and teaching to translate the innovation into high quality academic outcomes.

5. In Viet Nam, to establish USTH so that it can become a true international standards research university taking account of the issues in the current higher education system, the government must make a number of core reforms to the regulations that govern the operation of universities to provide the necessary enabling environment for USTH to realize these objectives; and USTH will need to take the responsibility for using the new enabling environment creatively and appropriately to develop the standards required and produce the results in student outcomes and new knowledge supporting accelerated economic development.

6. A number of principles and features that will be needed in Viet Nam to establish and sustain USTH as an NMU and to reach the status of international standard research university over time have been identified:

- (i) USTH should be a fully autonomous research university operating on a specific regulation that devolves VAST's current operational management controls to the University Council; and establishes a Charter that empowers the University Council and Rector to take executive decisions over the full range of activities required to deliver high quality research and education services to students and required them to make comprehensive accountability reports to the government on an annual basis.
- (ii) USTH should receive state budget support for recurrent operating costs via a special regulation that authorizes VAST to negotiate a five year rolling funding plan that allows a level of funding based on its special needs during its establishment and consolidation phases (up to the first 10 years) that is separate from and not bound by the normative based financing regulations of the higher education system. This is to support higher levels of resourcing required to establish a university developed from a greenfields site, and to support the attainment of higher international standards in research and teaching.
- (iii) USTH should have freedom to make its own staffing decisions, and for its staff to be employees of the University, rather than of the government, and for salaries not be subject to government regulations on salary and conditions. The University Council should set the guidelines for its engagement policy, and may vary provisions for salary and conditions in employment contracts to support a strategy of seeking the highest quality staff for appointment, whilst also ensuring that contracts are responsible and affordable within the resources available to the university from government operating grants and external sources. All appointments of leaders and staff should be based on merit criteria, after transparent selection procedures (including international searches where appropriate). Appointments of leaders (except for some exemptions in the foundation appointments) should be made by the University Council rather than the government, and should be accountable only to the University Council. The University Council will be accountable to the government for the good governance of the University and for performance of the university in meeting academic and research objectives.

### **C. Government Regulatory Action to Allow for the Application of Core Principles for USTH**

7. The government should embed these principles into a new regulation which contains its Charter, which should give the University Council full authority to manage all the internal affairs of the University – including:

- (i) Making all management and staff appointments;
- (ii) Determining the appropriate management structure for the university, and the role and operating procedures for all committees – including the University Council, the Rector, the Academic Board and Faculty Boards;
- (iii) Academic strategy, the research priorities and teaching programs;
- (iv) Discipline mix and how the disciplines are configured into faculties and programs;
- (v) Curriculum, including its development by members of staff of USTH, or if it is to be acquired from other universities, whether purchased or shared;
- (vi) Methods of teaching, and how teaching and research should be integrated;
- (vii) Academic standards, as indicated in admission policies and practices, and policies and practices for the assessment of student learning;
- (viii) Links to external organizations – other universities and industry for collaborative research and teaching programs and international associations;
- (ix) All aspects of financial management – generating revenue from tuition fees, service charges for other links with academic partners and industry investors, and linking these measures with priorities for the academic programs;
- (x) All aspects of employment management - strategies for building a concentration of talent, methods for selecting academic and administrative personnel based on merit, policies for remuneration and conditions of employment including the right to hire all staff as university employees rather than as civil servants attached to VAST and for determining the conditions for the allocation of titles and promotions; and
- (xi) Capital assets of USTH, such as land, buildings and equipment, as well as assets such as cash and investment funds.

8. The government should ensure that USTH, as a New Model university, has adequate resources to support its development from the greenfields start through to status as an international standard research university. This support should be guaranteed for at least the Establishment and Consolidation phases, lasting up to ten years from approval as a university by the Prime Minister.

### **D. USTH Responsibilities**

9. The USTH Council will be responsible for the good governance of USTH and for performance of the university in meeting academic and research objectives. The University must be accountable in a fully transparent manner to the government and the People for their stewardship of the public funds and for education performance. The Charter/Regulation will require the university to make comprehensive accountability reports to the government on an annual basis, on its outcomes in quality of learning and research and its use of the state budget funds. The annual report will include an audit report of the university accounts conducted by an independent auditor using international standards of auditing. On receipt of annual reports, the government will review and may reset outcome targets, and may offer comment on the policies and practices adopted by the University for achieving them. All USTH accountability reports to the government should be published each year, in hard copy and on the university website, for general availability to the public.

## **APPENDIX 6**

### **Reform of Policies for University Recurrent Financing to Support USTH to Attain International Standards**

#### **A. Objective**

1. Outputs 1 and 2 will provide capacity building and advice to support VAST and USTH in developing a recurrent funding mechanism based on international good practice relating to universities of science and technology, to ensure that USTH has adequate recurrent operating funds in its first 10 years to develop into a high international standard research university.
2. Capacity building advisers will be engaged to provide support in the design of the internal USTH financial management system and the development of operating manuals and regulations necessary to support their implementation. This will include the capacity building adviser for financial systems, the university, and the government working together to develop a regulation to detail a method for the State to provide sufficient finances to supplement externally generated funds so that the total is a level that keep the university financially feasible, and to establish efficient ways for payment of the state funds to the university.
3. The range of capacity building tasks is detailed in Appendix 2 and in the Procurement Plan and Outline Framework for Contracted Services. This Appendix provides the principles and methodology recommended for estimating a sufficient level and style of recurrent financing suitable to produce a true 'new model' for universities in Viet Nam. These principles and policies are intended to be used by the capacity building advisers and the recurrent financing and financial management systems are developed for USTH. Adherence to these principles and policies will be monitored by the ADB review missions throughout the loan period.

#### **B. Recurrent Funding Principles**

4. New model universities such as USTH are intended to be a small segment within the higher education system of Viet Nam which achieves international standard in the near term, and world class in the long-term. They aim to integrate teaching and research, within an orientation towards science and technology. NMUs aim to recruit staff and students of the highest quality, both from within Viet Nam and from overseas. In the early years of their existence, new model universities are assisted to achieve their aims by international strategic partners.
5. NMUs are provided with physical facilities of international standard through loans from the World Bank and the ADB. NMUs also need much higher recurrent funding than other universities in Viet Nam, for several reasons: (i) The need to attract academic staff of high quality from abroad as well as in the domestic market; (ii) To support the infrastructure for research as well as teaching in science and technology, including an adequate number of laboratory technicians and other support staff, support for the supplies required to teach science on an experimental basis; and (iii) To cover depreciation, so as to allow for the maintenance and renewal of their capital stock.

#### **C. Funding Methodology**

6. Methods of funding NMUs differ between the Establishment Phase of NMUs (up to about 2016) when they are recruiting staff, opening courses, and bringing facilities into use, and the Consolidation Phase when they occupy their new premises and build up to their initial design capacities of about 5,000 students.



7. In the Establishment Phase the build-up of student numbers and other sources of income will be hard to predict. The NMUs prepare multi-year business plans in co-operation with their international partners and VAST which include annual targets for student recruitment, opening of new courses, research initiatives etc, and the funding appropriate to realize the targets. The Business Plan has a time horizon of at least three years, and indicators and mechanisms for monitoring progress. Each year progress is reviewed and targets are re-set in time for the appropriate funding for the following year to be approved through the Government of Viet Nam budget cycle.

8. In the Consolidation Phase, NMUs will move to a more independent funding methodology. Block grants are calculated for the State Budget element of funding using a funding formula based on actual and projected student enrolments and course progressions/completions and cost “norms” for different disciplines and levels of study (postgraduate and undergraduate). The funding formula includes elements for research infrastructure and for teaching. An additional targeted funding program might progressively be introduced to reward universities that are successful in attracting revenue from industry and other collaborative ventures.

9. The initial capital stock of the NMUs (buildings and equipment) is an endowment from the State. The NMUs are not required to repay the loans contracted by the Government of Viet Nam for the acquisition of this stock. Through the Establishment and Consolidation phases there is a progressive shift of emphasis from government controls over the cost of NMu inputs to the prices which government, students and industry are willing to pay for the research and teaching services which NMUs supply. Consistent with such an approach, NMUs set their own fees and determine the pay of their staff. An indicative pattern of expenditure and funding sources for USTH over time is set out in Table 1 of this Appendix. It shows student fees increasing as a proportion of total income from 10% in the Establishment Phase through 20% in the Consolidation Phase to 30% in the Expansion Phase. As income from research contracts and business activities grows, the proportion of the USTH Budget covered by State Budget subsidy reduces from 80% in the Establishment Phase through 65% in the Consolidation Phase to 55% in the Expansion Phase.

#### **D. Basis for Developing a New Financing Mechanism**

10. The provision of recurrent financing resources should be undertaken in a manner that will allow the greatest flexibility to ensure the level and process for payment is fitted to the emerging needs of the university, and is affordable within the state budget. It is recommended in Viet Nam that this will initially be more appropriately achieved using a special Multi-year Performance-Resource Agreement that can be reviewed on an annual basis, to allow for variations in the pattern of development. Use of normative state formulas will be too constraining and will not be flexible enough to cater for special early development investment needs in recruiting and training new academic and management personnel, and the establishment of basic research capacity, and will be too uncertain until a stable pattern of enrolment is established.

11. The Agreement should contain government required performance targets for quality and outcomes, accompanied by resources adequate to support the university’s achievement of the required outcomes, and performance criteria for VAST/MOF to make the payments in a timely manner. The recurrent financing agreement should allow for adequate resources to meet teaching and base research activities, and to support an appropriate regime for subsidy of tuition fees for equity students, and for supporting the university’s plans for special merit scholarships

to attract the highest quality students (which are additional to the student's eligibility for the government's standard student allowances).

#### **E. Basis for an Adequate Level of Recurrent Financing and Method for Calculating State Budget Contribution.**

12. Research undertaken during project preparation indicated that a useful tool for determining the level of recurrent funding needed by the university and for determining how much the state provision should be, is to use a 'benchmark' figure, calculated on averaged costs per student. This is a common approach in many OECD countries with many public universities in the top world class ranking lists.

13. The initial overall level of operating funding to the university should be at least equivalent to an averaged unit subsidy of \$4,000 per student, (at 2009 costs equivalents, adjusted for price movements). This averaged level will need to be increased on a regular basis as the university matures, in order to keep up with continuous development needs, and until there is sufficient momentum in programs for research and enrolment that can support reasonable attraction of other financing sources. The Agreement should not impose any unreasonable constraints on the university's freedom to manage deployment of the elements of the funding. The paragraphs below explain why the initial recurrent funding of the NMUs should be benchmarked against an average of \$4,000 per student per year in 2009 dollars, with provision for growth as the universities move progressively towards international and world standards.

#### **F. Nature of the \$4,000 Benchmark<sup>1</sup>**

14. The \$4,000 benchmark relates to the overall recurrent funding which NMUs would need in order to meet their regular commitments to teaching and research. As well as the State Budget, tuition fees, contributions from international partners and university earnings from contracts, full cost courses, etc can contribute to the make-up of the \$4,000. Taking into account realistic assumptions for funding from those other sources, the government sets its subsidy from the State Budget so as to respect the benchmark. The Final Report shows the benchmark increasing from \$4,000 in the Establishment Phase to \$5,000 in the Consolidation Phase and \$6,000 in the Expansion Phase; and a reduction in the proportion of benchmark funding sourced from the State Budget through the three phases – see Table 1 attached. However, in the light of evidence from other countries about the funding of science and technology universities, it is clear that the NMUs will need substantial State Budget funding on an on-going basis.

#### **A. Need for a Benchmark**

15. The government has set itself the objective of establishing some universities of international standard, with a view to at least one of them reaching the world Top 200 by 2025-2030. The PPTA Team therefore made recommendations for infrastructure and capacity-building investments of a high international standard costing a significant amount. One of the risks for the developing country and for the ADB in such large investments is that the recurrent funding needed to achieve their objectives may not be forthcoming. The partners to the investment need a common understanding about a basic level of recurrent funding which the government feels able to support. The benchmark is a way of quantifying that level.

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<sup>1</sup> A detailed presentation of the methodology for the calculation for the benchmark is in "Financial Frameworks for New Model Universities - Paper B: Estimating the Operational Costs of New Model Universities", Final Report of the Preparation Project, Volume V.

## **H. Evidence on Which the Benchmark is Based**

16. The basic evidence was set out in the PPTA Mid-Term Report<sup>2</sup>, later reproduced in Volume V of the Final Report. The underlying ratios were themselves derived from consideration of two basic factors: (i) Practice in universities of international standard in other countries, and (ii) What is realistically attainable and affordable in near to medium term in a developing country context. Existing world-class universities are mostly sited in developed countries with high cost levels.<sup>3</sup> Research conducted during the PPTA examined costs from developed countries, as well as from developing countries, where costs are lower as they are in Viet Nam, and where Top 200 rankings have been attained at significantly lower unit costs.<sup>4</sup>

17. This work showed that, even in low-cost countries, world-class universities were usually spending \$10,000 per student per year or more; and that there was a link between unit expenditure per student and enrolment level; the universities with the lower unit costs usually had high enrolments – 20,000+ students. It is recognized that such expenditure and enrolment levels were not initially realistic for the State Budget of Viet Nam, or for the NMUs which are start-ups. In setting an initial benchmark of \$4,000 per student factors taken into account included: (i) funding levels for universities of science and technology in neighboring countries such as Malaysia and Thailand which have set themselves the challenge of reaching first international, and then world, standards; and (ii) evidence of what the government, and Vietnamese students, have themselves been willing to pay for international programs of higher education, such as the Advanced Training Programs.

## **I. Differentiating Costs by Discipline**

18. If VAST adopted the benchmarks, it would not follow that the State budget has to allocate \$4,000 per student to each NMU. The government could use the benchmarks in determining the overall pool of funding for NMUs, and use discipline mix as a factor in distributing funding between them. Suppose for example that NMU A had one-third of its students in subjects such as Business, Commerce and Economics, which are cheaper to provide, and NMU B had all its students in more expensive Science and Technology subjects. VAST could use cost weights to skew the distribution of the pool of funding derived from the benchmark in favor of NMU B. Table 3 attached reproduces some simple cost weights used in the Economic Analysis. The PPTA prepared a more detailed paper on cost weights drawing on international evidence.

## **J. The Establishment Phase**

19. It is recognized that the buildup of student numbers in the early years of the NMUs is hard to predict and that it is not appropriate to base funding simply on the student numbers expected in the year immediately ahead. Options for dealing with that were set out in Chapter 8D of the Final Mid-Term Report. More recently USTH has developed its own Business Plan, in co-operation with the French international partner.

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<sup>2</sup> See especially "Estimating the Operational Costs of NMUs" in Volume II of the MTR, and for more international data Chapter 3 of the Vol I of the Final MTR Report.

<sup>3</sup> See Table 5 A on p.25 of the Final MTR Report, extracted from Salmi.

<sup>4</sup> See Tables 5 B and 6 on pp.26 and 27 of the Final MTR Report.

## K. Conclusion

20. The purpose in proposing the \$4,000 benchmark is to establish consensus around an approximate level of recurrent funding which will render the proposed capital investment in the NMUs worthwhile. Arguments for a higher level were made in the feasibility study for VGU. Only the government can make judgments about what is affordable. It is noted, however, that in view of the size of the investment proposed, it is not sufficient for the government to rest on a statement that “the level will depend on the annual commitment and objectives of each university or on one period of agreement between the government and each new model university.”

## L. The Way Forward

21. It is recommended that: (i) financial analyses on USTH feasibility be based on a recurrent funding benchmark set initially at \$4,000 in 2009 dollars and rising over time as shown in Table 1; and (ii) financial sustainability of USTH should be assessed on the basis that income will be sourced from the State Budget, student fees, research contracts and other sources in the proportions shown in Table 1.

**Table 1: Indicative Operating Expenditure over Time for USTH, by Funding Source – 2009 Dollars**

Expenditure	A. Establishment Phase – about 2014	B. Consolidation/ Full Design Capacity, about 2020	C. Expansion Phase, about 2026 -2030
Number of Students	1000	5000	7000
Guideline Expenditure per Student	\$4000	\$5000	\$6000
Total Annual Operating Expenditure	\$4.00m	\$25m	\$42m
Funding Source			
Govt funding for teaching	\$2.40m (60%)	\$11.25m (45%)	\$17.85m (42%)
Govt block funding for research	\$0.8mm (20%)	\$5m (20%)	\$5.25m (12.5%)
Student Tuition Fees	\$0.40m (10%)	\$6.25m (25%)	\$12.6m (30%)
Income from research contracts, business activities and donors (including international partners).	\$0.40m (10%)	\$2.5m (10%)	\$6.30m (15%)
Total Annual Income	\$4.00m	\$25m	\$42m
Income from State Budget	\$3.20m	\$17.75m	\$25.72m
Income from Other Sources	\$0.8m	\$7.25m	\$16.28m

### Notes

1. Student numbers for Col A derive from Tables 6 and 8 on pp 95 and 96 of MTR Report Vol 1 Final. Student Numbers for Col C assume growth in USTH to 7000 students.
2. Annual Operating Expenditure per Student in 2009 Dollars is projected to grow by \$1000 from Scenario A to B, and again from B to C, in line with the Report’s recommendation for gradual increases towards international standards.
3. Total Annual Operating Expenditure in Cols B and C is derived by multiplying the student number by the guideline expenditure per student. In Col A Annual Expenditure is higher, because of the diseconomies of the Establishment Phase (see MTR Vol I Final C. 8D).

4. Percentage shares for funding sources are as in Figure 1 on p.10 of MTR Vol I Final.
5. The “Income from State Budget” line is increased by \$1.5 million in Col B and by \$2.62m in Col C to allow for the fact that some of the Student Tuition Fee income will ultimately derive from the State Budget via Student Support.

**Table 2: Ratios Supporting the \$4000 Benchmark**

Number	Item	Cost/standard
1.	Ratio of academic staff to undergraduate students	20:1
2.	Ratio of academic staff to postgraduate students	15:1
3.	Unit cost of employing a member of academic staff per year	\$20,000
4.	Ratio of Academic Support Staff to Academic Staff for undergraduate work	0.5:1
5.	Ratio of Academic Support Staff to Academic Staff for postgraduate work	1:1
6.	Unit cost of employing a member of Academic Support Staff per year	\$6,000
7.	Non-staff costs per student per year	\$1,500
8.	Funding for research capability as a proportion of institutional funding in the first ten years	20%

**Table 3: Cost Weights for Level and Type of Course**

	Bachelor	Master	Doctor
Class-room based course	1.0	1.40	1.80
Laboratory-based course	1.7	2.3	3.0

**Notes**

1. The ratio between Bachelor, Master and Doctor, is less steep than the 1:1.5:2.5 used by MOET for the Medium Term Expenditure Framework<sup>5</sup>, reflecting international experience.
22. The ratio between class-room and laboratory based courses is steeper; the Medium Term Expenditure Framework has 1:1.25 for Science and 1:1.375 for Technology. Differentials for Science and Technology in Viet Nam have long been seen as low by international commentators, perhaps because in the past Vietnamese universities have had to teach science and technology in a more theoretical way because of shortage of funds.

<sup>5</sup> As published in the “Scheme for the Reform of the Financing Mechanism for Education and Training”, MOET May 2009. Tables 55 and 56 relate to cost weights.

## **APPENDIX 7**

### **Reform of Staff Recruitment and HR Policies at USTH to Attract and Retain High Quality Academic Staff**

#### **A. Objectives of Program**

1. A key objective of the project is to assist the USTH to develop a human resource and staff development plan to enable it to recruit and retain high quality academic staff and build people with skills and time to devote to academic teaching and research. Capacity building consultants will be engaged to provide support in the design of the internal USTH recruitment policy and the human resource management system, and to develop operating manuals and regulations necessary to support their implementation. The development of the recruitment policy and the human resource management are seen as separate, though linked activities. The recruitment policy is seen as an integral factor in developing quality academic programs through the CTLE and the QAC under Output 2; while the establishment of the procedures, manuals and IT systems to manage the staffing and remuneration are seen as a function of management systems under Output 1.

2. Capacity building tasks are detailed in Appendix 2, the Procurement Plan and the Outline Framework for Contracted Activities. This Appendix outlines the principles recommended for establishing a policy for recruitment and remuneration that is suitable for a true 'new model' for universities in Viet Nam. These principles and policies are intended to be used by the capacity building advisers policies are developed for USTH.

#### **B. Human Resource and Capacity Development for NMUs – Summary Recommendations<sup>1</sup>**

3. Concentration here is on how human resource capacity might be built up and sustained to enable the proposed USTH to attain high international recognition and eventually world-class status. The following recommendations focus on the need for these universities to recruit the best possible leaders and first-class academics, and to apply the most effective means possible to manage human resources. The strategies recommended are based on evidence from highly successful operations adopted by top ranked international universities, some of which grew to world-class status from newly created institutions.

4. Brief justifications, rationales and principles underlying the recommendations are provided here. More detailed versions of these appear in the longer paper referenced, which covers four areas: human resource framework initiatives for capacity building that have been implemented successfully elsewhere and the rationales, justifications and guiding principles that have driven these initiatives; lessons that can be learned from the evidence provided; the human resource capacity requirements necessary for building USTH to world-class standards; and what obstacles need to be addressed in order for this to happen.

##### **1. The Importance of Recruiting Star Leaders**

5. Rationales and justifications for appointing proven ('star') leaders with drive and vision are that: (i) Leading universities is a daunting task that demands superior level technical, conceptual and human expertise across a broad range of people-centred activities; (ii) Newly created universities that aspire to be world-class start from the top by appointing 'powerhouse'

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<sup>1</sup> Detail is in the report: "Academic Development Paper C – Mapping the Way Ahead: Human Resource and Capacity Development for Vietnam's New Model Universities", Preparation Project, Final Report, Volume V.

leaders as exemplified by the case study of the Hong Kong University of Science and Technology (HKUST) below; (iii) Superior leaders set the trend in attracting a whole generation of first-class scholars. These scholars, in turn, attract other star performers, including the best undergraduate and postgraduate students.

#### **Box 1: Recruitment of the President at HKUST**

A highly acclaimed scholar of Chinese descent was selected as President of this university which began operations in 1991. Professor Woo was a particularly attractive appointment as he had an exemplary record as President of San Francisco State University and proved to be the key in turning the institution around to attain a highly acclaimed status.

6. Like HKUST, a top priority for USTH must be to ensure that each newly appointed Rector as CEO, is a highly acclaimed 'star' academic leader with the required operational background, experience, training and skills. Essential criteria for Rectors are as follows: (i) Proven academic leadership ability; (ii) To managerial skills; (iii) Ability to manage change effectively as the incumbent must oversee institutional planning and apply the vision developed with high level skills; (iv) Outstanding scholarly achievement; (v) An exemplary research career (which is vital in building prestige).

7. As the institutions' Council and Senate will manage selection processes (for the second and future Rectors), it will be incumbent on each member of the Board to be fully conversant with what is expected of the position. Recruitment must be via a highly competitive, merit-based and transparent process that draws from national and international fields of expertise. Those who move into leadership positions must be provided with the financial, human and technical resources they need.

## **2. The Need for Visionary Planning to Build Human Resource Capacity.**

#### **Box 2: Recruiting Talent Involves Planning for Excellence**

Five years of careful and visionary planning took place ever before HKUST opened its doors to students in 1991. A top bureaucrat was appointed at this time as Secretary-General of the University Planning Committee to oversee the entire scope of non-academic and logistical developments. The institution has since developed a most impressive 15 year institutional strategic plan. In just under 20 years, HKUST has built its human resource capacity to a point that has resulted in ground-breaking achievements. In this sense, it has been an exemplar of 'best practice'.

8. A key indicator of excellence in world-class research universities is what concentration of talent exists amongst students, teaching staff, researchers and graduates. Planning for recruiting such talent involves working on 'best practice' principles from the start. Early planning for building human resource capacity will thus need to occur in the establishment phases. For USTH to build such a concentration of talent they must apply 'best practice' principles in recruiting top scholars, develop capacity in teaching and research, retain quality staff and manage personnel matters effectively from the earliest days.

9. Based on these key principles, in the initial phases, initiatives should be undertaken to: (i) Recruit talented academic and support staff (administrative, technical and service); (ii) Establish human resource management systems (e.g. policies on recruitment, levels of appointment, salaries and conditions, promotion), and staff training programs offered by an educational resource facility for academic staff development; (iii) Provide high level research

training for teachers to attain PhD level; (iv) Provide rigorous training to upgrade teaching methods, curriculum and assessment procedures (this could be carried out by a teaching and learning unit within an education and development center); (v) Engage in major curriculum reform; (vi) Diversify funding sources to ensure budgets can be met; and (vii) Build international networks and strategic alliances to strengthen teaching and research activities.

### **Box 3: Attracting and Retaining Academic Talent**

The National University of Singapore formed strategic alliances with the Australian National University over two decades ago and invested heavily in attracting top talent, and is now a leading international university. Chulalongkorn University did likewise and is placed in the top 200 on the 2008 THES-QS rankings.

An example of networks is UNESCO's University Twinning and Network (UNITWIN) Programme aimed at intellectual cooperation through twinning to allow access and knowledge sharing across borders. The Programme aims to meet emerging challenges in a global context by advancing the use of new information technologies to build capacity and increase knowledge to advance the cause of education, science and technology, social and human sciences, culture and communication.

10. The second phase of development must consolidate actions taken in the first stage and ensure ongoing development of human resource management systems. The third phase should concentrate particularly on expanding teaching and research capability, substantially increasing revenue from industry and other external sources and increasing student numbers, especially at postgraduate level.

### **3. Necessity of Recruiting World-class Talent**

11. USTH will need to be like internally-renowned research universities that are uncompromising in recruiting first-class academic talent, using the best means possible to build scholarly capacity and forging strategic links with other international players. To attract leading-edge academic talent, appointments must: (i) Draw top applicants from national and international fields by open advertisement; (ii) Target those with exemplary teaching skills that are fuelled by scholarship and research; (iii) Recruit on a competitive basis by merit; (iv) Plan to develop a critical mass of highly productive researchers; and (v) Attract overseas staff or locals who have quality overseas postgraduate qualifications from good universities; can teach and publish in English; have not been influenced by the norms and practices of former traditional universities and can engage in new and innovative methods of teaching.

12. To attract high performing academics, the base salary for locals will need to be at least three times the current level in Viet Nam. Instead of paying VND30,000, VND100,000 per teaching hour salaries should equivalent to around \$1,500-2,000 per month with on average \$1,700 US per month (equal to \$20,400 per year). To attract high performing international scholars, salary levels would need to be even more competitive. For example, in 2006, Beijing Normal University paid its full-time overseas scholars \$40,000 per year. In that same year, another Chinese university paid its full professor who held PhDs from prestigious overseas universities \$60,000 per year.

13. In order to attract and build world-class talent, it is recommended that USTH forge strong strategic alliances with cooperating overseas universities, as is done by the National University of Singapore and Chulalongkorn University in Thailand. It is therefore recommended that USTH: (i) form strategic alliances with leading-edge research universities in developed countries via



sponsorships or twinning arrangements; and (ii) attract new staff from the diaspora of highly qualified national scholars by monitoring their progress abroad and investing in their return.

#### **Box 4: Foreign Scholars in Chinese Universities**

In their bid to raise the country's prestige globally, Chinese universities backed by huge levels of government funding are spending billions of dollars to attract top foreign-educated and overseas-born Chinese, building state-of-the-art research centers, linking with the world's best educational institutions, and developing new programs taught in the international lingua franca – English.

14. In their use of financial resources in all staffing matters (e.g. ability to offer competitive remuneration package and establishing workloads), USTH must be allowed full academic and budgetary autonomy and flexibility. This means breaking with civil service regulations that currently set salary levels and hours of work. The new charter will need to provide for this specific autonomy.

#### **Box 5: VGU Charter**

Article 5(1) of the VGU Charter states that “Autonomy means the VGU’s freedom in matters of training, scientific and technological research, organizational structure, staffing, usage of financial resources [my emphasis], international relationships...”

### **4. Importance of Adopting the Most Effective Strategies to Manage Personnel**

15. To attain best practice in personnel management it is recommended that: (i) Personnel policies be developed as soon as possible in areas such as recruitment, promotion, organisational development and staff assessment; (ii) Top level academic and professional training be provided where needed by a properly established, specialist education development facility; (iii) Appointments of local staff be on a probationary basis until they have satisfied all required training and development; (iv) Academic staff appointed from overseas must demonstrate high standards in teaching and research ability demonstrated via rigorous assessment prior to appointment; (v) Criteria for assessing the standard of teaching and research required should be developed and applied; (vi) Promotion and tenure should not be granted until standards in research and teaching are considered to be of a high level; (vii) No full-time appointments should be made based on ‘preferments’ of staff from local universities; (viii) Highly trained professional staff should be appointed as laboratory technicians or demonstrators, and initial and ongoing professional training must be provided in order to maintain proper functioning of the planned state-of-the-art laboratories.

16. Appointment of academic staff at Lecturer level should be conditional on the demonstrated ability of the applicant to at least be able to: (i) draw on state-of-the-art research-based curricula; (ii) apply modern teaching methodology aimed at deep learning; (iii) integrate research and scholarship into teaching; (iv) teach and publish in English; (v) teach in multidisciplinary contexts; and (vi) possess the necessary research skills to supervise postgraduate research students.

17. It is recommended that the process for appointing academic staff will: (i) set up selection panels which have representation from the discipline and a cognate area outside the department, with no member having any conflict of interest and ensuring strict confidentiality

during the course of deliberations; (ii) develop more stringent selection criteria at the level of Lecturer if international standards are to be attained (e.g. a PhD qualification as the norm); and (iii) ensure that panels develop essential and desired selection criteria appropriate to the position and indicate how these will be assessed, shortlist all applicants who meet the selection criteria; seek referees' reports from informed and reputable scholars who are 'arm's length' from the candidate; and make the final decision based on rankings for each applicant.

18. As middle level managers, Deans, Directors and Heads of Departments should be appointed against a capabilities framework that encompasses the elements of: (i) Faculty or academic unit governance; and (ii) Management of teaching programs, human resources, budget and financial resources, professional development of staff, communication with external clients and ensuring strategic goals are implemented.

19. In order to provide higher levels of academic leadership, especially research leadership, a much higher proportion of full professors should be appointed by lifting the percentage of full professors from the current 1% in Viet Nam to 25% by 2020. Appointments of professors should be made using similar selection criteria as those of world-class universities, e.g., selection criteria typically include the ability for full professors to: (i) Demonstrate outstanding academic leadership and performance in their discipline or profession; (ii) Be considered to be a leader among their peers, having achieved an international reputation of a high standard as a researcher and scholar and by teaching at a high standard; (iii) Provide evidence of outstanding contributions as an academic leader in a number of the areas including teaching and learning, scholarship and research, service to the discipline, university and broader community, and to demonstrate the impact and quality outcomes of these contributions; and (iv) Clearly articulate their future plans as an academic leader in terms of all portfolios and how these plans would advance the discipline, profession and/or faculty.

20. Appointment to a research-only position should require candidates to possess a doctoral qualification. Ability to attract outside funding should be a strong expectation, especially for postdoctoral appointments. Laboratory staff must possess or receive superior technical training in order to exercise their respective responsibilities in laboratories set up with very expensive and sophisticated, 'high-tech' equipment. The proportion of full-time to part-time staff will need to be planned carefully. It is recommended that in the first two years of operation all academic staff be full-time. In the interests of efficiency and to allow lecturers to be freed of administrative and technical chores in order to have more time for teaching and research pursuits, it is recommended that USTH have a ratio of 1:3 teaching to support (administrative and technical) staff. In order to provide teaching staff with more time for research and professional development, student-teacher ratios need to be reduced from the current 30:1 to average 20:1.

21. Initial and ongoing programs to ensure academic staff at all levels of USTH are trained to capacity must be implemented. Continuing professional development should be made mandatory at various stages of academic and professional careers. Programs in the following areas are recommended: (i) Preparing and giving lectures (for face-to-face and on-line teaching); (ii) Multimedia approaches to teaching and learning; (iii) Teaching pedagogy and methodology; (iv) How students learn; (v) Small group teaching; (vi) Designing curriculum; (vii) Assessment methods; (viii) Integrating research and scholarship into teaching and learning; (ix) Incorporating international perspectives into courses; (x) Assessment and examination methods; (xi) Responsiveness to the needs of students and employers; (xii) Counselling students; (xiii) Supervising research students; and (xiv) Using information-communication technology.

22. These programs could be administered by a separate specialist education development unit which could form part of an all-encompassing education resource institute. The training

facility would need to integrate with institutional quality assurance frameworks and strategic plans. Programs could be offered on-site or on-line.

23. Because research capacity needs to be developed, it should be expected that all teaching staff will engage in research and be research productive (able to attract external funding, produce quality outputs and assure the impact of their research). A research support center concentrating on upgrading research capacity of staff with limited research skills could offer courses in: (i) Research methodologies (quantitative and qualitative) and their applications; (ii) Technical and scholarly writing; (iii) Building a track record and publishing; (iv) Writing research grant applications; (v) Intellectual property; (vi) Entrepreneurship; (vii) Research management (e.g., research grants, working with industry, commercialisation, technology transfer and IP). The support center would need to be located in a central office for research.

24. Because comprehensive and ongoing assessment of academic and non-academic staff performance is part and parcel of all leading research institutions to ensure the highest and most effective levels of operation, plans to assess staff performance need to be put in place once the institutions are established. As it forms an integral element of quality assurance, performance appraisal should be integrated with other institutional quality measures. These measures include programs dealing with management and leadership development, strategic planning, managing change and the like.

## **5. The Value of Retaining Quality Staff**

25. To retain high quality staff, it is recommended that USTH offer attractive incentive schemes, as is the practice of world-class universities. Incentives such as: (i) Generous remuneration packages; (ii) High level facilities and equipment; (iii) Tenure; (iv) Laboratory and research assistants; (v) Funding for travel to maintain scholarly networks; and (vi) Travel and relocation costs.

26. Realistic incentives for USTH, especially in the formative stages, could include: (i) Salary levels and conditions set against key indicators of performance which would allow high performers to gain a higher level of salary, gain tenure or promotion; (ii) Secure up-front agreements regarding conditions of service, working hours, teaching loads, and time for research and professional development; (iii) Promotion and tenure by merit to reward high performers; (iv) Financial assistance provided to new staff to help them get established in research; (v) Sabbatical leave offered to high performing teacher-researchers; and (vi) Short term staff exchanges with world-class universities in other countries where there is scope for these to be funded via international research collaboration, the partnership with France, or through development assistance. Critical for success in retaining top personnel is that USTH have full management autonomy, particularly the power to raise salaries and offer more competitive employment packages.

## **6. Summary of Key Recommendations**

27. For USTH to attain world-class recognition, radical and innovative action must be taken to build human resource capacity. Such a transformation will demand highly effective leadership and decisive action from the top. In addition to appointing a star institutional leader, it will be critical in the establishment and consolidation phases that: (i) A 5-year institutional strategic plan be developed as soon as possible, with 1-year operational plans indicating how human resource capital will be developed; (ii) A coordinator be appointed for planning all non-academic policies, operations, and logistics; (iii) A staff development unit be established, preferably within

a larger education resource center; (iv) Leaders, teaching staff and support staff are appointed against stringent merit criteria using processes that reflect 'best practice'; (v) Management and staffing autonomy is forthcoming; (vi) The budget allows for flexibility of employment packages and staff development; (vii) More flexibility with staffing arrangements will occur if staff are USTH employees rather than being subject to civil service regulations; (viii) The percentage of hours be 40% for teaching, 50% for research and 10% for other (administration and service), with the research percentage for full professors raised to around 60%; (ix) Blockages to progress such as poor salaries, centrally determined employment conditions, low level staff qualifications, inappropriate teaching methods, lack of research capacity and outdated curricula be removed; (x) Qualifications of academic staff are upgraded; (xi) Strategic alliances are forged with leading international universities; (xii) Academic leadership is provided by lifting the percentage of full professors to 25% by 2020; (xiii) Research and teaching skills of academic staff are of the highest order; (xiv) Staff are provided with the required training and development; (xv) Vital infrastructure is in place; and (xvi) All operations receive the level of resources they need.

## **C. Recommended Procedures for the Establishment Phase**

### **1. Staff appointment on Merit Criteria**

28. It is recommended that the normative principles to apply in USTH will be consistent with those of a fully autonomous 'new model' university. The Rector shall oversee competitive selection processes that are based only on academic qualifications, and relevant experience in teaching and research (and academic leadership for Deans). Senior positions must be full-time USTH positions and must be based on both international and national searches.

29. In the establishment years, similarly as for the appointments of leadership positions, it is recommended that there be special arrangements for the selection of academic and academic/laboratory support staff. Four categories of staff are recommended:

- (i) Staff from VAST who work in USTH part-time as foundation support staff; and
- (ii) Staff appointed to full-time positions who are Viet Nam nationals from VAST or from other Vietnamese universities who possess high technical qualifications but who have not had access to experience in research and teaching in international standard universities, but who are assessed as having good potential to quickly acquire the additional modern skills, should be eligible for support through the academic capacity building program;
- (iii) Staff appointed to full-time positions who have trained in foreign international standard universities (including foreign citizens, Viet Khieu and Viet Nam citizens) with more than three years' experience in foreign international standard universities must meet the required merit criteria in advance to be selected.
- (iv) Expert personnel who are made available under donor programs by a strategic partner, plus visiting Professors or Fellows who are appointed to in-line teaching and research positions to offer academic leadership by providing normal teaching and research operational functions, as well as contributing to specific academic development activities under the capacity building program.<sup>2</sup>

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<sup>2</sup> Visiting academic staff in in-line positions are to be distinguished from off-line academic advisers who may be appointed to support the capacity building program. However, both in-line donor staff and off-line capacity building advisers may work together in teams to support the academic development program.

30. The staff in category (a) will teach part-time in VAST and in USTH, with the mix of time to be determined by the Rector of USTH and the President of VAST balancing the skill requirements and resource needs of USTH and VAST. They will be selected initially by the President of VAST in consultation with the new Rector of USTH for a duration not exceeding the Establishment/Transition phase. In making these selections the two leaders will take account of the merit criteria (specified below), tempered by the option to offer these part-time opportunities in USTH to VAST staff who have high reputation for strong technical knowledge in their discipline, but who many not have had access to opportunities to acquire new teaching methodologies or sufficient English language to be able to immediately teach in English (which will be the standard for USTH). These staff will have access to the program of academic capacity building in the Establishment Phase as described below.

31. Staff in category (b) should be selected after a *national search based on academic merit* (and academic leadership for management positions (eg Deans). No full-time appointments should be based on a preference for staff of any other university, including VAST, although VAST academics shall not be excluded from consideration for appointment to the full-time faculty of USTH.

32. Viet Nam national Staff in Category (a) – part-time- or (b) – full-time - should be appointed to USTH positions on a *probationary basis* until they have undertaken the initial professional development to be offered under the Capacity Building Program. This program will be available to all Vietnamese staff who have not had exposure to the international standards for teaching and research characteristics of modern universities, and will aim to enhance these skills, and where necessary, English language, to bring local staff to international standards. Full-time staff may not be confirmed with long term contracts until appropriate standards in modern methodology are demonstrated. Criteria for assessing effective teaching skills will be developed and applied in the initial selections and for the staff exiting the academic capacity building program.

33. Full-time staff in category (c) may be appointed on contract terms according to the policies adopted by the Council to attract the best foreign talent. These staff will also contribute as trainers in the Capacity Building program for the other category staff. Merit criteria that require possession of high technical discipline based qualifications, and skills in modern teaching and research techniques and ability to develop new responsive curriculum will be established and endorsed by the University Council in the Establishment period. An example of the merit criteria used in many international standard universities is in the Final Report, Volume V, Academic Development Paper C.

34. In the establishment period it should be a management target that a portion of staff (not exceeding 30-35%) may be part-time staff shared with VAST. These staff may not qualify for appointment to any USTH full-time position until at least after the full establishment period (to protect the retention of experienced staff in VAST). Two options for managing the use of shared part-time staff are available and should be decided by the Rector: (i) Shared part-time staff may either be appointed to positions at both universities (e.g. to VAST for their time teaching there, and to USTH for their time teaching there); or (ii) VAST staff might remain as full-time positions at VAST and be ‘contracted out’ to USTH by VAST under the service agreement suggested low, and then be paid a supplement allowance by VAST from the revenue gained from USTH.

## **APPENDIX 8**

### **Development of USTH Internal System for Curriculum Planning and Quality Assurance**

#### **I. Objectives**

1. The purpose of Outputs 1 and 2 is to assist the USTH to develop a curriculum and quality assurance policies and systems appropriate to building and maintaining highest quality academic programs for teaching and research at international standards.
2. Capacity building advisers will be engaged to assist in the design of the internal USTH curriculum and quality management systems, and to develop operating manuals and regulations necessary to support their implementation. These will be established and managed through the two key resources for academic development – the CTLE and the QAC. While the two centers are separate in focus, they are closely linked and must be consistent in the impact of their policies and systems. Also, while both require procedures and systems to operate, the policies are the core of academic development, and the two centers are therefore placed in Output 2.
3. Capacity building tasks are detailed in Appendix 2, the Procurement Plan and the Outline Framework for Contracted Activities. This Appendix outlines the principles recommended for estimating a policy for recruitment and remuneration that is suitable for a true ‘new model’ for universities in Viet Nam. These principles and policies are intended to be used by the capacity building advisers policies are developed for USTH.

#### **A. Part A - Creating Excellence in Research and Learning: Capacity Building for Development of Programs, Curriculum and Quality in Teaching and Research**

4. Presented here are strategies that could be adopted by USTH to build up teaching and research to international standards. Two different capacity building centers are recommended – a CTLE and an RSC. These ‘centers’ are not necessarily intended to be physical hubs, but rather the concept of ‘center’ is a means for focussing on the policy and practice needed to promote high excellence. In many universities, support staff are appointed to manage the practice processes of this work and are often located in specific offices, referred to as ‘centers’.

#### **1. Importance of Developing a Center for Teaching and Learning Excellence**

5. A CTLE that prepares graduate students to be university teachers and improves the teaching and curriculum development competencies of existing teachers, is recommended. It should be led by a senior specialist in teaching and learning in higher education and staffed with instructional design professionals and other technical and administrative support staff. The rationale for establishing such a center is that:
  - (i) There has been a significant shift in higher education worldwide in the past twenty years from the concept of teaching to the concept of student learning. This shift involves a complex transition from describing what the teacher does to describing what the student as learner, learns. This concept is now deeply imbedded in leading universities internationally;
  - (ii) Preparing postgraduate students to be university teachers and lifting teaching and curriculum competencies of teachers to international standards improves the quality and capacity of academic staff; and

- (iii) Ensuring the quality of teaching and learning, curriculum and assessment via targeted development programs represents ‘best practice’ in leading universities.

6. Programs that are recommended for offering by the CTLEs could be: (i) Upgrading teaching, curriculum, assessment and advisory/supervisory skills of academic staff. While all these are important, the latter will be particularly important in order to ensure capacity of researchers to supervise students adequately in postgraduate research programs; (ii) Integrating research and scholarship into teaching and learning. This involves using research and scholarship on teaching and learning to inform course material, teaching methods, pedagogy, curriculum development and assessment; and (iii) Teaching certification programs for graduate students wishing to become university teachers.

#### **Box 1: University Teaching Certificate Programs**

University Teaching Certificate programs are developing at universities across the US to prepare graduate students who wish to become lecturers. Iowa State University offers a Graduate Student Teaching Certificate (GSTC) for this purpose. The certificate program concentrates on teaching knowledge and experience, focused largely on the home discipline. For admission to the program students must already have a graduate degree at the University or be admitted to a graduate program where they have completed at least 9 hours. The courses and seminars they will experience are in areas such as instructional methods of teaching, pedagogy, English composition, psychology and other courses approved by the administrator.

7. **Programs for graduate students whose first language is not English.** Elevating English language competency early in candidature will be a vital part of postgraduate education. Standards for entry into postgraduate programs in world-class universities are typically high. Box 2 shows how Iowa State University in the United States deals with the issue of graduate entry.

#### **Box 2: University English Language Requirements**

The English language requirement at Iowa State University for graduate students who are not native English speakers would be the norm for most US universities. These standards are set out below:

TOEFL Paper (PBT)	587
TOEFL Computer (CBT)	240
TOEFL Internet (iBT)	95
IELTS	7.0
SPEAK/TEACH	Level 1

8. These standards for English should also be the standards required at the New Model Universities. The CTLE at the USTH could develop similar programs for the graduate students.

## **2. Establishing a Research Support Centre**

9. A centre needs to be established where lecturers are offered high level research support in designing and publishing their research, applying for grants and providing research training to postgraduate students. This center needs to be located in the research office of the university. As a minimum this center should provide assistance in editing papers and guidance in submitting papers to peer reviewed journals, assistance in research design, research methodology and statistical analysis. An academic research support center provides resources and opportunities for faculty, staff, and students in conducting basic and applied research in

support of their academic pursuits and to enhance the reputation of their university. In this sense it has great value in building research capacity. An example of one such research centre is provided in Box 3.

**Box 3: Southern Mississippi University**

The Centre for Research Support at Southern Mississippi University provides assistance at any or all steps in the research process. Assistance ranges from simple advice to total involvement in the statistical process. The specialist research instructor aims to ensure that clients are fully aware of what is being done so that the process becomes educational as well as useful.

10. Assistance in such centers should emphasize: (i) Reading and critiquing grant proposals to check the evaluation component or statistical procedures; (ii) Designing or revising a research instrument to ensure that it will answer the questions the researcher has posed; (iii) Validating an instrument to determine the reliability and validity of the scores it produces; (iv) Selecting a sample so that correct generalizations are possible with the results; (v) Conducting the survey/research within appropriate ethical constraints and within the guidelines of the USM Institutional Review Board; (vi) Compiling the data, with appropriate coding, into computer-readable files; (vii) Analysing the data with appropriate statistical procedures and with safeguards against data snooping; (viii) Displaying the results appropriate to the original questions of the research; (ix) Teaching seminars or classes on statistical software (particularly SPSS and AMOS) or on statistics/research; (x) Providing consultation to users whose research articles receive a “revise and re-submit” request from a journal; and (xi) Providing support on designing and implementing program or project evaluation.

11. In Viet Nam, where teaching in English is still relatively rare, an additional service is valuable – providing special editing services from science academics whose first language is English, to ensure the language of publications is of the highest standard. This can assist, especially in early years of the establishment of USTH, to increase the acceptance rate of articles submitted to international refereed journals. This service has been used successfully in some Asian universities where researchers from link universities offer ‘consulting’ assistance on an ‘as-needed’ basis to refine the English expression of articles. The editing does not include changing the detail of findings, thus does not undermine the integrity of the original research. This assistance can be an important tool for universities seeking higher publications and citations to improve international ranking.

### **3. Summary**

12. The CTLE and RSC at USTH should be a source of training and support for college and university teachers throughout the area in addition to supporting the lecturers and professors at USTH. They should provide the following services: (i) Introduction to best practices in teaching and learning; (ii) Support in developing curriculum and methods of delivering the curriculum; (iii) Introduction to best practices in assessment; (iv) Support in developing curriculum with assessment criteria as an integral part of the curriculum design; (v) Support in research design and editing for journal publication in the disciplines of the university and in the scholarship of teaching and learning; (vi) Provision of courses and workshops that may lead to certification in college and university teaching; and Support in using the results of research to improve teaching.

13. The CTLE must be an integral and ongoing part of the university with sustainable funding to assure that lecturers, professors and researchers are continuously improving and the students are receiving the most benefit from their time on campus. This includes physical facility to house



the activities and staff to support the faculty. Funds should be available to support curriculum development software to coordinate curriculum development with assessment design. A respected professor who is known as an excellent teacher should be assigned part time administrative responsibilities with for the CTLE. Additionally a full time instructional design consultant should be assigned to the centre and supported by at least one clerical and one technical staff during the establishment period of both universities. Although assessment strategies will become an integral part of curriculum design, additional money will be needed to establish a broader university-wide assessment program. These assessment activities should be funded during the establishment phase of the universities with a gradual decrease in funding so that by the sixth year the assessment processes are completely integrated into and funded by the university. The key to the success of these activities is that the Centre must be implemented in such a way as to be constantly changing in response to new curriculum, changes in society, science, and technology and increased pedagogical knowledge.

14. A high value should be placed on establishing a research support centre that helps build research capacity to international standards and raise the quality and impact of research in Viet Nam. This centre would need to sit within a research office that also administered research grants, intellectual property, postgraduate research scholarships and monitoring of postgraduate candidature.

## **B. Part B – Internal Quality Assurance Systems<sup>1</sup>**

### **4. Quality Assurance Systems and New Model Universities**

15. Achievement of international standards by new model universities in teaching and research will require high concentrations of talent, an abundant supply of resources, and favourable governance arrangements, including an overall regulatory framework that includes strong quality assurance mechanisms. Such mechanisms ensure that students are provided with high quality and relevant education, meeting local and international labour market requirements and providing pathways postgraduate training.

16. Quality assurance systems are management and assessment procedures employed to monitor and enhance academic performance, safeguarding academic standards, and generating information to assure stakeholders that quality thresholds are being met. Quality assurance systems are of vital importance both within institutions and across Viet Nam higher education. While USTH must be exemplary in meeting national and international accreditation standards and criteria, this discussion concentrates on internal quality assurance systems that will largely determine whether the new model achieve international quality in teaching and research.

### **5. Quality Assurance Framework and Expertise**

17. Each new model university needs an overall quality assurance framework that should include explicit commitments to developing a culture that values quality and standards, and specify strategies to work towards continuous improvement. Such frameworks should be integral elements of institutional strategic plans and explicitly set out strategies, policies and procedures that should include statements of intent as well as specification of the main means to be employed for achieving objectives. Clear specification is necessary of institutional processes of

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<sup>1</sup> Details of the research and proposals for establishing internal quality assurance systems in NMUs in Vietnam are in the full report: “Academic Development Paper D: University Quality Assurance for New Model Universities in Hanoi and Danang”, Preparation Project Final Report Volume V.

course development and approval, review of departments and/or programs, data generation from surveys of students and employers, development and implementation of quality improvement plans, annual reviews and self-studies leading to national accreditation.

18. Institutions need to value the development and enhancement of quality assurance expertise. Particularly important will be the establishment of the QAC, with related personnel and structures embedded in various colleges and departments. USTH should be provided with funding to establish a QAC, staffed with experts with relevant skills. Specialists training should be provided to ensure that staff have the necessary skills and expertise to assist them to undertake leadership roles within their own institutions, particularly in developing quality improvement plans and carrying out annual evaluations.

19. The QAC should play a major role in assisting USTH to develop an overall quality assurance strategy and to plan an annual work programs. It should make detailed recommendations to senior management and take a key role in the design and implementation of student and graduate surveys and setting up capabilities for the student information system to monitor student progress and achievements. At an early stage, the new universities should plan benchmarking efforts and enter into agreements with both national and international benchmarking partners. Efforts need also to be made to develop quality assurance capacities within various academic units and work to develop a culture of quality assurance. In this task, it will be vital to enlist the support of the academic community since academics must be substantially involved if they are to affect ongoing changes in teaching and student learning. Academics should be assisted to develop skills in monitoring student learning outcomes and planning strategies to improve learning and teaching.

20. The formal brief of the QAC should be to: (i) Make recommendations to the Rector with regard to quality assurance plans and policies within the context of the Vietnamese policy on accreditation in higher education; (ii) Prepare annual quality assurance reports that address national standards and criteria, identify strengths and weaknesses and set out quality improvement plans; and (iii) Design and conduct various student, graduate, employer and alumni surveys as determined by the institution.

## **6. International Recognition**

21. If USTH is to achieve international recognition, both government and institutional efforts will be important to ensure that international professional associations and university ranking bodies are made aware of Vietnamese university achievements, particularly those of the new model universities. In addition it will be important to: (i) Encourage international cooperation in teaching and research (including inclusion of foreign experts on curriculum and senior appointment panels, university reviews of programs, and panels allocating major research resources; (ii) Ensure that degree programs (particularly those in professional areas) are accredited by relevant regional and international professional bodies; (iii) Develop contacts at an early stage with key international university ranking agencies providing information on academic programs and research, and achievements in both; and (iv) Develop a capacity for regular public promotion programs, both nationally and internationally, to facilitate international 'peer' recognition and to support staff and student recruitment.

## **7. Processes of Course Approval and Review**

22. All well managed universities need appropriate internal processes supervised by the Academic Board, for course development and approval using peer review. This will require for

each new course detailed proposals setting out: (i) Objectives and learning outcomes; (ii) Course content; (iii) Mode or modes of delivery; and (iv) Student assessment requirements.

23. Provision should be made for rigorous reviews of courses on a regular basis, which should involve consideration of survey data from graduates and interview or survey data from other key stakeholders, including major employers. Institutions should have mechanisms to satisfy themselves that all staff involved in teaching programs are competent and well-trained in modern methods of pedagogy. In order to keep the quality assurance workload in check, we recommend reviews of either programs or departments, not both.

24. The course development and review process should follow steps outlined in Diagram 1 (next page). The process of course development commences with the development of a detailed proposal by the Course Development Team outlining the objectives and proposed learning outcomes of the new course, course content and student assessment requirements. This is followed by consultation with external academic experts and employers and then, if the proposal is regarded as being strong and meeting institutional requirements by endorsement by School and Faculty.

## **8. Student and Graduate Surveys**

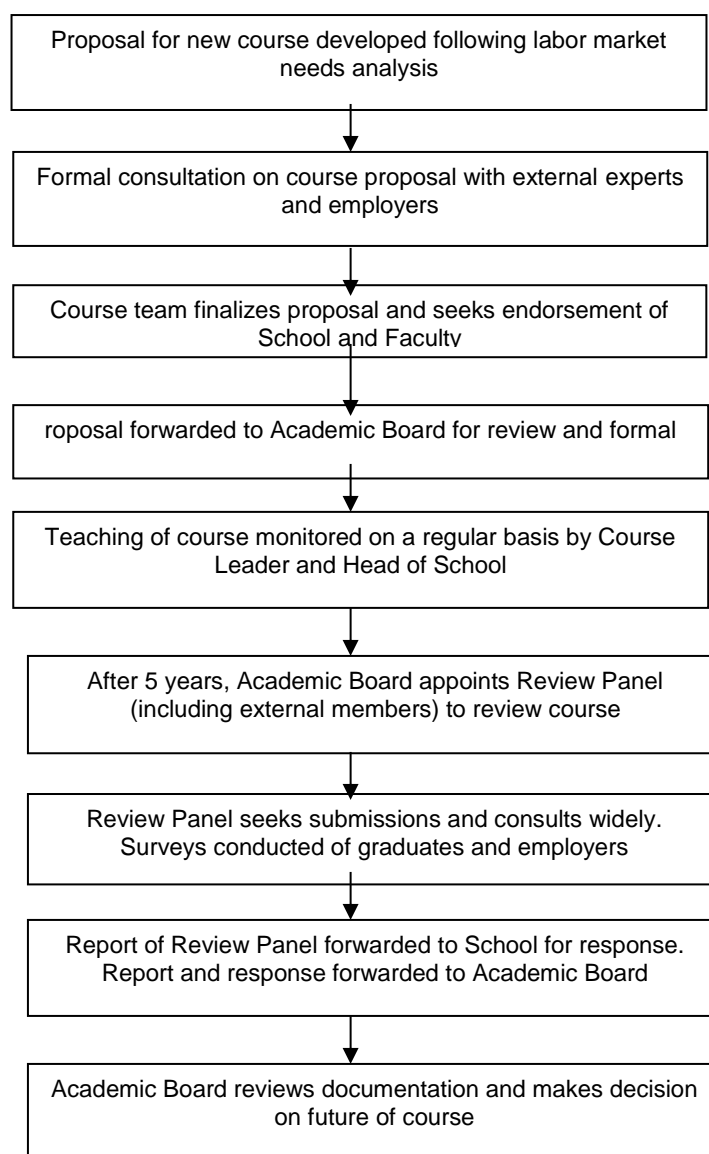
25. Two different types of surveys of students and graduates are recommended:

- (i) Regular student surveys of teaching effectiveness are able to provide valuable information to assist academic management and to alert teachers to particular problems. Such surveys, which constitute good practice in international research-intensive universities, should be conducted and analyzed independently of academic staff, using well-designed, short questionnaires with a common format. In some cases, questionnaires can be distributed and completed within classes, with completed questionnaires being collected by staff belonging to a central unit.
- (ii) Survey of graduate satisfaction can provide important information to assess course success. A number of OECD countries have arrangements whereby surveys of graduates to collect information on course satisfaction, graduate employment and salaries are conducted nationally with funding provided from government.

## **9. Performance Data from Student Management Information Systems**

26. USTH should ensure that it collects, analyzes and uses relevant data from management information systems to assist with the effective management of teaching programs. Such data can assist in monitoring teaching performance and outcomes, and identifying areas where special attention may be needed. Particularly important is data on: (i) Student entrance examinations scores; (ii) Student progression and drop-out rates (particularly drop out at the end of year 1 of study); (iii) Graduation and completion rates (including the number of years taken by students to graduation); and (iv) Staff:student ratios for particular schools, disciplines and stages in study programs. Data from student management systems also can be used to benchmark performance against similar institutions, not only in Viet Nam but also in other countries, and to support wider reaching public promotion activities.

**Figure 1: Processes of Course Development and Approval, and Course Review**



## **10. Monitoring Research Outputs and Quality**

27. Internationally, major efforts are being made in OECD countries to improve mechanisms to assess the quality and impact of university research. Particularly important have been recent attempts to employ bibliometrics, which are indicators of research performance based on citations in leading academic journals by other scholars. Data on citations come from the Thomson-Reuter Institute of Scientific Information (ISI) Web of Science database and their use of citations is based on the assumption that more frequently cited items have greater significance and worth than those that remain uncited.

28. While the number of ISI recognised international publications from Vietnamese universities is still small, publication output is increasing annually at approximately 16 per cent. Viet Nam's scientific research capacity in relation to its population is three times as high as Indonesia's and since 2008 has exceeded that of the Philippines. Citation rates for Vietnamese

scholars are increasing although a high proportion of publications by Vietnamese authors are based on research carried out in collaboration with international collaborators. If the new model universities are to gain appropriate recognition for the quality of research, it is important that incentives be provided to encourage all academics where appropriate to publish in ISI journals and that the universities develop mechanisms to monitor annual the numbers of ISI papers published and the numbers of citations.

**Box 4: Proposed New Mechanisms in the UK and Australia to Assess Research Quality**

Both British and Australian Governments are proposing new systems to assess research quality based on metrics combined with peer review. Both systems will also be used to allocate large sums of research funding.

In Britain, the proposed Research Excellence Framework will depend largely on bibliometrics. It seeks to (i) Develop robust quality indicators for all disciplines to underpin a selective funding approach; (ii) Reduce the burden especially on universities; (iii) Avoid undesirable incentives; and (iv) Promote equal opportunities. However, it has proved difficult to achieve agreement about appropriate bibliometrics for non-science disciplines. In Australia the proposed Excellence in Research for Australia (ERA) Initiative will assess research quality within the Australian higher education institutions using a combination of bibliometrics and expert review by committees comprising experienced, internationally recognised experts.

For both systems, it is intended to report citation rates for each university for each major disciplinary area. Data on citation rates will not report total citations but rather citation rates in relation to national disciplinary norms. Britain will have a six point scale while in Australia citation rates will use a four-point scale of 'internationally competitive', 'nationally competitive', 'emerging' and 'non-competitive'.

## **11. Benchmarking Performance**

29. Internationally, important progress has been made in the development of key performance indicators (KPIs) and benchmarking performance against international comparator institutions. Benchmarking is a means of comparing an institution's performance with that of one or more of its peers. The results of comparison can highlight superior performance and where improvements are needed, where the university could learn from others, and where problems need to be investigated.

30. A number of international universities have established formal benchmarking agreements with other universities in order to exchange confidential benchmarking information. The University of Sydney, for example, has established benchmarking partnerships with the following universities with regard to teaching and learning: Monash University; the Open University; Oxford University; University College, London; and the University of Queensland. This means that the University of Sydney has agreed to comparative analysis between benchmarking partners to identify, adapt and apply processes, the improvement of which will impact positively on the achievement of the objectives of USTH's strategic plan.

### The University of Adelaide

The University of Adelaide has established benching marking agreements with a small number of similar universities to monitor its learning and teaching, research, and financial performance. For each area, a small number of indicators have been agreed on by partners with the measures and types of data for each being clearly specified. For learning and teaching, the three measures are:

- Graduate satisfaction (as measured by the percentage of graduates satisfied with their course experience)
- Employer satisfaction (as measured by the percentage of graduates employed six months after graduation);
- Learning performance (as measured by undergraduate retention rates and undergraduate progress rates).

31. It is recommended that at an early stage new model universities specify the areas where benchmarking would be valuable and negotiate benchmarking agreements with a small number of Vietnamese and international universities (such as Chulalongkorn University in Thailand). For each area, it will be necessary to specify the indicators, measures and data definition.

## 12. Capacity Building to Enhance Staff Expertise

32. Project funding could support capacity building amongst staff of new model universities with regard to quality assurance. Such capacity building could include the following:

- (i) **Senior Management.** Topics should include: recent developments in QA internationally; Vietnamese QA for higher education, including detailed briefing on the current accreditation system and the national standards and criteria; desirable characteristics for internal QA, including development of a quality culture, overall QA plans and annual plans for improvement; and the functions and operation of the QAC within USTH;
- (ii) **Staff of the QAC.** Topics should include: recent developments both internationally and in Viet Nam about QA systems and national accreditation; the structure and possible responsibilities of QACs; developing a quality culture and key aspects of internal QA mechanisms including reviews of programs and/or departments; surveys of students, graduates, employers and alumni; and data extracted from student management systems regarding student progress, drop-outs and completion rates. Capacity building could also deal with running of workshops and other training, and providing leadership in the university of QA issues; and
- (iii) **Senior Academic Staff.** Topics should include: key features of internal quality assurance; strategies that staff may use to monitor and improve teaching quality; the Viet Nam quality assurance and accreditation framework; and the use of peer review and other strategies to improve teaching practice.

## APPENDIX 9

### Development of Laboratory Management Programs for Sustainability of Science Assets<sup>1</sup>

1. The purpose of the Outputs 1 and 2 is to assist the USTH to develop a system and practice for laboratory management that maintains laboratories at high quality operational readiness, including management of equipment and training and effective use of well-qualified laboratory technicians.
2. Capacity building consultants will be engaged to provide assist in the design of the laboratory management systems, and to develop operating manuals and regulations necessary to support their implementation, and to develop training programs and deliver the initial training for laboratory technicians.
3. Details of the range of tasks of the capacity building are in Appendix 2, the Procurement Plan and the Outline Framework for Contracted Activities. This Appendix provides the principles recommended for developing and embedding an effective system for the sustainable management of USTH. These principles and policies are intended to be used by the capacity building advisers who develop policies and practices for USTH.
4. The PPTA developed detailed proposals and recommendations for consideration in areas such as: the management of laboratories and their equipment, technician career development, the availability of a central equipment and repair workshop, and the formation of a board of research directors governing applied research and design options for laboratories and a panel for managing equipment depreciation and continuous replacement. In addition, the report also contains a detailed spreadsheet of indicative equipment for the initial establishment of USTH (available separately).
5. The following summary of suggestions and comments is offered for consideration.
  - (i) A database system might be developed for equipment within USTH and used from a central maintenance facility staffed by trained Technicians.
  - (ii) Technicians working in research laboratories should receive training courses which lie outside academic courses and which are focused on the areas of practical concern within each active research laboratory.
  - (iii) Technicians should have a clearly defined job description with a prescribed mechanism for career development.
  - (iv) A university board of directors for applied research might be formed to develop and enforce policies and procedures concerning the distribution of funds from funded research proposals.
  - (v) Laboratories should be introduced to quality management systems defined by the ISO/IEC 17025 standard governing the general requirements for the competence of testing and calibration laboratories through a series of courses to discuss the underlying quality system concepts and operational issues.

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<sup>1</sup> Details of the research and proposals for establishing Laboratory Management Centers in NMUs in Vietnam are in three Papers: "Facilities Development Papers B1 & B1.1: "Laboratories Development, (B1-summary and B1.1 Detailed); and in Paper B2, "Laboratory Technician Career Development", in Preparation Project Final Report Volume II, USTH.

- (vi) Research faculty should develop a research costing system which takes into consideration the cost of equipment and supplies, maintenance, Technician training, and labour costs. The equipment cost should include depreciation so that future equipment acquisitions can be made through research laboratories which are financially autonomous.
- (vii) Comprehensive advice has been provided regarding facility development and the design of laboratories. It includes suggestions concerning laboratory furniture such as benches and safety equipment, including fume hoods, eye wash stations and emergency showers.
- (viii) In general terms, equipment needs are based upon testing requirements and the measurement method, which then dictate the type of equipment that is needed. The measurement of a parameter depends upon the data quality requirements which, in turn, define the alternate methodologies which might be used and, finally, the quality assessment procedure which defines the suitability for purpose behind the measurement. These three areas, taken together, define the protocols for specific purposes and the equipment which will be needed. This is clearly a time-consuming task and the tables of information which are reported represent more than twelve man-months of input in the field of chemistry alone. However, the spreadsheet that has been developed contains an indicative list of equipment for all of the laboratories included within the themes of the university. In particular, the information provided for a chemistry/environmental testing laboratory includes a consideration of the prices of over 1000 items.
- (ix) A limitation of the project preparation work is that the areas of research for which indicative lists of equipment have been developed, may change because of a large number of complex, factors which could not be determined in July-September 2009 when the PPTA Team's specialist adviser was at work. Since then experts from the French international partner have been developing proposals for curriculum and research programs at USTH alongside Vietnamese colleagues. USTH staff well aware of the need to scrutinise and adapt the PPTA Team's equipment proposals but were not able to address that substantively within the time-frame of the technical assistance. Accordingly further work on equipment priorities is needed before specifications for tender are prepared.
- (x) Indicative lists of equipment for teaching and research are given for the areas of interest discussed with representatives from VAST, Dr. Dung as the National Counterpart, and others.

6. An outline of criteria and standards for technician training is in the tables below, to illustrate the detail and complexity of policy and practice appropriate to sustaining high international standard for research universities. For further detail, and for in developing internal policies and practices for USTH the academics and Capacity building Advisers should consult the three detailed papers of laboratory equipment and management as referenced above. These are available to the ADB, MOET and USTH in print version and on CD of the Preparation Project Final Report, Volume II, which contains all project papers directly relevant to USTH. All papers are in English and Vietnamese. Working Papers with the equipment spreadsheet are also available.



### World Class University Development: Technician Development

EXPECTED OUTPUTS	INPUTS	VERIFICATION	COMMENT
Suggested facilities for teaching and research	Advise on appropriate laboratory design.	Technical Specialist final report	Inexpensive laboratory concepts at inception can assist in overcoming the need for design modifications and renovations in the future.
	Develop equipment database.	An electronic database should be made of delivered equipment to the universities.	Records in the database must be maintained
World class services and technical support for teaching and research	Develop Equipment Database.	Hard copy and electronic databases should be generated.	The universities must maintain and upgrade their records regularly.
	Develop Database of Technicians.	Hard copy and electronic databases should be generated.	A Technician career structure can be implemented as a major human resource.
	Training should be provided for the generation of winning Research Proposals.	Course materials and project proposals.	Staff should set a goal of one proposal every two months.
	Advise on Laboratory Management.	Management system developed to ISO/IEC 17025, where applicable	A central laboratory management system is recommended.
	<b>Provide Technician Training:</b> Develop training approach	Training approach and needs assessment developed.	On Job Training can be the most efficient training approach.
	Develop competency assessment	Based on needs assessment.	
	Recommend appropriate training	Training modules developed for Technicians.	Proficiency testing is an accepted means to illustrate competence.
	Develop training modules	Examination and/or test results. Performance evaluation test results of standard materials.	
	Implement OJT program	Course material developed and courses delivered to target laboratories	Course material can be used for students and income generation

### Networking Programs

EXPECTED OUTPUTS	INPUTS	VERIFICATION	COMMENT
Information exchanges, collaborative research and development activities through national inter-laboratory and international networks	Applied research program development at USTH	Applied research program and policies developed	The policies and principles should be accepted by senior management to maximize the use of resources.
	Persuasive proposal writing course prepared.	Courses delivered. Proposals submitted for funding.	Both international and national funded research proposals can act as a source of funds to provide support for a world class ranking.
	Advise on sustainable approach to laboratory utilization	Project final report.	
	Cost of Analysis	Course material developed	Applicable to all university laboratories
University consolidation and development.	Develop policies on applied research	Policy and procedural needs developed as a policy of the university	
	Develop Quality Control and Quality Assurance programs	Course material developed and courses conducted on the issues contained within ISO/IEC 17025.	
	Assist with research proposals	Course material developed and courses conducted	A goal of one proposal every two months is suggested
	Provide training on equipment use and maintenance to staff and technicians	Training certificates	

### Equipment and Repair: USTH

EXPECTED OUTPUTS	INPUTS	VERIFICATION	COMMENT
Improved reliability, operability maintenance and availability of Campus equipment	Develop OJT professional development activities for Technicians.	Training requirements identified. Training Modules produced. OJT training programs carried out.	Technicians in Higher Education institutions are unique in their training requirements.
	Develop training approach	Database program developed, lists of equipment available for each university.	On Job Training is probably the most efficient training approach.
	Develop training modules	Recommendations reported.	An up-to-date equipment database should be maintained
	Implement OJT	Equipment commissioned and repaired.	Central equipment repair workshops should be available with trained Technicians.
	Prepare database reports on the availability and condition of equipment and resources at the institutions.		

EXPECTED OUTPUTS	INPUTS	VERIFICATION	COMMENT
	Advise on equipment repair and maintenance issues.  Repair and commission equipment	Implement a central equipment repair workshop.  Repair reports.	Technicians should be provided with the necessary tools to carry out basic repairs.

### Laboratory Quality Management System

EXPECTED OUTPUTS	INPUTS	VERIFICATION	COMMENT
Improved reliability, operability and credibility of data	<p>Courses on ISO/IEC 17025 and its associated issues:</p> <ul style="list-style-type: none"> <li>➤ ISO/IEC 17025 course on a basic understanding of the issues contained in the standard plus training on the implementation of a quality management system;</li> <li>➤ Training on project management software in each laboratory;</li> <li>➤ Measurement uncertainty;</li> <li>➤ Method validation (verification);</li> <li>➤ Statistics and control charts;</li> <li>➤ Internal auditing.</li> </ul>	<p>Course provided</p> <p>Development of a Gantt chart for laboratory development as a management tool to reach the level of international accreditation.</p> <p>Courses provided</p>	<p>Faculty need to demonstrate and safeguard their scientific credibility.</p> <p>As a management tool, the Gantt chart is invaluable for the assessment of progress.</p> <p>A practical understanding of the issues safeguards scientific credibility.</p>

## **APPENDIX 10**

### **Developing Industry Linkages**

1. Effective linkages with industry in USTH's research and teaching programs will be encouraged to support their quality and to offer increased sources of funding for research.
2. Capacity building advisers will be engaged to work closely with the USTH Rector and research thematic leaders to assist in establishing structures and processes, through the Industry Engagement Centre, for building relationships with industry and other potential users of their knowledge, expertise and technologies; and for establishing a viable usage of space for incubator activities. Some floor Space could be included in the initial design capacity, but estimates do not include equipping of this space, on the assumption that industry sponsors/partners will support the tailored equipment to fit the individual project activities.
3. Details of the range of tasks of the capacity building are in Appendix 2, the Procurement Plan and the Outline Framework for Contracted Activities. This Appendix provides the principles recommended for establishing a policy for industry relationships that support the university's research and teaching and contribute to development of high technical expertise and innovation that enhances and develops industry partners' capacity to contribute more to the economic development of Viet Nam. These principles and policies are intended to be used by the capacity building advisers policies for USTH.

#### **A. Part A - Business/industry financing**

4. To attract business-industry financing, the new model universities will need to: (i) Establish regular interaction with industry, and regular needs surveys to understand industry needs for education, training and research services; (ii) Set up knowledge exchange and technology transfer services, especially in cooperation with technology parks and their tenants; (iii) Develop industry internship programs with industry for university undergraduate and postgraduate students and researchers; and (iv) Understand and make full use of the provisions in existing laws and regulations, especially in relation to incentives for technology transfer.

#### **B. Sharing of infrastructure and public-private partnerships**

5. A way of reducing the cost to the government is to examine the scope for sharing of infrastructure between the new model universities and other government funded or industry facilities in their local areas. At present, it appears that there is little incentive for sharing of research and other infrastructure, and that there is a government prohibition against charging for access to publicly funded research facilities (except for 16 new key research centers established by the government). There is a need to examine policies relating to sharing of infrastructure with a view to creating greater incentives for sharing. The Capacity Building adviser, working with USTH, should explore the design and implementation of a pilot program to develop collaborative approaches to sharing of infrastructure, and to work with the Vietnamese Government on enabling policies and regulations. Planning should take into account the scope for the sharing of facilities with VAST laboratories.
6. Public-private partnerships for developing and maintaining required infrastructure could help enhance critical mass and avoid duplication of effort. Discussions with companies and organizations in Hoa Lac Hi Tech Park would be useful to assess their needs and the scope for collaborative approaches to building and maintaining infrastructure. In this way, the new model

universities' funds would be used only to fund high quality research infrastructure that is not already available elsewhere.

7. **Other possible approaches.** Other approaches to funding infrastructure could include:

- (i) Strategic planning at national scale of key research infrastructure needs and of NMRU roles in hosting specific pieces of infrastructure <sup>1</sup>;
- (ii) Development assistance projects and bilateral partnerships;
- (iii) Industry – there may be some willingness of industry to fund infrastructure and other university activities if they can be certain to receive a flow of highly skilled graduates who could meet their employment needs;
- (iv) Philanthropy – there may be scope for wealthy Vietnamese to fund some research infrastructure on the basis that their role is publicly acknowledged, perhaps by naming the facility after them. There would need to be an assurance that all their funds would go towards the construction and maintenance of the facility and not be redirected to other purposes.

8. World-class universities often attract significant levels of industry funding, although this still tends to be a modest proportion of their total funding. For example, in Fiscal Year 2009, the Massachusetts Institute of Technology (MIT) received \$47.8 million in cash gifts from corporations.<sup>2</sup> In 2007-08 financial year, Imperial College London received endowment funding of \$22.6 million and \$416.3 million in research grants and contracts, but it is not clear what proportion of those grants and contracts came from industry. In 2008 the Hong Kong University of Science and Technology received \$22.1 million in donations and benefactions.<sup>3</sup>

9. In Viet Nam, there are many barriers to university-industry cooperation. The quality of research undertaken and its relevance to industry needs are major impediments, as are the poor standard of infrastructure and limited government research funding. Structural and cultural challenges have included a lack of appropriate structures and processes within universities and research institutes to support technology commercialization and transfer, a lack of incentives for stakeholders, and little tradition of information sharing and collaboration within and across institutions.<sup>4</sup>

### C. Understanding Industry Needs

10. The location of the USTH in Hoa Lac High Tech Park is intended to promote cooperation between the new university and the companies that will become established in that zone over coming decades. This is certainly a model that has been used successfully in many other

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<sup>1</sup> The Australian Government has pursued such an approach in deciding on key national research infrastructure needs. See Australian Government Department of Innovation, Industry, Science and Research, *Strategic Roadmap for Australian Research Infrastructure*, Canberra, 2008, at <http://www.innovation.gov.au/ScienceAndResearch/Documents/Strategic%20Roadmap%20Aug%202008.pdf> (downloaded 20 July 2009).

<sup>2</sup> MIT Facts 2010, See <http://web.mit.edu/facts/financial.html>

<sup>3</sup> Robert Horne and Vu Cuong, *Financial Frameworks for New Model Universities*, Paper B, Estimating the Operational Costs of New Model Universities, 2009

<sup>4</sup> Tran Ngoc Ca, *Learning Technological Capability for Vietnam's Industrial Upgrading: Challenges of the Globalisation*, December 2002, p. 5, and Fatseas, Marea, "Research-Industry Cooperation Supporting Development in Vietnam: The Challenge of Translating Policy into Practice" in *Reforming Higher Education in Vietnam: Challenges and Priorities*, Springer, Netherlands, forthcoming...

countries. For example, a 2005 study of science and technology parks in Asia found that they had resulted in impressive growth in links between park occupants and universities and had created pressure for universities to provide more graduates with training relevant to the focus of the parks.<sup>5</sup>

11. It should be a priority for the new model universities to establish connections with companies and other organizations in technology parks and elsewhere to gain a better understanding of their needs, and of the scope for contract research and training, and for joint funding of infrastructure and services. In Hoa Lac Hi Tech Park, for example, key investors are concerned with information and communication technologies and new materials, and these are both fields in which USTH plans to establish teaching and research capabilities. The new universities could engage key industry stakeholders on their governing boards or in industry advisory bodies. Such stakeholders could advise the universities on teaching and research that would be relevant to industry needs.

12. Universities could supplement the advice of these industry advisory bodies with regular surveys of industry and other key research users' needs. Graduate tracer surveys could also provide ongoing information about employer needs.

13. The USTH budget will need to make some provision for these industry engagement strategies, including budgeting for the establishment of an Industry Engagement Centre in the universities to develop and implement them.

#### **D. Building capacity in technology transfer/knowledge exchange expertise<sup>6</sup>**

14. The new model universities would need to establish a mechanism for facilitating technology transfer and knowledge exchange between the university and industry. There are different approaches to this around the world. Some universities establish technology transfer offices. Some place technology transfer experts in different university faculties to be in closer contact with the researchers and identify technologies that can be commercialized. Some rely on external consultants or intermediaries to facilitate this communication. Others have developed websites to showcase their capabilities.

15. The Hanoi University of Technology has an interesting model for promoting technology transfer. It has established the Polytechnology Company Limited, a company governed by enterprise law, to manage the University's technology transfer activity. The University derives about 10-15% of its income from contract research and technology transfer. Staff and centers that engage in these activities are required to contribute 10 % of their income to the University. The University has considered technology transfer activities in other countries such as the United States, France and China, and has found the model used by Tsing Hua University in China to be very relevant<sup>7</sup>. It is now planning a science park development on a 100-hectare site in Bac Ninh (30 km from Hanoi) where its young talented students can undertake research and technology transfer and set up start-up companies. The University already operates a business incubator in Gia Lam, funded by the European Union, which provides research infrastructure, laboratories and equipment for hire by enterprises that want to do their research.

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<sup>5</sup> The Allen Consulting Group, *The Role of Science and Technology Parks in Asia's Economic Growth*, Report for the Australian Department of Education, Science and Training, 2005, pages vii to viii.

<sup>6</sup> See reference to knowledge exchange in OECD report on China, 2009, pages 49-50.

<sup>7</sup> Discussion with Dr. Hoang Sinh Truong, Director, Polytechnology Company Limited, 23 June 2009.

16. The new model universities will need to think through their future strategy for knowledge and technology transfer and establish appropriate structures and processes at an early stage of their development. This will be even more important for them than for other universities to draw in external income to help meet their higher operating costs. More than that, it will be necessary to ensure that from the beginning there is awareness within the university of how their research could benefit industry and the broader society.

17. It will be important for USTH to develop strong links and synergies with any technology transfer facilities established at Hoa Lac Hi tech Park.

#### **E. Developing “industry-ready” graduates**

18. USTH will need to ensure that students are provided with some general competencies such as problem solving, teamwork, and broad business skills training so that they meet industry needs for “soft skills” as well as technical skills.

19. USTH could also establish industry internships for researchers and students to enhance their employability and also to enhance the relationship between the universities and industry. This would increase the possibility of future industry financial support for the university, for example for training or research activities. There has already been some discussion in Viet Nam about the desirability of industry internships. In January 2009, the US Ambassador in Viet Nam suggested at a conference that AmCham or some other industry representative body look to creating an internships clearinghouse in Viet Nam.

20. Vietnamese and international examples exist of relevant approaches to creating industry-ready graduates. For example, FPT University requires students in its Bachelor of Software Engineering courses to spend one year during their degree working for industry before completing their final year. In Australia, Cooperative Research Centers provide PhD students with an opportunity to work on collaborative research projects with industry and other end-users aimed at developing products and services that can be commercialized, or knowledge and technology transfer. In Europe, the DOC-CAREERS project provides doctoral graduates with high level awareness of the business environment, market regulation and intellectual property rights while providing industry with access to a highly skilled workforce and up-to-the-minute research.<sup>8</sup>

#### **F. Establishing a clear regulatory framework**

21. In Viet Nam, legislation and regulations already exist for establishing a technology market. It is important to look at how relevant these existing mechanisms would be and how they could be refined for use in new model research universities to enhance the prospects of industry financing.

22. **Relevant legislation.** The 2001 Law on Science and Technology established a suite of tax and credit incentives, and a fund to supply low- or no-interest loans for technology transfer activities.<sup>9</sup> It enacted measures to support the development of a technological market including: (i) Policies and legislation on industrial property ownership (intellectual property); (ii) Preferential policies for trialing new technology products, science and technology consultancy activities, and technology exports; (iii) Rewards for organizations and individuals that file patents, make

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<sup>8</sup> Harman, Kay. The Interface Between the Doctorate and Industry: Reconceptualising Doctoral Education from an International Perspective, Paper for the South African PhD Study report on ‘The national capacity for the production of highly trained, top-quality postgraduate students’, 2009.

<sup>9</sup> Socialist Republic of Vietnam, *Law on Science and Technology*, articles 39, 42 and 43.

innovations, and apply new technologies; and (iv) Permission for S&T organizations to set up enterprises, enter into joint ventures and conduct technology transfer activities.<sup>10</sup>

23. **Relevant organizational arrangements.** In September 2004, the Prime Minister announced that the Ministry of Science and Technology (MOST) would have responsibility for implementing the reforms in coordination with relevant ministries and agencies and provincial and city People's Committees.<sup>11</sup> The reforms included training initiatives aimed at ensuring the availability of skilled personnel to drive science and technology developments, and incentives to attract prestigious foreign research institutes and universities to establish branches or science and technology training programs in Viet Nam. The reforms also included the establishment of organizations to act as intermediaries between researchers and industry and to consult on technology transfer, and industry was encouraged to provide intermediary services to the technology market.

24. These policies and experience with their implementation need to be studied carefully to identify relevance to the new model universities. Discussions with a technology transfer center in one university indicated that the procedures for receiving the incentives, provided under law, are very time consuming. For example, there is an income tax reduction for a six-month period of 5-10% for commercialization of new products but the company must pay the tax first and then go through a very lengthy process of one to two years to claim the tax rebate.

25. In conclusion, success by USTH in attracting business-industry financing requires: (i) Establishing regular interaction with industry, and needs surveys to gain an ongoing understanding of industry needs for education, training and research services; (ii) Setting up technology transfer and knowledge exchange services, preferably in cooperation with technology parks and their tenants; (iii) Developing industry internship programs with industry for university undergraduate and postgraduate students and researchers; and (iv) Understanding and making full use of the provisions in existing laws and regulations, especially in relation to incentives for technology transfer. An element of the ADB loan could help USTH to establish structures and processes, possibly including an Industry Engagement Office that would have responsibility for building relationships with industry and other potential users of their knowledge, expertise and technologies.<sup>12</sup>

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<sup>10</sup> Ibid., section 2, Article 33.

<sup>11</sup> Decision No. 171/2004/qd-ttg, 28 September 2004, see <http://www.asianlii.org/vn/legis/laws/atsorosatmm643/>

<sup>12</sup> Additional information on the Industry Engagement Centre includes papers developed in 2006 for MOET during the Project Preparation for the Second Higher Education Project on Intellectual Property laws in Viet Nam.



## APPENDIX 11

### Human Resources Development Plan

Training Program	Target Group	Program	Program Length and Timing	Means of implementation	Number of Participants	Unit	Total Days	Program Cost
<b>Output 1.1 Effective management and governance system for USTH developed and implemented</b>								
1.1.1-Establish the detailed structure of USTH governing system ; Council and Rectorate Committees and sub-committees in administration and finance management	Council members; management leaders and Vietnamese staff of USTH	WS to develop and review roles and functions and detailed operating regulations of committees  WS and Seminars to transfer knowledge and skills in using new regulations to manage the USTH to Vietnamese staff	WS 30 Days total: over 4 years, in years 1, and 2 and 5 and 6. WS in Hanoi	Project consultants and the USTH FIP to conduct needs assessment, prepare workshop materials and conduct and facilitate WS	30 participants; various small groups as appropriate; (20% female)  Av attendance 15 pds each = 450 pds	5 persons per group conducted centrally; Some mentoring WS use 1 person per session	450 pds, (daily attendance costs.#)	\$4,500#
1.2.2 Develop the USTH strategic plan for the Establishment phase (6 years of the loan)	Council members; management leaders and Vietnamese staff of USTH	Consultation and training WS to review best practice in university strategic planning and sample plans;  Writing WS to prepare drafts and finalize new strategic plan for USTH	WS 45 Days total: Year 1 and 2 WS in Hanoi	Project consultants and the USTH FIP to conduct needs assessment, prepare workshop materials and conduct and facilitate WS	30 participants; various small groups as appropriate; (20% female)  Each attends a minimum of 5 pds, av pds - 10	5 persons per group conducted centrally; Some mentoring WS use 1 person per session	300	\$3,000
1.1.3 Develop and embed the internal operating regulations and accountability and reporting systems	Council members; management leaders and Vietnamese staff of USTH	Consultation and training WS to review best practice in university strategic planning and sample plans;  Writing WS to prepare drafts and finalize new operating manuals for USTH	60 Days total: over 4 years, in years 1, and 2 and 5 and 6. WS in Hanoi	Project consultants and the USTH FIP to conduct needs assessment, prepare workshop materials and conduct and facilitate workshop	30 participants; various small groups as appropriate; (20% female) average pds - 25	5 persons per group; Some mentoring WS use 1 person per session	750  <b>1500</b>	\$7,500

Training Program	Target Group	Program	Program Length and Timing	Means of implementation	Number of Participants	Unit	Total Days	Program Cost
1.1.4 Complete the search for and appointment of the Second Council members; second President; and Second Rector	Council members; management leaders and Vietnamese staff of USTH	<p>0.5 days Briefing session to ensure that Institution managers and major stakeholders will support the new operating policies for university council managed selection process for replacing members of council and Executive appointments.</p> <p>2 day WS to develop university processes and criteria for selection of council members, and Each Executive position.</p>	<p>6 briefing sessions, 2 in year 1 and in 3 in year 4. = 3 D</p> <p>6 WS in year 1 to develop the university regulations and criteria. = 12 D</p> <p>4 WS in year 4 to prepare for the implementation of the selection process for second term of ½ council members = 8 D</p> <p>6 WS in year 2 to prepare for national advertised process for selection of second sets of Vice-Rectors and Senior administrators. = 12 D</p> <p>6 WS in year 4 (Q2) to prepare for international advertising for</p>	Project consultants and the USTH FIP to conduct needs assessment, prepare workshop materials and conduct and facilitate workshop	<p>30 participants; various small groups as appropriate; (20% female)</p> <p>Av 15 pds each</p>	Av 5 persons per group	<p>Av 450 pd</p> <p>450</p>	\$4500

Training Program	Target Group	Program	Program Length and Timing	Means of implementation	Number of Participants	Unit	Total Days	Program Cost
			second Rector appointment. = 12 D. Total D=47					
<b>Output 1.2: Effective Establishment of USTH Management and Administrative Systems</b>								
1.2.1 Develop a new integrated Student Administration system and manuals – inclusive of enrolment, personal , financial and academic record management	Viet Nam academic administration staff.	<p>2 day Consultation and training WS to review best practice in university strategic planning and sample plans;</p> <p>2 day WS to develop system design and details for operating manuals</p> <p>2 day WS to train administration staff in implementation</p>	30 sets of WS over 2 years, yr 1 and yr 2	Project consultants and the USTH FIP to conduct needs assessment, prepare workshop materials and conduct and facilitate workshop	<p>15 attend consultation WS;</p> <p>5 attend design and writing WS (20% female)</p> <p>Imp WS?</p>	<p>Av 5 consult WS = 150 pds</p> <p>20 design and writing WS = 200 pds</p>	350	\$3,500
<p>1.2.2 Develop a new integrated financial management Department and system – inclusive of chart of accounts, computerized data base &amp; management information system, payroll and accounts payment, and asset management system, and financial projections data. Develop and install the IT systems for operate the system</p> <p>Write the operating regulations for the FM system.</p>	Viet Nam academic and administration staff.	<p>2 day Consultation and training WS to review best practice in university financial management</p> <p>2 day WS to develop system design and details for operating manuals</p> <p>2 day WS to train administration staff in implementation</p> <p>2 day WS for installation planning.</p>	<p>60 sets of WS over 2 years; yr 1 and yr 2</p> <p>system to be fully developed and operational by Dec 2012</p>	Project consultants and the USTH ISP to conduct needs assessment, prepare workshop materials and conduct and facilitate workshop	<p>15 attend consultation WS;</p> <p>5 attend design and writing WS</p> <p>5 attend the installation planning WS</p>	<p>Av 5 consult WS = 150 pds</p> <p>40 design and writing WS = 400 pds</p> <p>15 WS for installation planning = 150 pds</p>	700	\$7,000

Training Program	Target Group	Program	Program Length and Timing	Means of implementation	Number of Participants	Unit	Total Days	Program Cost
1.2.3 Assist the development of new policy for a special recurrent financial regulation to ensure USTH has an adequate level of resources to perform as required (by Dec 2012); and develop a 3 year resource agreement consistent with the strategic plan to embed the state budget operating support for the following 3 years 2013-2016.	Viet Nam leaders and academic and senior administration staff.  staff of MOF; staff of MOET DPF and PMU-EU	1 day Consultation WS with MOF and MOET and USTH Council and Rectorate leadership to review best practice in university financing and resource planning, and mechanisms for managing state budget support  2 day WS with MOF and MOET and USTH finance Department to develop financial mechanism regulation and template for resource agreements  <b>14 day foreign study tour to Australia, Singapore and Thailand (MOF, MOET members of Regulation working group) to study good practice in financing mechanisms for high standard universities</b>  1 day WS to train administration staff in implementation	40 sets of WS over 2 years; yr 1 and yr 2  New Financial Regulation and 3 year Resource Agreement system to be fully developed and operational by Dec 2012.	Project consultants and the USTH ISP to conduct needs assessment, prepare workshop materials and conduct and facilitate workshop	15 attend consultation WS;  8 (2 USTH & 6 Gov) attend design and writing WS  5 (2 USTH & 3 Gov) participate in Study tour (selected from best learners at WS)  2 USTH participants =	Av 5 consult WS = 75 pds  10 design and writing WS = 160 pds  1 study tour @ 14 days = 70 pds  6 WS = 12 pds	317pds (Hanoi)  1367  70 pds (foreign)	\$3,170          Est \$3600? Total this Item: <b>\$5,270</b>
1.2.4 Establish the USTH Library Collection, the catalogue and its management system, continuous acquisitions policy, purchasing strategies, depreciation planning	Viet Nam leaders and academic and Library administration staff.	2 day Consultation and training WS to review best practice in university Library management and operations  2 day writing WS to develop policies and operating procedures	60 sets of WS over 3 years; yr 1 & yr2 & yr 5  Library system to be fully established, initial set of stock installed and	Project consultants and the USTH ISP to conduct needs assessment, prepare workshop materials and conduct and facilitate workshop	10 attend consultation WS;  10 attend design and writing WS	Av 3 consult WS = 60 pds  20 design and writing WS = 400pds	496	\$4,960

Training Program	Target Group	Program	Program Length and Timing	Means of implementation	Number of Participants	Unit	Total Days	Program Cost
and maintenance systems; develop operating manuals; train staff in use  Support move from VAST to Hoa Lac in 2016, and re-establishment		1 day WS to train library staff in implementation  1 day WS to plan move & installations in new premises	operating effectively by Dec 2012.  Library to be moved to Hoa Lac in soft-opening in 2016		6 attend staff training WS  6 attend planning for move WS	3 staff training WS= 18 pds 3 planning for move WS = 18 pds	496	
1.2.5; Develop USTH policy for, and computer system for management of the HR policy; develop operating manuals and IT system for integrated management; install the test the system; train staff in use.  Move system to Hoa Lac in 2016	Viet Nam leaders and academic and administration staff.	2 day Consultation and training WS to review best practice in HR policy to recruit and retain high quality staff; and systems for staff management and operation  2 day writing WS to develop policies and operating procedures  1 day WS to train HR staff in implementation  2 day WS to plan move & installations in new premises	35 sets of WS over 3 years; yr 1 & yr 2 & yr 5  HR system to be fully established, initial set of stock installed and operating effectively by Dec 2012.  HR system to be moved to Hoa Lac in soft-opening in 2016	Project consultants and the USTH ISP to conduct needs assessment, prepare workshop materials and conduct and facilitate workshop	10 attend consultation WS;  10 attend design and writing WS  6 attend staff training WS  6 attend planning for move WS	Av 5 consult WS = 100 pds 15 design and writing WS = 300 pds 10 staff training WS= 60 pds 5 planning for move WS = 60 pds	520	\$5,200
1.2.6 Design, develop and install other management information systems	Viet Nam leaders and academic and administration staff.	2 day Consultation and training WS to review best practice in systems for various other management and operating systems  2 day writing WS to develop policies and operating procedures  1 day WS to train staff in implementation	17 sets of WS over 2 years;  systems to be fully established and operating effectively by Dec 2012.  systems to be moved to Hoa Lac in soft-opening in 2016	Project consultants and the USTH ISP to conduct needs assessment, prepare workshop materials and conduct and facilitate workshop	10 attend consultation WS;  5 attend design and writing WS  6 attend staff training WS	Av 3 consult WS = 60 pds 10 design & writing WS = 100 pds 3 staff training WS= 18	190 pds	\$1,900

Training Program	Target Group	Program	Program Length and Timing	Means of implementation	Number of Participants	Unit	Total Days	Program Cost
		2 day WS to plan move & installations in new premises			6 attend planning for move WS	pds 1 planning for move WS =12pds	710	
<b>Output 1.3. Student Services Centre established and operating to support recruitment and retention of quality students</b>								
1.3.1 Develop the USTH policy for recruitment and retention of high quality students in Graduate and Post-Graduate studies	USTH staff (administration)	<p>2 day Consultation and training WS to review best practice in relevant student recruitment practices in international universities.</p> <p>2 day writing WS to develop policies and implementing procedures</p> <p>1 day WS to train staff in implementation</p> <p>1 day WS to plan move &amp; installations in new premises</p>	<p>17 sets of WS over 3 years; yr 1 &amp; yr 2 &amp; yr 5</p> <p>systems to be fully established and operating effectively by Dec 2012.</p> <p>systems to be moved to Hoa Lac in soft-opening in 2016</p>	Project consultants and the USTH ISP to conduct needs assessment, prepare workshop materials and conduct and facilitate workshop	<p>2 attend consultation WS;</p> <p>2 attend design and writing WS</p> <p>2 attend staff training WS</p> <p>2 attend planning for move WS</p>	<p>Av 3 consult WS =12 pds</p> <p>10 design &amp; writing WS = 40pds</p> <p>3 staff training WS= 6 pds</p> <p>1 planning for move WS = 2pds</p>	60 pds	\$600
1.3.2 Develop USTH policy and implementing guide for a student advisory service to support study practice and social mentoring to assist maintaining individual results	USTH staff (administration)	<p>2 day Consultation and training WS to review best practice in student advisory practices in international universities.</p> <p>2 day writing WS to develop policies and implementing procedures</p> <p>1 day WS to train staff in implementation</p>	<p>17 sets of WS over 3 years; yr 1 &amp; yr 2 &amp; yr 5</p> <p>systems to be fully established and operating effectively by Dec 2012.</p> <p>systems to be moved to Hoa Lac in soft-</p>	Project consultants and the USTH ISP to conduct needs assessment, prepare workshop materials and conduct and facilitate workshop	<p>2 attend consultation WS;</p> <p>2 attend design and writing WS</p> <p>2 attend staff training WS</p>	<p>Av 3 consult WS = 12 pds</p> <p>10 design &amp; writing WS = 40pds</p> <p>3 staff training WS= 6</p>	60 pds	\$600

Training Program	Target Group	Program	Program Length and Timing	Means of implementation	Number of Participants	Unit	Total Days	Program Cost
		1 day WS to plan move & installations in new premises	opening in 2016		2 attend planning for move WS	pds 1 planning for move WS = 2pds	120	
1.3.3 Develop policies and implementing guides for USTH to provide students from low income families with financial advice and assistance via rebates or scholarships to maintain studies	USTH staff (administration)	2 day Consultation and training WS to review best practice in relevant student financial counseling and assistance practices in international universities.  2 day writing WS to develop policies and implementing procedures  1 day WS to train staff in implementation  1 day WS to plan move & installations in new premises	17 sets of WS over 3 years; yr 1 & yr 2 & yr 5  Systems to be fully established and operating effectively by Dec 2012.  systems to be moved to Hoa Lac in soft-opening in 2016	Project consultants and the USTH ISP to conduct needs assessment, prepare workshop materials and conduct and facilitate workshop	2 attend consultation WS;  2 attend design and writing WS  2 attend staff training WS  2 attend planning for move WS	Av 3 consult WS = 12 pds  10 design & writing WS = 40pds  3 staff training WS= 6 pds  1 planning for move WS = 2pds	60 pds	\$600
1.3.4 Develop the provision of medical services and social counseling on campus for students and staff (include options for fee-for-service, with rebates for low income students).	USTH staff (administration)	2 day Consultation and training WS to review best practice in relevant student medical services in international universities.  2 day writing WS to develop policies and implementing procedures  1 day WS to train staff in implementation  1 day WS to plan move &	25 sets of WS over 3 years; yr 1 & yr 2 & yr 5  Systems to be fully established and operating effectively by Dec 2012.  systems to be moved to Hoa Lac in soft-opening in 2016	Project consultants and the USTH ISP to conduct needs assessment, prepare workshop materials and conduct and facilitate workshop	5 attend consultation WS;  5 attend design and writing WS  5 attend staff training WS	Av 5 consult WS = 50 pds  15 design & writing WS = 150pds  4 staff training WS= 20 pds	225 pds	\$2,250

Training Program	Target Group	Program	Program Length and Timing	Means of implementation	Number of Participants	Unit	Total Days	Program Cost
		installations in new premises			5 attend planning for move WS	1 planning for move WS = 5pds	285	
1.3.5 develop employment advisory service for students, to support part-time employment during study and obtaining full –time work after study in industries where the skills from USTH are maximized	USTH staff (administration)	<p>2 day Consultation and training WS to review best practice in relevant student employment service practices in international universities.</p> <p>2 day writing WS to develop policies and implementing procedures</p> <p>1 day WS to train staff in implementation</p> <p>1 day WS to plan move &amp; installations in new premises</p>	<p>17 sets of WS over 3 years; yr 1 &amp; yr 2 &amp; yr 5</p> <p>Systems to be fully established and operating effectively by Dec 2012.</p> <p>Systems to be moved to Hoa Lac in soft-opening in 2016</p>	Project consultants and the USTH ISP to conduct needs assessment, prepare workshop materials and conduct and facilitate workshop	<p>2 attend consultation WS;</p> <p>2 attend design and writing WS</p> <p>2 attend staff training WS</p> <p>2 attend planning for move WS</p>	<p>Av 3 consult WS =12 pds</p> <p>10 design &amp; writing WS = 40pds</p> <p>3 staff training WS= 6 pds</p> <p>1 planning for move WS = 2pds</p>	60 pds	\$600
1.3.6 Develop Equity program to support USTH assistance schemes for women (the Gender Action Plan) and special assistance for Ethnic and disabled students.	USTH staff (administration)	<p>2 day Consultation and training WS to review best practice in social and gender practices in international universities.</p> <p>2 day writing WS to develop policies and implementing procedures</p> <p>1 day WS to train staff in implementation</p> <p>1 day WS to plan move &amp; installations in new</p>	<p>17 sets of WS over 3 years; yr 1 &amp; yr 2 &amp; yr 5</p> <p>systems to be fully established and operating effectively by Dec 2012.</p> <p>systems to be moved to Hoa Lac in soft-opening in 2016</p>	Project consultants and the USTH ISP to conduct needs assessment, prepare workshop materials and conduct and facilitate workshop	<p>2 attend consultation WS;</p> <p>2 attend design and writing WS</p> <p>2 attend staff training WS</p>	<p>Av 3 consult WS =12 pds</p> <p>10 design &amp; writing WS = 40pds</p> <p>3 staff training WS= 6 pds</p>	60 pds	\$600



Training Program	Target Group	Program	Program Length and Timing	Means of implementation	Number of Participants	Unit	Total Days	Program Cost
		premises			2 attend planning for move WS	1 planning for move WS = 2pds	120	
<b>Output 2 –Academic Systems to support the delivery of high quality teaching and research programs developed</b>								
<b><i>2.1: The Centre for Teaching and Learning excellence Developed and Operating sustainably</i></b>								
2.1.1 Develop USTH policies and practices for professional development courses for Vietnamese staff to upgrade: (i) teaching and classroom methodology; (ii) student knowledge assessment skills; (iii) student advising and supervisor skills to international style and standard;	USTH Vietnamese academic staff  (5 local staff in yr 1; 10 in yr 2; 40 in yr 5)  In temporary premises at VAST	2 day Consultation and training WS to review best practice in relevant staff PD practices in international universities.  2 day writing WS to develop policies and implementing procedures  1 day WS to train staff in implementation  1 day WS to plan move & installations in new premises	40 sets of WS over 3 years; yr 1 & yr 2 & yr 5  Systems to be fully established and operating effectively by Dec 2012.  Systems to be moved to Hoa Lac in soft-opening in 2016	Project consultants and the USTH ISP to conduct needs assessment, prepare workshop materials and conduct and facilitate workshop	5 attend consultation WS;  10 attend design and writing WS  40 attend staff training WS  5 attend planning for move WS	Av 5 consult WS = 50 pds  5 design & writing WS = 100pds  28 staff training WS= 1120 pds  2 planning for move WS = 10pds	1280 pds	\$12,800
2.1.2 Develop USTH policies and practices for managing curriculum development with: (i) high standards of subject content; (ii) integration of research and teaching and relevant to market requirements; (iii) develop software for management of	USTH Vietnamese academic staff  (5 local staff in yr 1; 10 in yr 2; 40 in yr 5)  In temporary premises at VAST	2 day Consultation and training WS to review best practice in relevant curriculum development practices in international universities.  2 day writing WS to develop policies and implementing procedures  1 day WS to train staff in implementation	40 sets of WS over 3 years; yr 1 & yr 2 & yr 5  Systems to be fully established and operating effectively by Dec 2012.  Systems to be moved to Hoa Lac in soft-	Project consultants and the USTH ISP to conduct needs assessment, prepare workshop materials and conduct and facilitate workshop	5 attend consultation WS;  10 attend design and writing WS  40 attend staff training WS	Av 5 consult WS = 50 pds  5 design & writing WS = 100pds  28 staff training WS= 1120 pds	1205 pds	\$12,800

Training Program	Target Group	Program	Program Length and Timing	Means of implementation	Number of Participants	Unit	Total Days	Program Cost
curriculum approval processes and links to assessment tracking		1 day WS to plan move & installations in new premises	opening in 2016		5 attend planning for move WS	2 planning for move WS = 10pds	2485	
2.1.3 Establish a university-wide student learning assessment process and criteria; develop implementation manuals for all staff; develop software to track and integrate the assessment standards into teaching programs development; recruit and train instructional design staff and support staff to manage and maintain the curriculum and assessment system.	USTH Vietnamese academic staff  (5 local staff in yr 1; 10 in yr 2; 40 in yr 5)  In temporary premises at VAST  (**Approx 3 additional specialist curriculum qualified staff ((instructional design) and 2 support staff need to be hired to establish this system)	2 day Consultation and training WS to review best practice in relevant student assessment practices in international universities.  2 day writing WS to develop policies and implementing procedures  1 day WS to train staff in implementation  1 day WS to plan move & installations in new premises	30 sets of WS over 3 years; yr 1 & yr 2 & yr 5  Systems to be fully established and operating effectively by Dec 2012.  Systems to be moved to Hoa Lac in soft-opening in 2016	Project consultants and the USTH ISP to conduct needs assessment, prepare workshop materials and conduct and facilitate workshop	10 attend consultation WS; 5** plus academic staff  5 ** attend design and writing WS  5 ** attend staff training WS  5 **attend planning for move WS	Av 5 consult WS = 100 pds  8 design & writing WS = 80pds  15 staff training WS= 75 pds  2 planning for move WS = 10pds	265 pds	\$2,650
2.1.4 Develop USTH policy and practices for establishing an USTH teaching certification module (LLB equivalent) for delivery to students planning to work as university lecturers and researchers	USTH Vietnamese academic staff  (5 local staff in yr 1; 10 in yr 2; 40 in yr 5)  In temporary premises at VAST	2 day Consultation and training WS to review best practice in training in pedagogy for university teachers.  2 day writing WS to develop policies and implementing procedures  1 day WS to train staff in implementation  1 day WS to plan move & installations in new	20 sets of WS over 3 years; yr 1 & yr 2 & yr 5  Systems to be fully established and operating effectively by Dec 2012.  Systems to be moved to Hoa Lac in soft-opening in 2016	Project consultants and the USTH ISP to conduct needs assessment, prepare workshop materials and conduct and facilitate workshop	5 attend consultation WS;  5 attend design and writing WS  5 attend staff training WS  5 attend	Av 5 consult WS = 50 pds  5 design & writing WS = 50pds  10 staff training WS= 50 pds  1 planning	155 pds    420	\$1,550

Training Program	Target Group	Program	Program Length and Timing	Means of implementation	Number of Participants	Unit	Total Days	Program Cost
		premises			planning for move WS	for move WS = 5pds		
2.1.5 Develop policy and programs for teaching English to students and to Vietnamese staff  (service delivery may be outsourced; policy needs to be developed in-house)	USTH Vietnamese academic staff (TESOL qualified)	2 day Consultation and training WS to review best practice in TESOL in international universities.  2 day writing WS to develop policies and implementing procedures  1 day WS to train staff in implementation  1 day WS to plan move & installations in new premises	15 sets of WS over 2 years; yr 1 & yr 2  Systems to be fully established and operating effectively by Dec 2012.  Systems to be moved to Hoa Lac in soft-opening in 2016	Project consultants and the USTH ISP to conduct needs assessment, prepare workshop materials and conduct and facilitate workshop	5 attend consultation WS;  5 attend design and writing WS  5 attend staff training WS  5 attend planning for move WS	Av 2 consult WS = 20 pds  5 design & writing WS = 50pds  7 staff training WS= 35 pds  1 planning for move WS = 5pds	110 pds	\$1100
<b>2.2: The Quality Assurance Centre and Academic Management Systems established and operating sustainably</b>								
2.2.1 Establish the QAC policies, processes and operating manuals to guide implementation of promoting, managing and monitoring internal university quality in teaching and research programs.	USTH Vietnamese academic staff  (5 local staff in yr 1; 10 in yr 2; 40 in yr 5)  In temporary premises at VAST  (**Approx 3 specialist staff and 2 support staff need to be hired to establish and	2 day Consultation and training WS to review best practice in relevant Quality Assurance practices in international universities.  2 day writing WS to develop policies and implementing procedures  1 day WS to train staff in implementation  1 day WS to plan move & installations in new	30 sets of WS over 3 years; yr 1 & yr 2 & yr 5  Systems to be fully established and operating effectively by Dec 2012.  Systems to be moved to Hoa Lac in soft-opening in 2016	Project consultants and the USTH ISP to conduct needs assessment, prepare workshop materials and conduct and facilitate workshop	10 attend consultation WS; 5** plus academic staff  5 ** attend design and writing WS  5 ** attend staff training WS  5 **attend	Av 5 consult WS = 100 pds  8 design & writing WS = 80pds  15 staff training WS= 75 pds  2 planning	265 pds    375	\$2,650

Training Program	Target Group	Program	Program Length and Timing	Means of implementation	Number of Participants	Unit	Total Days	Program Cost
	operate this QAC center)	premises			planning for move WS	for move WS = 10pds		
2.2.3 Establish USTH internal research capability for monitoring factors that support quality, including: (i) research to identify other university approaches to QA and establish benchmarking agreements with selected international universities; (ii) design and conduct surveys of industry needs; (iii) design and conduct of graduate tracer studies including feedback on employer satisfaction.	USTH Vietnamese academic staff  (5 local staff in yr 1; 10 in yr 2; 40 in yr 5)  In temporary premises at VAST  (**Approx 3 specialist staff and 2 support staff need to be hired to establish and operate this QAC center)	2 day Consultation and training WS to review best practice in relevant Quality Assurance, benchmarking and quality surveying practices in international universities.  2 day writing WS to develop policies and implementing procedures  1 day WS to train staff in implementation  1 day WS to plan move & installations in new premises	40 sets of WS over 3 years; yr 1 & yr 2 & yr 5  Systems to be fully established and operating effectively by Dec 2012.  Systems to be moved to Hoa Lac in soft-opening in 2016	Project consultants and the USTH ISP to conduct needs assessment, prepare workshop materials and conduct and facilitate workshop	10 attend consultation WS; 5** plus academic staff  5 ** attend design and writing WS  5 ** attend staff training WS  5 **attend planning for move WS	Av 5 consult WS = 100 pds  15 design & writing WS = 150pds  18 staff training WS= 90pds  2 planning for move WS = 10pds	350 pds	\$3,500
2.2.4 Develop and establish a new USTH staff performance appraisal system (academic and administration); integrate the academic appraisal system into the QAC feedback monitoring system; train senior academic staff in staff	USTH Vietnamese academic staff  (5 local staff in yr 1; 10 in yr 2; 40 in yr 5)  In temporary premises at VAST  (**Approx 3 specialist staff and	2 day Consultation and training WS to review best practice in staff performance appraisal and management practices in international universities.  2 day writing WS to develop policies and implementing procedures	30 sets of WS over 3 years; yr 1 & yr 2 & yr 5  Systems to be fully established and operating effectively by Dec 2012.  Systems to be moved to Hoa	Project consultants and the USTH ISP to conduct needs assessment, prepare workshop materials and conduct and facilitate workshop	10 attend consultation WS; 5** plus academic staff  5 ** attend design and writing WS  5 ** attend staff training WS	Av 5 consult WS = 100 pds  8 design & writing WS = 80pds  15 staff training WS= 75	265 pds  615	\$2,650

Training Program	Target Group	Program	Program Length and Timing	Means of implementation	Number of Participants	Unit	Total Days	Program Cost
performance counseling,	2 support staff need to be hired to establish and operate this QAC center)	1 day WS to train staff in implementation  1 day WS to plan move & installations in new premises	Lac in soft-opening in 2016		5 **attend planning for move WS	pds  2 planning for move WS = 10pds		
<b>2.2.5 QA Training– Series 1:</b> in (i) academic leadership; (ii) managing institutional change; Understanding new QA ideas and culture (iii) developing new all-inclusive approaches to QA systems.; (iv) understanding the national QA system and how USTH will fit into it, and why and how USTH applies additional internal controls	<b>Senior personnel,</b> Academic and administration, plus Council Members	2 day Consultation and training WS to review best practice in Quality Assurance practices in international universities and guide course contents.  2 day writing WS to develop training module content  1 day WS to train staff in implementation	25 sets of WS over 3 years; yr 1 & yr 2 & yr 5  Programs to be to be fully established and two batches delivered before Dec 2012.  Plans established to embed the courses into ongoing delivery annually thereafter	Project consultants and the USTH ISP to conduct needs assessment, prepare workshop materials and conduct and facilitate workshop	10 attend consultation WS; 5** plus academic staff  5 ** attend design and writing WS  5 ** attend staff training WS	Av 5 consult WS = 100 pds  5 design & writing WS = 70pds  15 staff training WS= 75 pds	245 pds	\$2,450
<b>2.2.6 QA Training – Series 3:</b> in: (i) understanding the holistic culture and key features for new QA with special attention to <b>teaching and research program delivery</b> ; (ii) strategies staff use to take their own responsibilities for improve teaching quality (iii) use of new	All Vietnamese <b>Academic staff</b> of USTH	2 day Consultation and training WS to review best practice in Quality Assurance practices in international universities and guide course contents.  2 day writing WS to develop training module content  1 day WS to train staff in implementation	25 sets of WS over 3 years; yr 1 & yr 2 & yr 5  Programs to be to be fully established and two batches delivered before Dec 2012.  Plans established to embed the courses into	Project consultants and the USTH ISP to conduct needs assessment, prepare workshop materials and conduct and facilitate workshop	10 attend consultation WS; 5** plus academic staff  5 ** attend design and writing WS  5 ** attend staff training WS	Av 5 consult WS = 100 pds  5 design & writing WS = 70pds  15 staff training WS= 75 pds	245 pds  490	\$2,450

[illegible]

Training Program	Target Group	Program	Program Length and Timing	Means of implementation	Number of Participants	Unit	Total Days	Program Cost
Centre policies, processes and operating manuals to guide implementation of supporting the establishment of strong research programs and publications record. Establish a network of internal research leaders and selected external partners to mentor all inputs to ongoing assistance service.	(5 local staff in yr 1; 10 in yr 2; 40 in yr 5)  In temporary premises at VAST  (**Approx 3 specialist staff and 2 support staff need to be hired to establish and operate this Research Support center)	practice in research program development and publications support practices in international universities.  2 day writing WS to develop policies and implementing procedures  1 day WS to train staff in implementation  1 day WS to plan move & installations in new premises	& yr 2 & yr 5  Systems to be fully established and operating effectively by Dec 2012.  Systems to be moved to Hoa Lac in soft-opening in 2016	to conduct needs assessment, prepare workshop materials and conduct and facilitate workshop	WS; 5** plus academic staff  5 ** attend design and writing WS  5 ** attend staff training WS  5 **attend planning for move WS	WS = 100 pds  8 design & writing WS = 80pds  15 staff training WS= 75 pds  2 planning for move WS = 10pds		
2.3.2 Develop and implement (i) providing internal assistance to researchers in design of research programs, methodology; (ii) assistance in preparing research funding applications;	All USTH Vietnamese staff, with participation of FIP leaders	2 day Consultation and training WS to review best practice in research program development and publications support practices in international universities.  2 day writing WS to develop policies and implementing procedures  1 day WS to train staff in implementation	20 sets of WS over 3 years; yr 1 & yr 2 & yr 5  Systems to be fully established and operating effectively by Dec 2012.	Project consultants and the USTH ISP to conduct needs assessment, prepare workshop materials and conduct and facilitate workshop	10 attend consultation WS; 5** plus academic staff  5 ** attend design and writing WS  5 ** attend staff training WS	Av 5 consult WS = 100 pds  5 design & writing WS = 50pds  10 staff training WS= 50 pds	200 pds	\$2,000
2.3.3 Develop and implement program of special assistance in editing research reports and preparing for journal publications. Includes strategies for targeting journals and	All USTH Vietnamese staff	2 day Consultation and training WS to review best practice in publications support practices in international universities.  2 day writing WS to develop policies and implementing procedures	20 sets of WS over 3 years; yr 1 & yr 2 & yr 5  Systems to be fully established and operating effectively by Dec 2012.	Project consultants and the USTH ISP to conduct needs assessment, prepare workshop materials and conduct and facilitate workshop	10 attend consultation WS; 5** plus academic staff  5 ** attend design and writing WS	Av 5 consult WS = 100 pds  5 design & writing WS = 50pds	125 pds  590	\$2,000

Training Program	Target Group	Program	Program Length and Timing	Means of implementation	Number of Participants	Unit	Total Days	Program Cost
editing into refined technical English		1 day WS to train staff in implementation			5 ** attend staff training WS	10 staff training WS= 50 pds		
<b>2.4: Industry Engagement Centre established and operating sustainably</b>								
2.4.1 Establish the Industry Engagement Centre policies, processes and operating manuals to guide implementation of establishment of strong programs and practices for linking to selected industry partners.  (less training planned due to expected higher input from FIP)	USTH Vietnamese academic staff  (5 local staff in yr 1; 10 in yr 2; 40 in yr 5)  In temporary premises at VAST  (**Approx 3 specialist staff and 2 support staff need to be hired to establish and operate this Industry Engagement Centre )	2 day Consultation and training WS to review best practice in industry engagement practices in international universities.  2 day writing WS to develop policies and implementing procedures  1 day WS to train staff in implementation  1 day WS to plan move & installations in new premises	15 sets of WS over 3 years; yr 1 & yr 2 & yr 5  Systems to be fully established and operating effectively by Dec 2012.	Project consultants and the USTH ISP to conduct needs assessment, prepare workshop materials and conduct and facilitate workshop	10 attend consultation WS; 5** plus academic staff  5 ** attend design and writing WS  5 ** attend staff training WS	Av 2 consult WS = 40 pds  8 design & writing WS = 80pds  5 staff training WS= 25 pds	145pds	\$1450
2.4.2 specific programs for development: (i) establish technology transfer and knowledge exchange programs:	USTH Vietnamese academic staff	2 day Consultation and training WS to review best practice in industry engagement practices in international universities.  2 day writing WS to develop policies and implementing procedures  1 day WS to train staff in implementation  1 day WS to plan move & installations in new	15 sets of WS over 3 years; yr 1 & yr 2 & yr 5  Systems to be fully established and operating effectively by Dec 2012.	Project consultants and the USTH ISP to conduct needs assessment, prepare workshop materials and conduct and facilitate workshop	10 attend consultation WS; 5** plus academic staff  5 ** attend design and writing WS  5 ** attend staff training WS	Av 2 consult WS = 40 pds  8 design & writing WS = 80pds  5 staff training WS= 25 pds	145pds  290	\$1450



Training Program	Target Group	Program	Program Length and Timing	Means of implementation	Number of Participants	Unit	Total Days	Program Cost
		premises						
2.4.3 specific program (ii) Develop industry internship programs	USTH Vietnamese academic staff	<p>2 day Consultation and training WS to review best practice in industry engagement practices in international universities.</p> <p>2 day writing WS to develop policies and implementing procedures</p> <p>1 day WS to train staff in implementation</p> <p>1 day WS to plan move &amp; installations in new premises</p>	<p>15 sets of WS over 3 years; yr 1 &amp; yr 2 &amp; yr 5</p> <p>Systems to be fully established and operating effectively by Dec 2012.</p>	Project consultants and the USTH ISP to conduct needs assessment, prepare workshop materials and conduct and facilitate workshop	<p>10 attend consultation WS; 5** plus academic staff</p> <p>5 ** attend design and writing WS</p> <p>5 ** attend staff training WS</p>	<p>Av 2 consult WS = 40 pds</p> <p>8 design &amp; writing WS = 80pds</p> <p>5 staff training WS= 25 pds</p>	145pds	\$1450
2.4.4 specific program (iii) develop legal advice and support service, understanding laws and incentives for technology transfer, and intellectual property	USTH Vietnamese academic staff	<p>2 day Consultation and training WS to review best practice in industry engagement practices in international universities.</p> <p>2 day writing WS to develop policies and implementing procedures</p> <p>1 day WS to train staff in implementation</p> <p>1 day WS to plan move &amp; installations in new premises</p>	<p>15 sets of WS over 3 years; yr 1 &amp; yr 2 &amp; yr 5</p> <p>Systems to be fully established and operating effectively by Dec 2012.</p>	Project consultants and the USTH ISP to conduct needs assessment, prepare workshop materials and conduct and facilitate workshop	<p>10 attend consultation WS; 5** plus academic staff</p> <p>5 ** attend design and writing WS</p> <p>5 ** attend staff training WS</p>	<p>Av 2 consult WS = 20 pds</p> <p>8 design &amp; writing WS = 40pds</p> <p>5 staff training WS= 25 pds</p>	85pds	\$850

Training Program	Target Group	Program	Program Length and Timing	Means of implementation	Number of Participants	Unit	Total Days	Program Cost
<b>2.5: Laboratory Management Centre established and operating sustainably</b>								
2.5.1 Establish the Industry Engagement Centre and develop a centralized repair and maintenance workshop for all laboratory assets. Develop necessary policies, processes and operating manuals to guide implementation of establishment of strong programs and practices for managing laboratory assets and services to researchers. Develop processes for incorporating the laboratory maintenance and depreciation programs into the USTH strategic plan.	USTH Vietnamese academic staff  (5 local staff in yr 1; 10 in yr 2; 40 in yr 5)  In temporary premises at VAST  (**Approx 3 specialist staff and 2 support staff need to be hired initially to establish and operate this Laboratory Management Centre. Additional staff will be needed once the whole campus is in full operation)	2 day Consultation and training WS to review best practice in laboratory management in international universities.  2 day writing WS to develop policies and implementing procedures  1 day WS to train staff in implementation  1 day WS to plan move & installations in new premises	30 sets of WS over 3 years; yr 1 & yr 2 & yr 5  Systems to be fully established and operating effectively by Dec 2012.	Project consultants and the USTH ISP to conduct needs assessment, prepare workshop materials and conduct and facilitate workshop	10 attend consultation WS; 5** plus academic staff  5 ** attend design and writing WS  5 ** attend staff training WS  5 **attend planning for move WS	Av 3 consult WS = 60 pds  10 design & writing WS = 100pds  15 staff training WS= 150 pds  2 planning WS for moving = 10 pds	620pds	\$6,220
2.5.2 Within the center/maintenance service, develop expertise to provide advisory services to academics on laboratory design, set-up and ongoing management and	Vietnamese academic staff of USTH, laboratory technicians and staff of the laboratory management center	2 day Consultation and training WS to review best practice in laboratory management in international universities.  2 day writing WS to develop policies and implementing procedures	30 sets of WS over 3 years; yr 1 & yr 2 & yr 5  Systems to be fully established and operating effectively by Dec 2012.	Project consultants and the USTH ISP to conduct needs assessment, prepare workshop materials and conduct and facilitate workshop	10 attend consultation WS; 5** plus academic staff  5 ** attend design and writing WS	Av 3 consult WS = 60 pds  10 design & writing WS = 100pds	620pds	\$6,220

Training Program	Target Group	Program	Program Length and Timing	Means of implementation	Number of Participants	Unit	Total Days	Program Cost
planning for depreciation and continuous optimal operation.		1 day WS to train staff in implementation  1 day WS to plan move & installations in new premises			5 ** attend staff training WS  5 **attend planning for move WS	15 staff training WS= 150 pds  2 planning WS for moving = 10 pds	1240	
2.5.3 Establish equipment acquisitions planning committee; develop skills in specialized equipment procurement for expansion and replacement assets.	Vietnamese academic staff of USTH, laboratory technicians and staff of the laboratory management center	2 day Consultation and training WS to review best practice in laboratory equipment planning and purchasing in international universities.  2 day writing WS to develop policies and implementing procedures  1 day WS to train staff in implementation  1 day WS to plan move & installations in new premises	30 sets of WS over 3 years; yr 1 & yr 2 & yr 5  Systems to be fully established and operating effectively by Dec 2012.	Project consultants and the USTH ISP to conduct needs assessment, prepare workshop materials and conduct and facilitate workshop	10 attend consultation WS; 5** plus academic staff  5 ** attend design and writing WS  5 ** attend staff training WS  5 **attend planning for move WS	Av 3 consult WS = 60 pds  10 design & writing WS = 100pds 15 staff training WS= 150 pds  2 planning WS for moving = 10 pds	620pds	\$6,220
2.5.4 Develop specialized software for the equipment maintenance and repair and replacement management programs. Includes: (i) software for SOPs for laboratory management; (ii) Specialized	Vietnamese academic staff of USTH, laboratory technicians and staff of the laboratory management center	2 day Consultation and training WS to review best practice in laboratory equipment planning and purchasing in international universities.  2 day writing WS to develop policies and implementing procedures  1 day WS to train staff in	30 sets of WS over 3 years; yr 1 & yr 2 & yr 5  Systems to be fully established and operating effectively by Dec 2012.	Project consultants and the USTH ISP to conduct needs assessment, prepare workshop materials and conduct and facilitate workshop	10 attend consultation WS; 5** plus academic staff  5 ** attend design and writing WS  5 ** attend staff training WS	Av 3 consult WS = 60 pds  10 design & writing WS = 100pds 15 staff training WS= 150	620pds	\$6,220

Training Program	Target Group	Program	Program Length and Timing	Means of implementation	Number of Participants	Unit	Total Days	Program Cost
Operating procedures and purpose built software for Chemistry, biology and environment laboratories		implementation  1 day WS to plan move & installations in new premises			5 **attend planning for move WS	pds  2 planning WS for moving = 10 pds	1240	
2.5.5 Develop a structure for a career path for technicians and a formal training program at three levels for technicians. Include programs for: (i) on-the-job training; (ii) competency assessment; (iii) practical skills training	Vietnamese academic staff of USTH, laboratory technicians and staff of the laboratory management center	2 day Consultation and training WS to review best practice in laboratory equipment planning and purchasing in international universities.  2 day writing WS to develop policies and implementing procedures  1 day WS to train staff in implementation  1 day WS to plan move & installations in new premises	30 sets of WS over 3 years; yr 1 & yr 2 & yr 5  Systems to be fully established and operating effectively by Dec 2012.	Project consultants and the USTH ISP to conduct needs assessment, prepare workshop materials and conduct and facilitate workshop	10 attend consultation WS; 5** plus academic staff  5 ** attend design and writing WS  5 ** attend staff training WS  5 **attend planning for move WS	Av 3 consult WS = 60 pds  10 design & writing WS = 100pds 15 staff training WS= 150 pds  2 planning WS for moving = 10 pds	620pds	\$6,220
<b>Output 4. Effective Project Management and Implementation</b>								
4.1 Training in financial management and use of specialized software developed by the FM firm	Staff of PMU-EU	1 day training WS in FM and software use  1 day WS in financial management reporting	2 sets of WS in year 1	Project consultants and the USTH ISP to conduct needs assessment, prepare workshop materials and conduct and facilitate workshop	2 attend all FM WS	2 WS in FM software use = 4 pds  2 WS in FM reporting = 4 pds	8 pds	\$80
4.2 training in management of construction projects using outsourcing of	Staff of PMU-EU and MOET Department of Facilities	2 day training workshops in concepts of overall project management	3 sets of WS in years 1, 2 and 3	Project consultants and the USTH ISP to conduct needs assessment,	5 attend all construction management WS	3 WS, concepts = 30pds	90 pds	\$900

Training Program	Target Group	Program	Program Length and Timing	Means of implementation	Number of Participants	Unit	Total Days	Program Cost
overall project management		2 day WS on establishing contracts for Overall project management  2 day WS on contract management for overall construction management		prepare workshop materials and conduct and facilitate workshop		3 WS, establishment = 30 pds  3 WS, contract management = 30pds	709	
<b>Summary</b>	<b>Person Days</b>	<b>Unit Cost</b>	<b>Total Cost</b>					
Training WS	13,977	\$10	\$139,770					
One Study Tour	5 people 14 days	\$4000 per person	\$20,000					
Taxes		10%	\$15,977					
<b>Total</b>			<b>\$175,747</b>					

Note: Estimated average cost per participant per Hanoi based workshop = \$10 per day for local consumable costs, catering etc. It is assumed that training to be conducted at the USTH temporary premises at VAST, Hanoi and will not involve out-of-city travel. It is assumed that staff of USTH will attend as part of normal working duties and will not receive supplementary payments for attendance. Travel costs will be local in-city, equivalent to home-to-work local transport costs and are not reimbursable. Costs of preparation and 'tuition' provided by CB consultants not included in the estimates, as these are funded separately under consultant contracts.

Study tour costing allows \$2000 per person for airfares on the Viet Nam-Thailand-Singapore-Australia-Viet Nam trip and \$100 a day subsistence, plus incidental expenses such as in-country travel.

D = Days; FIP – French International partner; WS = WS  
PDs

Page	PDs	Subtotal	Page	PDs	Subtotal
1	1500		14	245	
2	450		15	590	2315
3	1367		16	290	
4	496		17	230	
5	710	4523	18	1240	
6	120		19	1240	
7	285		20	709	3709
8	120		Total		13,977
9	2485				
10	420	3430			
11	375				
12	615				
13	490				

## **APPENDIX 12**

### **Financial Management Capacity Assessment**

#### **I. INTRODUCTION**

1. A Financial Management Assessment (FMA) has been prepared for the University of Science and Technology of Hanoi Development (New Model University) Project (USTHDP) in accordance with the *ADB Financial Management Technical Guidance Note (May 2015)*. The FMA covers the Viet Nam Academy of Science and Technology (VAST) as the new proposed executing agency (EA) succeeding the Ministry of Education and Training (MOET). The FMA was designed to determine whether VAST through its Department of Planning and Finance (DPF) has an established, comprehensive financial management mechanism, and adequate system for recording all transactions and balances supporting the preparation of regular and reliable financial statements, and safeguarding the entity's assets. The FMA for the USTHDP reviewed VAST's system for financial and management accounting, reporting, auditing, and internal control. ADB's FMA Questionnaire and disbursement handbook were used and referred to during the assessment.

#### **II. PROJECT DESCRIPTION**

2. USTHDP will support the establishment of a new model university (NMU) focused on international standard teaching and research in science and technology. The NMU-the University of Science and Technology of Hanoi (USTH) will demonstrate a new policy framework for the governance, financing and quality assurance of universities in Viet Nam. The USTH will be established in partnership with the Government of France and VAST. ADB approved the project on 25 April 2011 for a total of \$213 million, comprising a \$170 million loan from ADB's ordinary capital resources (OCR) (Loan 2750) and a \$20 million loan from its special funds resources (ADF hard-term) (Loan 2751). The government is providing \$23 million in counterpart funds.

3. The project became effective on 1 March 2012 and has an original closing date of 30 June 2018. The expected outcome is a high quality new model university that generates industry-relevant science and technology teaching and research. Its outputs are: (i) effective management and governance system for the USTH developed and implemented; (ii) systems promoting high-quality and relevant academic programs at USTH developed and implemented; (iii) physical facilities at USTH constructed and outfitted; and (iv) effective project management and implementation. Completed FMA Questionnaire is available upon request.

#### **III. IMPLEMENTATION STATUS**

4. MOET was the original EA. The University Implementation Unit (UIU) implements Outputs 1 and 2, while Project Management Unit (PMU)-USTH implements Outputs 3 and 4. Under Output 1 and 2, UIU has made significant progress in providing capacity building support to management improvement and effective governance of the USTH. The major issue that UIU continues to face is lack of the new education facility and equipment due to delay in Output 3. Construction of USTH facilities under Output 3 has not started. The architecture and engineering consultancy (AEC) package, that was to provide the detailed design of the USTH campus, was bid out in early 2015 but negotiations with the winning firm could not be concluded. Therefore, procurement of civil works and major equipment has been put on hold.

The Project has suffered poor financial performance. As of 30 September 2016, against an elapsed period of 74% from loan approval, cumulative contract awards and disbursements have only reached 3% and 4% of the total loan amount, respectively.

5. Against this background and ongoing efforts to discuss future directions of this Project, the Office of the Government (OOG) has issued a presidential decree transferring USTH (including this project) from MOET to VAST. The transfer, which became effective in May 2016, was (i) to implement Resolution 29 of the Central Committee of the Communist Party of Viet Nam on the fundamental and comprehensive innovation in education and training; (ii) to implement the Higher Education Law (No. 08/2012/QH 13) of 18 June 2012, particularly in creating the link between training and scientific research, and production and services; (iii) to resolve USTH difficulties of lack of teaching staff and researchers, and insufficient financial resources for scientific research; and (iv) because of VAST's demonstrated ability compared to MOET, to directly support USTH to develop its training and scientific research, and provide intensive academic and teaching support.

#### **IV. PROJECT FINANCIAL MANAGEMENT SYSTEM**

##### **A. Overview**

6. **Organization and Staff Capacity.** VAST is a government agency earlier known as Vietnam Academy of Science. It was established in 1975 by Decree 118/CP dated 20 May 1975 and issued by the former Council of the Vietnam Government. VAST is committed to: (i) carry out basic research in natural sciences and technology development; (ii) provide objective grounds for science and technology management, for shaping policies, strategies and plans for socio-economic development; and (iii) train high quality human resources for science and technology. VAST has 51 subordinate units, including 33 research units (27 established by Government and 6 established by VAST President); 6 administrative units; 4 self-financing units; 1 state enterprise, and 7 other units. All of these are in Hanoi, Phu Tho, Haiphong, Ho Chi Minh City, Nha Trang, Dalat, and Hue.

7. The Department of Planning and Finance (DPF) is one of VAST's 6 administrative units, responsible for managing and executing the Academy's planning and budgeting functions according to Government's law and VAST's regulations. The DPF comprises of a (i) Directorate Board; (ii) a planning unit; (iii) a finance unit; (iv) a development investment unit; (v) a public property-infrastructure management unit; and (vi) an administration unit. It has 19 staff with expertise on finance, construction/equipment, investment, and other technical areas. The DPF will be responsible for the direct management and supervision of the Project, under the leadership of its Deputy Director. Specifically, DPF will be responsible for managing the quality, effectiveness, and efficiency of project implementation. It will be the lead unit in annual budgeting and planning, and in overseeing issues related to disbursement and budgets.

8. VAST has not been involved in any ADB-funded projects and is therefore not familiar with ADB's procurement, consultant selection, and disbursement procedures. However, its experience in implementing ODA-funded projects, namely two projects funded by France/Belgium and JICA, and involvement in an upcoming one funded by France/Belgium will be helpful in the implementation of this Project.<sup>47</sup> More importantly, VAST as new EA will

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<sup>47</sup> Advanced Earth Observing Satellite Project (ADEOS), a €55.8 million funded by French and Belgium Governments); Space Centre of Vietnam Project (2012 - 2020), a \$650-million project funded by JICA; and

automatically absorb the PMU and UIU, whose roles as implementing agencies (IAs) of the project remain unchanged. The PMU and UIU have been working with ADB since project effectiveness, albeit there have also been changes in some of its staff or consultants. The existing structure, staff, financial management, and overall systems established under these IAs that have been working and accepted by ADB will continue to be adopted even as VAST has taken over the project as new EA.

9. **Implementing agencies.** Under the UIU, all technical positions are held by USTH permanent staff (12 positions). For its day-to-day operation, UIU also hires a number of contractual staff and consultants to support the implementation of Outputs 1 and 2. The contractual positions include an international higher education planning consultant, national procurement consultant, national gender consultant, chief accountant, national financial consultant, national disbursement consultant, IT manager, and interpreter. The composition of the UIU will remain unchanged. According to UIU Executive Director, with the engagement of permanent staff under USTH, UIU will be closely linked with USTH. UIU's long term strategy for human resources development is to provide additional training to the contracted national consultants and retain them as permanent staff of USTH when the project completes. VAST so far intends to maintain this current setup in UIU, which may be further strengthened in the future through consulting services support in the areas of equipment selection and impact, quality assurance, information systems, and centers of learning and teaching excellence development.

10. The existing PMU consists of 16 positions, including the project director, chief accountant, accountant for treasury transactions, cashier, 2 administrative staff, 6 national consultants (including general accountant and payment accountant), and 4 contractual staff who are responsible for implementing Outputs 3 and 4. These staff continue their functions and support PMU's day-to-day operations. Key staff including the chief accountant and finance-related staff are familiar with ADB procedures, and have previously received project-specific training. Continuing them is an advantage to VAST and its transition as new EA of the project. As soon as VAST is officially acknowledged as EA, it intends to strengthen the PMU structure by (i) assessing all staff and consultants and retaining those that are qualified; others may be replaced by more qualified and suitable staff/consultants; and (ii) more clearly delineating roles and responsibilities among major functioning units for procurement and civil works, planning and finance, and organization and administration. Key positions will be selected from among VAST's staff in its other subordinate units.

11. **Re-establishment of the Project Steering Committee.** UIU and PMU operated almost autonomously during the time MOET served as EA. There was little or almost no direct involvement and strong supervision from MOET and therefore coordination among MOET, PMU, and UIU was below adequate. The National Executive Board (Project Steering Committee) that was originally to provide overall guidance to the project was also abolished after MOET and other agencies viewed that such role was not required. The lack of a Project Steering Committee and the inadequate ownership and involvement of MOET in project implementation were considered to be two of the most notable implementation weaknesses of the project.

12. As the new EA, VAST wants to establish its role in supervising PMU and UIU's overall activities. The Deputy Director of the DPF in VAST will serve as the overall project director who will oversee transaction activities. The respective project director positions in PMU and UIU will



nevertheless be maintained. During the SPAM that was concluded in August 2016, it was also agreed to reestablish the Project Steering Committee to oversee overall project performance and provide broader guidance to VAST and the IAs. The Project Steering Committee will comprise Vietnamese members of the current University Council, and representatives from project oversight agencies such as the Office of the Government, SBV, Ministry of Finance (MOF) and the Ministry of Planning and Investment (MPI).

13. **Information Management.** All project-related files including financial and disbursement documents are stored at PMU and UIU's respective offices. As the new EA, VAST will continue to utilize the same filing system for the project. There will be a central filing and storage system in VAST which are available to the PMU and UIU. Hard copies are scanned and stored for archiving and backup. When the project is completed, all documents will be transferred to the VAST Administrative Office for storage and archiving.

14. **Budgeting Arrangements.** VAST follows the same budget process as that of MOET. This process is in accordance with the MOF/MPI guidelines on preparation of Government budget plans. Briefly: (i) VAST initiates the planning process; (ii) PMU and UIU then submit the operation and financial plan to DPF for review; and (iii) VAST submits the final plan to MPI prior to submission to the Prime Minister for approval.

15. The overall VAST budget covers the period January to December. Annual counterpart funding for projects financed by foreign donors are incorporated into the VAST annual budget. A concern is that there may be insufficient counterpart funds, especially for construction, which may directly impact project implementation. Timely preparation and approval of the annual budget is necessary.

## **B. Strengths**

16. VAST's DPF has long been implementing sound financial management system consistent with government laws and VAST regulations. This is strengthened by its sound experience and strong performance in handling other ODA-supported projects (footnote 1). Although this is the first ADB project to be handled by VAST, the existing project financial management system adopted by PMU and UIU since the Project became effective, and which is anchored on ADB and Government's guidelines and procedures is working satisfactorily. The volume of transactions may have been low given the slow progress of the Project overall, but VAST/DPF coupled with PMU and UIU systems are in place and ready for when major activities, and consulting and huge design and construction works contracts start up. VAST, through the Deputy Director of DPF who has been tasked to oversee this project, has demonstrated strong commitment to improve implementation arrangements and bring the project back on track. At the moment, his only limitation for making more significant progress is ADB's official acknowledgement of VAST as new EA. Plans to strengthen implementation arrangements, further assess PMU and UIU staff positions, and fill up vacant positions are ready, and actions will be taken as soon as VAST formally becomes EA.

## **C. Weaknesses**

17. **Lack of Familiarity with ADB's Guidelines.** Although VAST has adequate experience with externally financed projects, it still needs to establish familiarity with ADB guidelines and procedures. Only 40% of DPF staff were noted to be proficient in English (verbal and written), and so this can potentially cause difficulty in using ADB templates which are in English. Nevertheless, existing PMU and UIU staff and consultants who are absorbed by VAST continue

to function and support VAST. Transactions that involve submissions to ADB are also handled directly by PMU and UIU. Communications are assisted by PMU and UIU staff who have good command in English, and also interpreters. The same arrangements are being continued as VAST now reviews and clears PMU and UIU transactions with the help of PMU or UIU interpreters if needed.

18. **Limited English Proficiency.** Poor English has been a persistent problem in all ODA projects and programs in Viet Nam. There is a lack of accounting staff who possess adequate skills in the English language. . Due to the low ratio of existing staff with English proficiency and the limited governmental budget norms to hire qualified contractual staff, whether or not VAST decides to retain the existing team or recruit new accounting staff, this problem will likely persist in both PMU and UIU. As described above, however, the problem is mitigated by English-speaking staff and interpreters.

#### **D. Personnel, Accounting Policies and Procedures, Internal and External Audit**

19. VAST intends to assign the chief accountant to exclusively handle separate accounts and related records for the Project. VAST will reassess if the Chief Accountant and other accounting staff/consultants will be retained or newly recruited. If these staff will not be available from VAST, they will recruit experienced and qualified staff from external sources. Candidates will have a bachelor's degree diploma in accounting, finance, or related course, adequate enterprise or project accounting experience, preferably in foreign-assisted projects, above average proficiency in oral and written English, and good computer skills with sufficient knowledge of MS Word and Excel. Upon recruitment, they will be trained in ADB procurement, disbursement and reporting procedures and the use of project accounting software. They must be contracted immediately to undergo appropriate training in ADB procedures.

20. Like MOET, VAST complies with Vietnamese Accounting Standards (VAS), which requires the recording of all financial transactions including the allocation of expenditures under each output, disbursement category and source of funds. The chart of accounts under Circular 19/2006/QD-BTC will be used. For the project, VAST will continue to use PMU and UIU systems and will therefore allow them to maintain separate accounts. It will be the responsibility of PMU to prepare consolidated financial reports on a quarterly basis and an annual report for audit purposes.

21. The Deputy Director, DPF tasked to manage this Project will have full authority to execute project transactions subject to ADB's approval. The PMU Chief Accountant will continue to delegate authority to different accounting staff to record transactions and manage the custody of assets involved in the transactions. PMU staff, as authorized by the Deputy Director of DPF, will make orders and monitor all goods and services, while all payments are prepared by accounting staff. Bank reconciliation will continue to be prepared by accounting staff, first to be approved by the Chief accountant, and then by Deputy Director, DPF.

22. A formal internal control and audit framework exists in VAST, with segregation of duties, and inspection/audit systems. The following functional responsibilities are not performed by the same staff: (i) authorization to execute a transaction; (ii) recording of transactions; and (iii) custody of assets involved in the transaction. All functions of ordering, receiving, accounting for, and paying for goods and services will continue to be appropriately segregated through the assignment of these tasks to appropriate personnel within the PMU and UIU.

23. Bank reconciliations will continue to be prepared by the person who processes the payments (Payment Accountant). Internal audit will be managed by the Department of Inspection (DoI) who reports directly to VAST President. DoI is an administrative unit in charge of helping the VAST President to perform the inspection, handling complaints and denunciations, and preventing and combating corruption under the management of the VAST. DoI is independent from the project. There are also a number of independent Ministerial level agencies such the State Audit and the Public Procurement Agency (MPI), which reserve the right to conduct assessment at any time during project implementation and at completion.

24. Audit will be carried out in accordance with international standards by an auditor acceptable to ADB. The PMU will engage an external auditor from among the list of eligible auditors agreed between ADB and MOF, to be financed from loan proceeds. The first audited financial statements for fiscal year 2014 was submitted to ADB, and found to be acceptable. While the annual audited financial statements for FY 2015 due on 30 June 2016 have not been submitted, this was not an inadequacy in process, but due to delays in the engagement of audit consultants. This, in turn, was also brought by the PMU's insistence to use single source selection that ADB declined, and then eventually the transfer of EA from MOET to VAST.

#### **E. Financial Reporting Systems, Including Use of Information Technology**

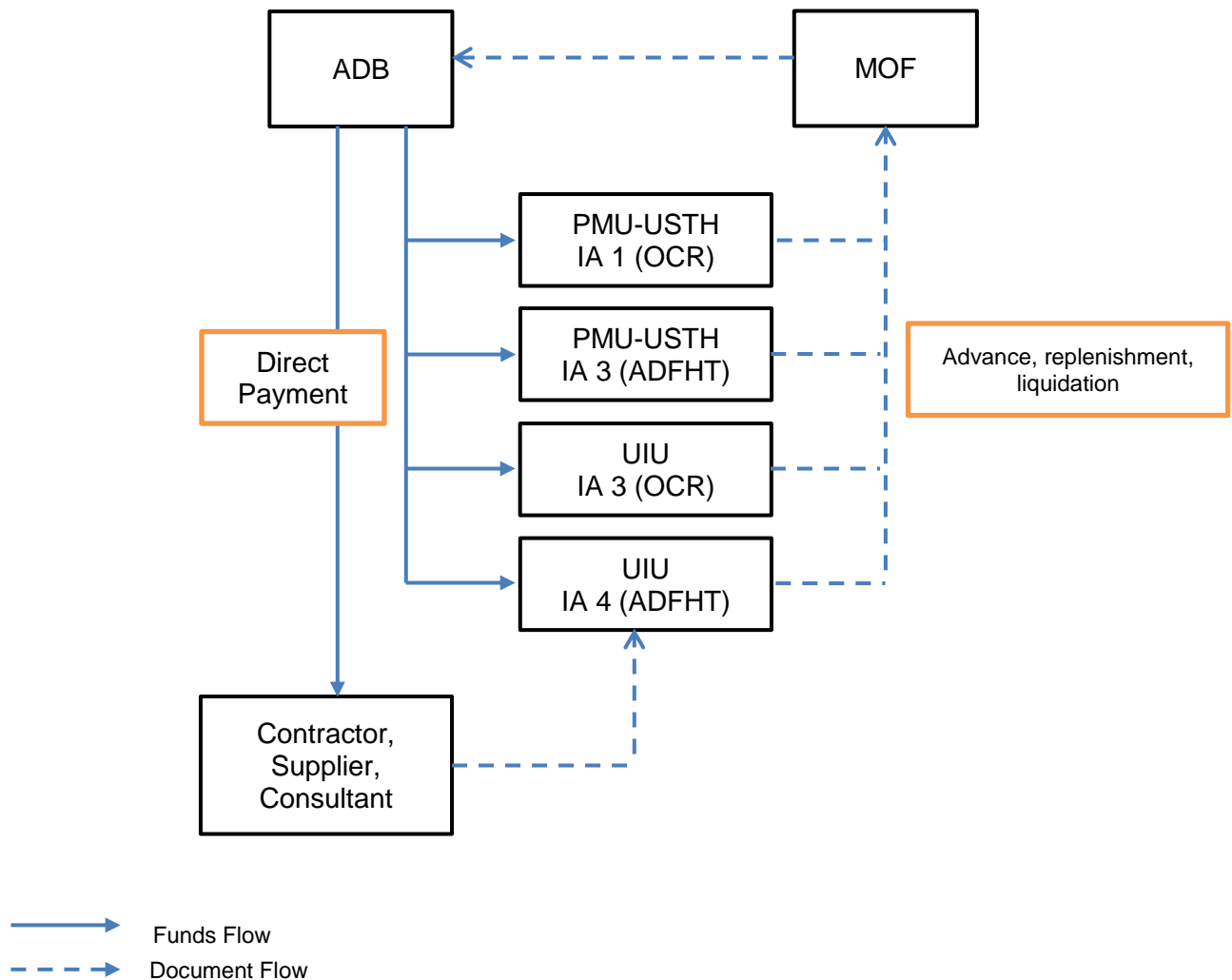
25. VAST will continue to use MISA, a computerized accounting software that allows proper recording of project financial transactions including the allocation of expenditures in accordance with the respective components, disbursement categories, and sources of funds. There is an adequate chart of accounts based on Decision 19/2006/QD-BTC to properly account for and report on project activities and disbursement categories. Moreover, cost allocations to various funding sources will be made accurately and in accordance with established agreements.

26. PMU and UIU's general ledger and subsidiary ledgers will continue to be reconciled and balanced, and all accounting and supporting documents will be retained on a permanent basis in a defined system easily accessible by authorized users. The Project's financial statements are prepared in accordance with Viet Nam's accounting standards allocations. PMU and UIU will continue to prepare its own set of financial statements for consolidation by PMU, and approval by the overall Director from VAST (i.e., the Deputy Director of the DPF). Financial statements are prepared on a monthly, quarterly, and annual basis. The financial reports will compare actual expenditures with budget.

#### **F. Disbursement Arrangements, Funds Flow Mechanism**

27. The existing project financial flow will not change even as VAST replaced MOET as EA. The agreed funds flow mechanism (provided in the PAM and given below as Figure 1) will continue to consist of direct payments and payments through the imprest accounts. Direct payment will be applied for payment to large scale procurements: civil works, procurement of equipment and supplies, and international consulting services. PMU and UIU will prepare a withdrawal application (WA) when it receives invoices from contractors, consultants and suppliers. The WA is submitted to Vice Director, DPF for endorsement and forwarded to the Department of Debt Management and External Finance, MOF for clearance. The signed withdrawal application is then submitted to ADB for payment. ADB transfers the payment directly to the contractor/supplier/consultant account. Payment is done based on the terms indicated in the contract agreements.

**Figure 1: FUNDS FLOW ARRANGEMENT**



ADB = Asian Development Bank; ADFHT=Asian Development Fund Hard Term; IA= Imprest Account MOF = Ministry of Finance; OCR = Ordinary Capital Resources; PMU-USTH = Project Management Unit-University of Science and Technology of Hanoi; UIU = University Implementation Unit;  
Source: Asian Development Bank and the Executing Agency

28. **Imprest accounts.** Four separate dollar imprest accounts have been established by PMU-USTH and UIU (two accounts under L2750 and two under L2751). These will continue to be used by the project mainly for minor contracts, project operation costs, and training expenditures, which are not subject to direct payments. PMU and UIU will also continue to use the statement of expenditure (SOE) when seeking reimbursement of eligible expenditure and liquidating advances under the imprest account not to exceed the equivalent of \$50,000 for each payment. The minimum value of withdrawal will continue to be \$100,000 unless otherwise approved by ADB. Should VAST, PMU and UIU decide that any of these arrangements need to be revised, they will submit a request to ADB who in consultation with Controllers, will then issue a minor change in disbursement arrangements. The respective project directors of PMU

and UIU will also continue to serve as signatories. Unless VAST replaces either of the signatories, there will be no changes in WA arrangements. During the assessment there were 14 WAs submitted by both PMU and UIU and no major issues in terms of the quality of WAs were noted.

## V. Risk Description and Rating

29. Since VAST has no experience with the implementation of ADB-financed projects, a quick financial risk assessment was deemed critical for successful project implementation. A risk mitigation plan was agreed with VAST, PMU, and UIU as follows.

### FINANCIAL RISKS IDENTIFIED AND PROPOSED MITIGATION MEASURES

No.	Risk Description	Impact	Likelihood	Risk Assessment	Mitigation Measures or Risk Mitigation Plan
<b>Inherent Risk</b>					
1	<b>Country-specific</b>  Public management and accountability remain weak	High	Likely	High	Strengthen capacity of agencies in procurement planning, budgeting, contract administration, and monitoring at all levels
2	<b>Entity-specific</b>  Project financial management policies and procedures have been established, but experience still needs to be gained.	High	Likely	High	<p>There are no changes in IAs. PMU and UIU are simply being absorbed by VAST and therefore existing financial management systems that have been established and working since project effectiveness will be continued. Existing staff will be retained that will assist in the transition process, and new staff will be recruited, if needed. ADB and VAST will provide guidance and training for new staff (if any).</p> <p>To help strengthen VAST, the Project Steering Committee will be reestablished. It will provide broader guidance to VAST and the IAs.</p>

No.	Risk Description	Impact	Likelihood	Risk Assessment	Mitigation Measures or Risk Mitigation Plan
<b>Overall Inherent Risk: High</b>					
<b>Project Risk</b>					
2	Limited capacity of VAST/DPF and PMU in implementing an ADB-funded project	High	Likely	High	<p>Existing staff will be retained that will assist in the transition process, and new qualified staff will be recruited, if needed.</p> <p>DPF and PMU staff will undergo training to refresh or familiarize on ADB guidelines and procedures, including a series of training on financial management and disbursement to be conducted by ADB and international procurement specialist.</p> <p>A qualified project management firm will also be engaged to help strengthen the PMU.</p> <p>The PAM will also be updated to provide guidance to VAST/DPF, PMU, and UIU.</p>
3	Limitation on financial management capacity and appropriate skills in VAST	High	Likely	High	<p>The existing accounting staff will continue to work for the project unless performance issues are identified. If new staff will be recruited, they have to be experienced accountants on ADB disbursements.</p> <p>Financial management manual will be prepared and a series of training will be provided by VAST with support from the Project.</p>
4.	Complexity of implementation arrangements between VAST, PMU and UIU	Low	Unlikely	Low	<p>PAM will be updated to reflect changes in the role, responsibility, and coordination among VAST/DPF, PMU and UIU. Coordination is expected to improve since both PMU and UIU will now be more guided and closely</p>

No.	Risk Description	Impact	Likelihood	Risk Assessment	Mitigation Measures or Risk Mitigation Plan
					monitored by Deputy Director, VAST/DPF.
5.	Limited capacity of PMU in project monitoring and reporting implementation progress.	High	Likely	High	Monitoring mechanism should be reviewed to ensure the progress has been properly reflected in the reports and warrant the consistency between physical and financial progress. The Project will later on be supported by a project management consulting firm.
6.	Unclear internal audit mechanism	Low	Likely	Moderate	DPF will be responsible for the overall monitoring of PMU and UIU transactions. At the same time, the Department of Inspection (DoI) will serve as internal auditor. Both will report to VAST President. ADB will clarify with VAST on the role and detailed tasks of DoI
7.	Availability of counterpart funding	Low	Likely	Moderate	VAST will prepare the overall financial plan. As early as June preceding the next fiscal year, VAST will prepare the annual budget for MOF's approval in December. ADB will also remind this covenant to SBV and MOF whenever necessary.
<b>Overall Project Risk: Substantial</b>					
<b>Overall (Combined) Risk: Substantial</b>					

## VI. Conclusion

30. VAST's financial management system and structure are adequate although it will continue adopting the systems established and currently well-operating under PMU and UIU specific for this project. The existing PMU and UIU have a well-established financial management system and structure, with adequate and experienced staff dedicated to the project. Its accounting system is computerized, follows national accounting standards, and has an established system of safeguards to protect assets from fraud, waste, and abuse. PMU and UIU strictly follow relevant Viet Nam and ADB financial management policies and regulations. These systems will be maintained and strengthened with VAST as new EA. The existing financial management of the Project is assessed as satisfactory. Should VAST decide to revise or enhance the composition of the PMU and UIU, ADB should monitor the selection of new staff to ensure that the appointed candidates are qualified.

31. PMU will continue to ensure the segregation of responsibilities performed by its staff regarding: (i) authorization to execute a transaction; (ii) recording of transactions; and (iii) custody of assets involved in the transaction. The existing financial management structure of PMU will be maintained and continued to operate. VAST will strengthen this with new or additional staff if necessary. Existing or new staff will be provided with a training course on ADB program management policies and procedures, financial management and procurement guidelines, disbursement procedures, reporting requirements, and governance.

32. Overall, the financial management assessment considered the capacity of VAST and the existing arrangements with implementing agencies, funds-flow arrangements, staffing, accounting and financial reporting systems, financial information systems, and internal and external auditing arrangements to be satisfactory. However, several key financial management risks were identified as follows: (i) VAST limited experience on financial management of ADB projects; (ii) limited capacity of VAST/DPF and PMU to implement the project; (iii) limitation on financial management capacity and appropriate skills in VAST; (iv) complexity of implementation arrangements between VAST, PMU and UIU; (v) limited capacity of PMU in project monitoring and reporting; (vi) unclear internal audit mechanism; and (vii) availability of counterpart funding.

33. To minimize risk and expedite project implementation, various trainings should be conducted; a detailed implementation plan should be regularly updated, monitoring mechanism should be in place, particularly for civil works and timely preparation of annual budget. If VAST decides to appoint new staff to the PMU and UIU, ADB should closely monitor to ensure the candidates are qualified. Monitoring and supervision should be a joint effort between VAST/DPF, PMU and UIU, and consultants to ensure that construction is timely completed and in good quality. The scope of work of the internal auditor should be defined to maintain check and balance within the Project.



Financial Management Assessment Questionnaire<sup>48</sup>

Topic	Response	Potential Risk Event
<b>1. Executing / Implementing Agency</b>		
1.1 What is the entity's legal status / registration?	The Vietnam Academy of Science and Technology (VAST) is a government agency, which was established under regulations of the Decree No. 108/2012/NĐ-CP issued on 25/12/2012 by Vietnamese Government	
1.2 How much equity (shareholding) is owned by the Government?	100 % state-owned	
1.3 Obtain the list of beneficial owners of major blocks of shares (non-governmental portion), if any. <sup>49</sup>	None	
1.4 Has the entity implemented an externally-financed project in the past? If yes, please provide details.	Yes. (i) Advanced Earth Observing Satellite (ADEOS) named VNREDSat - 1 (2011 - 2014) funded by France/Belgium (Euro 55,8 million; (ii) Project of Space Centre of Vietnam (2012 - 2020) funded by JICA ( with US\$650 million; (iii) Advanced Earth Observing Satellite 2 (ADEOS) named VNRED Sat-2 (2016 - 2020) funded by France and Belgium (Euro 220 million) (processing stage).	
1.5 Briefly describe the statutory reporting requirements for the entity.	Ministry of Planning and Investment, Ministry of Finance and Upper government (Prime Minister Office). -MPI report on investment supervision, procurement plan, operation plan, disbursement.  - Quarterly Progress Report. - Report on Total progress of the Project. - Report on Planned Project Implementation. Report on Project Operation, Report on Procurement Plan (2x) and Financial Plan (July, midterm Jun)	

<sup>48</sup> This questionnaire should be administered by ADB staff or consultant (the Reviewer), and utilized only to obtain information, and to identify and describe potential risk events. Rating of risks should be carried out separately by assessing their likelihood and impact.

<sup>49</sup> In such cases, consult OAI on the need for integrity due diligence on non-governmental beneficial owners.

Topic	Response	Potential Risk Event
1.6 Describe the regulatory or supervisory agency of the entity.	Viet Nam Government Agency  - Under management of Vietnamese Government - Under monitoring of line-ministries: Government Office, MPI, MOF	
1.7 What is the governing body for the project? Is the governing body for the project independent?	VAST is the new EA/IA of the Project	
1.8 Obtain current organizational structure and describe key management personnel. Is the organizational structure and governance appropriate for the needs of the project?	1. VAST Directorate - The President of VAST takes the role of overall management, having the highest power to give out final decision within VAST. - 3 Vice-President in Charge – responsible with science, organization, finance. - 6 Director of departments  - 01 Deputy Director of Planning and Finance Department, co-operating with Personnel Department, International Co-operation Department. - 01 expert of construction management. 2. The current structure is aligned with the needs of the project	
1.9 Does the entity have a Code of Ethics in place?	Law on Cadres and Civil Servant. The Decision issued by the President of VAST regulates the functions and responsibilities of the organization.	
1.10 Describe (if any) any historical issues reports of ethics violations involving the entity and management. How were they addressed?	None. In case of any incident, a board will be formed to investigate and address the issue.	
<b>2. Funds Flow Arrangements</b>		
2.1 Describe the (proposed) project funds flow arrangements in detail, including a funds flow diagram and explanation of the flow of funds from ADB, government and other financiers, to the government, EA, IA, suppliers, contractors, ultimate beneficiaries, etc. as applicable.	Same as PAM (only change the EA to VAST)	
2.2 Are the (proposed) arrangements to transfer the proceeds of the loan (from the government / Finance Ministry) to the entity and to the end-recipients satisfactory?	Yes	
2.3 Are the disbursement methods appropriate?	Yes	
2.4 What have been the major problems in the past involving the receipt, accounting and/or administration of funds by the entity?	None	

Topic		Response	Potential Risk Event
2.5	In which bank will the Imprest Account (if applicable) be established?	Commercial bank approved by SBV and ADB (AgriBank)	
2.6	Is the bank in which the imprest account is established capable of – <ul style="list-style-type: none"> <li>• Executing foreign and local currency transactions?</li> <li>• Issuing and administering letters of credit (LC)?</li> <li>• Handling a large volume of transaction?</li> <li>• Issuing detailed monthly bank statements promptly?</li> </ul>	Meet all requirements on capacity	
2.7	Is the ceiling for disbursements from the imprest account and SOE appropriate/required?	Yes. SOE ceiling per PAM is \$50,000 per payment.	
2.8	Does the (proposed) project implementing unit (PIU) have experience in the management of disbursements from ADB?	The existing PMU and UIU have experience in the management of disbursements from ADB. This arrangement will be continued and VAST will further reassess if there is a need to replace or add to existing staff.	
2.9	Does the PIU have adequate administrative and accounting capacity to manage the imprest fund and statement of expenditure (SOE) procedures in accordance with ADB's Loan Disbursement Handbook (LDH)? Identify any concern or uncertainty about the PIU's administrative and accounting capability which would support the establishment of a ceiling on the use of the SOE procedure.	Yes.	
2.10	Is the entity exposed to foreign exchange risk? If yes, describe the entity's policy and arrangements for managing foreign exchange risk.	Yes. SBV has strict regulations on foreign exchange	
2.11	How are the counterpart funds accessed?	Based on the approved Annual Procurement Plan and Financial Plan.	
2.12	How are payments made from the counterpart funds?	Based on the approved Annual Procurement Plan and Financial Plan and required documents for payment.	
2.13	If project funds will flow to communities or NGOs, does the PIU have the necessary reporting and monitoring arrangements and features built into its systems to track the use of project proceeds by such entities?	None	
2.14	Are the beneficiaries required to contribute to project costs? If beneficiaries have an option to contribute in kind (in the form of labor or material), are proper guidelines and arrangements formulated to record and value the labor or material contributions at appraisal and during implementation?	None	
<b>3. Staffing</b>			

Topic	Response	Potential Risk Event
3.1 What is the current and/or proposed organizational structure of the accounting department? Attach an organization chart.	Same as PAM	
3.2 Will existing staff be assigned to the project, or will new staff be recruited?	VAST will assess the implementing unit and make decision on whether or not they will retain the existing staff or recruit new staff	
3.3 Describe the existing or proposed project accounting staff, including job title, responsibilities, educational background and professional experience. Attach job descriptions and CVs of key existing accounting staff.	Chief Accountant, general accountant and payment accountant. Job description will be prepared and will ensure that only qualified staff will occupy the position.	
3.4 Is the project finance and accounting function staffed adequately?	For existing implementing unit, yes. However, VAST has not make decision on whether or not they will restructure the implementing unit yet. If they decide to change the accounting staff, the question is irrelevant at this stage.	
3.5 Are the project finance and accounting staff adequately qualified and experienced?	The existing PMU and UIU accounting staff are qualified (except for PMU chief accountant, all others are consultants). However, VAST has the option to retain, add to or replace some of the staff if necessary. If they decide to change the accounting staff, the question is irrelevant at this stage.	
3.6 Are the project finance and accounting staff trained in ADB procedures, including the disbursement guidelines (i.e., LDH)?	Yes, the existing staff of PMU and UIU have been trained in ADB procedures. VAST may retain, add to, or replace some of the staff if necessary. Any new or replacement staff will be freshly trained.	
3.7 What is the duration of the contract with the project finance and accounting staff?	For PMU and UIU, one-year contract for General Accountant and Payment Accountant with possibility of extension. Extension depends on VAST's assessment of the staff/consultant's performance, and actual project needs.	
3.8 Identify any key positions of project finance and accounting staff not contracted or filled yet, and the estimated date of appointment.	VAST is to make the decision on whether or not they will restructure the implementing unit. If they decide to change the accounting staff, the question is irrelevant at this stage.	
3.9 For new staff, describe the proposed project finance and accounting staff, including job title, responsibilities, educational background and professional experience.	VAST is to make the decision on whether or not they will restructure the implementing	

Topic	Response	Potential Risk Event
Attach job descriptions.	unit. Cannot be answered at this stage.	
3.10 Does the project have written position descriptions that clearly define duties, responsibilities, lines of supervision, and limits of authority for all of the officers, managers, and staff?	Yes.	
3.11 What is the turnover rate for finance and accounting personnel (including terminations, resignations, transfers, etc.)?	None. The Chief Accountant, General Accountant and Payment Accountant of the existing PMU have worked with the Project from the beginning. However, VAST has not make decision on whether or not they will restructure the implementing unit yet. If they decide to change the accounting staff, the question is irrelevant at this stage.	
3.12 What is training policy for the finance and accounting staff?	Participate in related training programs organized by ADB and Vietnamese Government Agencies. However, VAST has not make decision on whether or not they will restructure the implementing unit yet. If they decide to change the accounting staff, the question is irrelevant at this stage.	
3.13 Describe the list of training programs attended by finance and accounting staff in the last 3 years.	<ul style="list-style-type: none"> <li>- Training program on Project management and Procurement in 2014.</li> <li>- Training program on updating guidelines of disbursement procedures organized by MPI, from 2012 up to now.</li> <li>- Training program organized by MOF on guidance of accounting.</li> <li>- Disbursement Training by ADB.</li> </ul> <p>However, VAST has not make decision on whether or not they will restructure the implementing unit yet If they decide to change the accounting staff, the question is irrelevant at this stage.</p>	
<b>4. Accounting Policies and Procedures</b>		

Topic	Response	Potential Risk Event
4.1 Does the entity have an accounting system that allows for the proper recording of project financial transactions, including the allocation of expenditures in accordance with the respective components, disbursement categories, and sources of funds (in particular, the legal agreements with ADB)? Will the project use the entity accounting system? If not, what accounting system will be used for the project?	Yes. - Comply with regulations of PAM. - Comply with Accounting Standards of Vietnam. - Comply with the regulations of the Decision No. 19/2006/QĐ-BTC of MOF issued on 30/3/2006.	
4.2 Are controls in place concerning the preparation and approval of transactions, ensuring that all transactions are correctly made and adequately explained?	Yes. - Payment request will be prepared by payment accountant and approved by Chief Accountant and Project Director. - State Treasury check the documents and compare against approved annual plan. - Comply with the ADB's requirement of independent audit.	
4.3 Is the chart of accounts adequate to properly account for and report on project activities and disbursement categories? Obtain a copy of the chart of accounts.	Satisfied. Comply with the regulations stated in the Decision No. 19/2006/QĐ-BTC of MOF dated 30/3/2006.	
4.4 Are cost allocations to the various funding sources made accurately and in accordance with established agreements?	Yes. Comply with PAM loan agreements.	
4.5 Are the General Ledger and subsidiary ledgers reconciled monthly? Are actions taken to resolve reconciliation differences?	Yes.	
4.6 Describe the EA's policy for retention of accounting records including supporting documents (e.g, ADB's policy requires that all documents should be retained for at least 1 year after ADB receives the audited project financial statements for the final accounting period of implementation, or 2 years after the loan closing date, whichever is later). Are all accounting and supporting documents retained in a defined system that allows authorized users easy access?	Comply with Vietnamese laws of Accounting and Document Retention: - Accounting documents are retained for 05 years. -- Final accounting reports are retained for longer periods.	
4.7 Describe any previous audit findings that have not been addressed.	None.	
<b>Segregation of Duties</b>		
4.8 Are the following functional responsibilities performed by different units or persons: (i) authorization to execute a transaction; (ii) recording of the transaction; (iii) custody of assets involved in the transaction; (iv) reconciliation of bank accounts and subsidiary ledgers?	Yes.	

Topic	Response	Potential Risk Event
4.9 Are the functions of ordering, receiving, accounting for, and paying for goods and services appropriately segregated?	Yes.	
<b>Budgeting System</b>		
4.10 Do budgets include physical and financial targets?	Yes	
4.11 Are budgets prepared for all significant activities in sufficient detail to allow meaningful monitoring of subsequent performance?	Yes. The budget plan is based on the project operation and procurement plans	
4.12 Are actual expenditures compared to the budget with reasonable frequency? Are explanations required for significant variations against the budget?	Yes.	
4.13 Are approvals for variations from the budget required (i) in advance, or (ii) after the fact?	Yes (i) in advance.	
4.14 Is there a ceiling, up to which variations from the budget may be incurred without obtaining prior approval?	None.	
4.15 Who is responsible for preparation, approval and oversight/monitoring of budgets?	Staff of Department of Planning and Finance of VAST based on the proposal of PMU-USTH.	
4.16 Describe the budget process. Are procedures in place to plan project activities, collect information from the units in charge of the different components, and prepare the budgets?	In accordance with the guidance of the MPI and MOF on preparation of Government budget plan, annual ODA funds, ODA funded projects, VAST will provide the guidelines to prepare the plans. PMU submits the operation plan and financial plan to VAST, VAST reviews the plans and submits to MPI prior to the submission to Prime Minister for approval.	
4.17 Are the project plans and budgets of project activities realistic, based on valid assumptions, and developed by knowledgeable individuals?  Is there evidence of significant mid-year revisions, inadequate fund releases against allocations, or inability of the EA to absorb/spend released funds?  Is there evidence that government counterpart funding is not made available adequately or on a timely basis in prior projects?  What is the extent of over- or under-budgeting of major heads over the last 3 years? Is there a consistent trend either way?	Yes.  None  There is concern is that there may be insufficient counterpart funds, especially for construction  None	
<b>Payments</b>		
4.18 Do invoice-processing procedures require: (i) Copies of purchase orders and receiving reports to be obtained directly from issuing departments? (ii)	Yes.	

Topic	Response	Potential Risk Event
Comparison of invoice quantities, prices and terms, with those indicated on the purchase order and with records of goods actually received? (iii) Comparison of invoice quantities with those indicated on the receiving reports? (iv) Checking the accuracy of calculations? (v) Checking authenticity of invoices and supporting documents?		
4.19 Are all invoices stamped PAID, dated, reviewed and approved, recorded/entered into the system correctly, and clearly marked for account code assignment?	Yes.	
4.20 Do controls exist for the preparation of the payroll? Are changes (additions/deductions/modifications) to the payroll properly authorized?	Yes. Payroll prepared by Finance staff and approved by project director. - State Treasury checks against contract before clearing for payment. - Labor management	
<b>Policies And Procedures</b>		
4.21 What is the basis of accounting (e.g., cash, accrual) followed (i) by the entity? (ii) By the project?	Accrual Accounting records according to accrual accounting principles (cumulative) applied to the project.	
4.22 What accounting standards are followed (International Financial Reporting Standards, International Public Sector Accounting Standards – cash or accrual, or National Accounting Standards (specify) or other?	- Comply with Vietnamese Accounting Standards. - For ODA projects, comply with the regulations of the (i) Decree 38/2013/ND-CP on Management of ODA; (ii) Decree <a href="#">16/2016/NĐ-CP</a> ; (iii) Circular 219/2009/TT-BTC; (iv) Circular 192/2011/TT-BTC	
4.23 Does the project have adequate policies and procedures manual(s) to guide activities and ensure staff accountability?	Yes. Comply with Government policies on ADB-funded projects.	
4.24 Is the accounting policy and procedure manual updated regularly and for the project activities?	Yes. Accounting policy and Procedure manuals are up to date.	
4.25 Do procedures exist to ensure that only authorized persons can alter or establish a new accounting policy or procedure to be used by the entity?	Yes. MOF set the procedure.	
4.26 Are there written policies and procedures covering all routine financial management and related administrative activities?	Yes. Comply with the regulations of the Decision No. 108/2007/TT-BTC (Financial Management Mechanism Applicable to ODA programs and projects)	
4.27 Do policies and procedures clearly define conflict of interest and related party transactions (real and apparent) and provide safeguards to protect the organization from them?	Yes.	
4.28 Are manuals distributed to appropriate personnel?	Yes.	
4.29 Describe how compliance with policies and procedures	Review and track on each	



Topic	Response	Potential Risk Event
are verified and monitored.	activity, internal monitoring, review on annual financial report.	
<b>Cash and Bank</b>		
4.30 Indicate names and positions of authorized signatories for bank accounts. Include those persons who have custody over bank passwords, USB keys, or equivalent for online transactions.	President of VAST or Project Director.	
4.31 Does the organization maintain an adequate and up-to-date cashbook recording receipts and payments?	Yes.	
4.32 Describe the collection process and cash handling procedures. Do controls exist for the collection, timely deposit and recording of receipts at each collection location?	None (only sale of bidding docs)	
4.33 Are bank accounts reconciled on a monthly basis? Or more often? Is cash on hand physically verified, and reconciled with the cash books? With what frequency is this done?	Yes. Bank accounts are reconciled monthly.	
4.34 Are all reconciling items approved and recorded?	Yes. All reconciling items are approved and recorded.	
4.35 Are all unusual items on the bank reconciliation reviewed and approved by a responsible official?	Yes	
4.36 Are there any persistent/non-moving reconciling items?	None	
4.37 Are there appropriate controls in safekeeping of unused cheques, USB keys and passwords, official receipts and invoices?	NA	
4.38 Are any large cash balances maintained at the head office or field offices? If so, for what purpose?	None.	
4.39 For online transactions, how many persons possess USB keys (or equivalent), and passwords? Describe the security rules on password and access controls.	NA	
<b>Safeguard over Assets</b>		
4.40 What policies and procedures are in place to adequately safeguard or protect assets from fraud, waste and abuse?	Checked and recorded in the accounting books and asset ledger.	
4.41 Does the entity maintain a Fixed Assets Register? Is the register updated monthly? Does the register record ownership of assets, any assets under lien or encumbered, or have been pledged?	Yes. All assets are labeled with serial and recorded with actual condition.	
4.42 Are subsidiary records of fixed assets, inventories and stocks kept up to date and reconciled with control accounts?	Yes. One staff appointed to record fixed assets, inventories and stocks keep up to date and reconcile with control accounts.	
4.43 Are there periodic physical inventories of fixed assets, inventories and stocks? Are fixed assets, inventories and stocks appropriately labeled?	Yes. All assets are labeled will serial and checked annually.	
4.44 Are the physical inventory of fixed assets and stocks reconciled with the respective fixed assets and stock registers, and discrepancies analyzed and resolved?	Yes.	
4.45 Describe the policies and procedures in disposal of assets. Is the disposal of each asset appropriately approved and recorded? Are steps immediately taken to locate lost, or repair broken assets?	Comply with the Vietnamese law on management and use of state property.	

Topic	Response	Potential Risk Event
4.46 Are assets sufficiently covered by insurance policies?	Yes. Vehicle, construction building...	
4.47 Describe the policies and procedures in identifying and maintaining fully depreciated assets from active assets.	According to the regulation on Public asset management of the MOF.	
<b>Other Offices and Implementing Entities</b>		
4.48 Describe any other regional offices or executing entities participating in implementation.	None	
4.49 Describe the staff, their roles and responsibilities in performing accounting and financial management functions of such offices as they relate to the project.	Except for the chief accountant of the existing PMU, all are consultants	
4.50 Has the project established segregation of duties, controls and procedures for flow of funds and financial information, accountability, and reporting and audits in relation to the other offices or entities?	Yes. Project established segregation of duties and responsibilities in relations with other divisions.	
4.51 Does information among the different offices/ implementing agencies flow in an accurate and timely fashion? In particular, do the offices other than the head office use the same accounting and reporting system?	Yes.	
4.52 Are periodic reconciliations performed among the different offices/implementing agencies? Describe the project reporting and auditing arrangements between these offices and the main executing/implementing agencies.	PMU and UIU prepare financial statements but for consolidation of PMU	
4.53 If any sub-accounts (under the Imprest Account) will be maintained, describe the results of the assessment of the financial management capacity of the administrator of such sub-accounts.	None.	
<b>Contract Management and Accounting</b>		
4.54 Does the agency maintain contract-wise accounting records to indicate gross value of contract, and any amendments, variations and escalations, payments made, and undisbursed balances? Are the records consistent with physical outputs/deliverables of the contract?	Yes. Closely manage the implementation of the contract including all payments made, unpaid balance and contract's outputs	
4.55 If contract records are maintained, does the agency reconcile them regularly with the contractor?	Yes, and reconcile the unpaid portion with contractor at the end of the fiscal year	
<b>Other</b>		
4.56 Describe project arrangements for reporting fraud, corruption, waste and misuse of project resources. Has the project advised employees, beneficiaries and other recipients to whom to report if they suspect fraud, waste or misuse of project resources or property?	Comply with regulations of Vietnamese laws and financiers.	
<b>5. Internal Audit</b>		
5.1 Is there an internal audit (IA) department in the entity?	Yes. Department of Inspection.	
5.2 What are the qualifications and experience of the IA staff?	Qualification and experience in accounting, finance, procurement and construction.	

Topic	Response	Potential Risk Event
5.3 To whom does the head of the internal audit report?	President of VAST, Vice-presidents, Directors and Deputy Directors of sub-agencies of VAST.	
5.4 Will the internal audit department include the project in its annual work program?	Yes.	
5.5 Are actions taken on the internal audit findings?	Yes.	
5.6 What is the scope of the internal audit program? How was it developed?	<p>Scope:</p> <ul style="list-style-type: none"> <li>- Audit is conducted annually on VAST's subordinate units.</li> <li>- For Construction and ODA projects: Hire independent audit for each project.</li> <li>- Every 2 years, GOV Audit conducts full auditing on VAST.</li> <li>- The scope of internal audit is developed based on Vietnam Auditing Law.</li> </ul>	
5.7 Is the IA department independent?	Yes. Independent from the Project and reports to VAST President	
5.8 Do they perform pre-audit of transactions?	Yes.	
5.9 Who approves the internal audit program?	President of VAST or Vice-President in Charge, Director of Planning and Financial Department, Director of Monitoring Department.	
5.10 What standards guide the internal audit program?	Decision No. 832-TC/QĐ/CĐKT dated 28/10/1997 of MOF.	
5.11 How are audit deficiencies tracked?	According to the date and responsibility of the approval personnel.	
5.12 How long have the internal audit staff members been with the organization?	Over 5 years	
5.13 Does any of the internal audit staff have an IT background?	Yes.	
5.14 How frequently does the internal auditor meet with the audit committee without the presence of management?	Annually	
5.15 Has the internal auditor identified / reported any issue with reference to availability and completeness of records?	Yes.	
5.16 Does the internal auditor have sufficient knowledge and understanding of ADB's guidelines and procedures, including the disbursement guidelines and procedures (i.e., LDH)?	This is the first ADB-funded project of VAST. However, VAST has experience with other foreign funded projects.	
<b>6. External Audit – entity level</b>		
6.1 Is the entity financial statement audited regularly by an independent auditor? Who is the auditor?	Not applicable	
6.2 Are there any delays in audit of the entity? When are the audit reports issued?	None.	

Topic	Response	Potential Risk Event
6.3 Is the audit of the entity conducted in accordance with the International Standards on Auditing, or the International Standards for Supreme Audit Institutions, or national auditing standards?	Not applicable	
6.4 Were there any major accountability issues noted in the audit report for the past three years?	None	
6.5 Does the external auditor meet with the audit committee without the presence of management?	Not applicable	
6.6 Has the entity engaged the external audit firm for any non-audit engagements (e.g., consulting)? If yes, what is the total value of non-audit engagements, relative to the value of audit services?	No	
6.7 Has the external auditor expressed any issues on the availability of complete records and supporting documents?	No.	
6.8 Does the external auditor have sufficient knowledge and understanding of ADB's guidelines and procedures, including the disbursement guidelines and procedures (i.e., LDH)?	Not applicable	
6.9 Are there any material issues noted during the review of the audited entity financial statements that were not reported in the external audit report?	None	
<b>External Audit – project level</b>		
6.10 Will the entity auditor audit the project accounts or will another auditor be appointed to audit the project financial statements?	Not applicable	
6.11 Are there any recommendations made by the auditors in prior project audit reports or management letters that have not yet been implemented?	None	
6.12 Is the project subject to any kind of audit from an independent governmental entity (e.g. the supreme audit institution) in addition to the external audit?	Yes. Audit conducted under the Government's monitoring program	
6.13 Has the project prepared acceptable terms of reference for an annual project audit? Have these been agreed and discussed with the EA and the auditor?	Yes. Terms of reference for an annual project audit are approved by the EA.	
6.14 Has the project auditor identified any issues with the availability and completeness of records and supporting documents?	No.	
6.15 Does the external auditor have sufficient knowledge and understanding of ADB's guidelines and procedures, including the disbursement guidelines and procedures (i.e., LDH)?	Yes. External auditor needs to meet the requirements of TORs.	
6.16 Are there any recommendations made by the auditors in prior audit reports or management letters that have not yet been implemented?	None	
[For second or subsequent projects] 6.17 Were past audit reports complete, and did they fully address the obligations under the loan agreements?		

Topic	Response	Potential Risk Event
Were there any material issues noted during the review of the audited project financial statements and related audit report that have remained unaddressed?		
<b>7. Reporting and Monitoring</b>		
7.1 Are financial statements and reports prepared for the entity?	Yes.	
7.2 Are financial statements and reports prepared for the implementing unit(s)?	Yes.	
7.3 What is the frequency of preparation of financial statements and reports? Are the reports prepared in a timely fashion so as to be useful to management for decision making?	Yes. Monthly, Quarterly, and Annually Reports. Ad-hoc Reports	
7.4 Does the entity reporting system need to be adapted for project reporting?	Need to adjust to ADB requirement on project financial reports	
7.5 Has the project established financial management reporting responsibilities that specify the types of reports to be prepared, the report content, and purpose of the reports?	Yes. - Disbursement report. - Quarterly and Annual Financial Reports. - Financial Report on Disbursement Categories. - Report on Government's monitoring, auditing.	
7.6 Are financial management reports used by management?	Yes.	
7.7 Do the financial reports compare actual expenditures with budgeted and programmed allocations?	Yes.	
7.8 How are financial reports prepared? Are financial reports prepared directly by the automated accounting system or are they prepared by spreadsheets or some other means?	Comply with Vietnamese Accounting Standards.	
7.9 Does the financial system have the capacity to link the financial information with the project's physical progress? If separate systems are used to gather and compile physical data, what controls are in place to reduce the risk that the physical data may not synchronize with the financial data?	Yes. Using accounting software named MISA	
7.10 Does the entity have experience in implementing projects of any other donors, co-financiers, or development partners?	Satisfied.	
<b>8. Information Systems</b>		
8.1 Is the financial accounting and reporting system computerized?	Yes.	
8.2 If computerized, is the software off-the-shelf, or customized?	Customized	
8.3 Is the computerized software standalone, or integrated and used by all departments in the headquarters and field units using modules?	Standalone	
8.4 How are the project financial data integrated with the entity financial data? Is it done through a module in	Not applicable	

Topic	Response	Potential Risk Event
the enterprise financial system with automatic data transfer, or does it entail manual entry?		
8.5 Is the computerized software used for directly generating periodic financial statements, or does it require manual intervention and use of Excel or similar spreadsheet software?	Yes	
8.6 Can the system automatically produce the necessary project financial reports?	Yes	
8.7 Is the staff adequately trained to maintain the computerized system?	Yes	
8.8 Do the management, organization and processes and systems safeguard the confidentiality, integrity and availability of the data?	Yes	
8.9 Are there back-up procedures in place?	Yes	
8.10 Describe the backup procedures – online storage, offsite storage, offshore storage, fire, earthquake and calamity protection for backups.	Documents are scanned.	

## VIET NAM ACADEMY OF SCIENCE AND TECHNOLOGY ORGANIZATION CHART



## **APPENDIX 13**

### **Procurement Capacity Assessment of VAST**

1. **PPRA methodology.** This project procurement risk assessment (PPRA) has been prepared for USTHDP in accordance with *ADB's Guide on Assessing Procurement Risks and Determining Project Procurement Classification (August 2014)*. The PPRA was undertaken from 15 to 30 August 2016 as part of the Special Project Administration Mission (SPAM) for USTHDP to assess the procurement capacity and risks associated with VAST as the new EA. The PPRA is based on completed agency questionnaires (available upon request). Interviews were conducted with (i) the Deputy Director of the Department of Planning and Finance (DPF) of VAST who is tasked to directly manage and supervise the Project; (ii) the DPF representative who will be responsible for overseeing procurement activities to be carried out by the PMU; and (iii) current staff of PMU and UIU procurement staff/consultants who have conducted procurement and engagement of consultants under the Project. The responses to the questionnaires represent the general experience of DPF and existing IA procurement staff. This assessment also provides a good insight of current practices and procedures of VAST PMUs including difficulties often met by the IAs.<sup>50</sup>

#### **A. Country Procurement System**

2. The procurement framework of Viet Nam is well developed. The MPI has developed a quite comprehensive set of procurement guidance including clear procedures for reviewing agency and templates (bidding documents, bid evaluation reports, contracts, etc.) for implementing units. A new Law on Procurement 43/2013/QH13 came into effect on 1 July 2014, together with Decree 63/2014/ND-CP of 26 June 2014 detailing the implementation of the new law regarding selection of bidders. The new law supersedes the Law on Bidding No. 43/2013/QH13 of 26 November 2013 and represents a positive step towards convergence of Viet Nam's procurement law and practices with internationally accepted principles and donor policies. The new procurement law also stipulates that under donor-financed projects, if discrepancies exist between government procedures and those of the donor, the donor procedures will prevail.

3. Under the Procurement Law, competitive procurement is the default method of public procurement. The procurement law provides clear instructions on how and when to apply other procurement methods and narrows the circumstances under which direct contracting can be adopted. But the law allows the use of monetary thresholds for direct contracting which does not conform to international best practices and which is prone to abuse through contract splitting.

#### **B. Responsibility and Function of Project Executing/Implementing Agencies**

4. The project implementation organization chart and information on the ODA projects with VAST involvement are available upon request.

5. **Project Steering Committee (PSC).** ADB observed that UIU and PMU operated almost autonomously during the time MOET served as EA. There was little or almost no direct involvement and strong supervision from MOET, and therefore coordination among MOET, PMU, and UIU was below adequate. The National Executive Board (Project Steering

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<sup>50</sup> No separate questionnaire was completed for the current PMU given the absence of procurement staff. Nevertheless, its experiences combined with those of VAST's PMUs were included in VAST's completed questionnaire.



Committee) that was originally to provide overall guidance to the project was also abolished after MOET and other agencies viewed that such role was not required. The lack of a Project Steering Committee and the inadequate ownership and involvement of MOET in project implementation were considered to be two of the most notable implementation weaknesses of the project. During the SPAM fielded in August 2016, Government and the mission discussed and agreed to reestablish the PSC to oversee overall project performance and provide broader guidance to VAST and the implementing agencies (IAs). It was also confirmed that the PSC will comprise all key project stakeholders including Vietnamese members of the current University Council and representatives from project oversight agencies such as the Office of the Government, SBV, Ministry of Finance (MOF) and the Ministry of Planning and Investment (MPI). The re-establishment of the PSC is included in the time-bound action plan agreed with and signed by the government during the SPAM.

6. **Vietnam Academy of Science and Technology.** VAST is a government agency, earlier known as Vietnam Academy of Science, established in 1975 by Decree 118/CP dated 20 May 1975 and issued by the former Council of the Vietnam Government. The VAST is committed to: (i) carrying out basic research in natural sciences and technology development; (ii) providing objective grounds for science and technology management, for shaping policies, strategies and plans for socio-economic development; (iii) training high quality human resources for science and technology. VAST has 51 subordinate units: (i) 33 research units, (ii) 6 administrative units, (iii) 7 other units, (iv) 4 self-financing units, and (v) 1 state enterprise.

7. Like all government entities, VAST is subject to the Government procurement law and its decrees. DPF has been tasked to take the leading role in implementing donor-financed projects. The DPF has 19 staff (including 1 Professor; 2 Associate Professors; 5 Doctors; 2 Masters; 7 Bachelors and others) with different expertise on finance, construction/equipment, investment and other technical areas.

8. **VAST experience in ODA projects.** VAST has never participated in ADB or WB-funded project before. However, VAST notably possesses experience in implementing foreign assisted projects. It has implemented or is involved in at least 3 ODA projects so far, including:

- (i) Advanced Earth Observing Satellite Project (ADEOS) named VNREDSat - 1 (2011-2014) (€55.8 million funded by France and Belgium);
- (ii) Space Centre of Vietnam Project (2012 - 2020) (\$650 million funded by JICA); and
- (iii) Advanced Earth Observing Satellite 2 Project (ADEOS) named VNRED Sat-2 (2016-2020) (€220 million funded France and Belgium; currently being processed).

9. Phase 2 of the ADEOS is still at early stage of implementation. Key features of the other two projects are summarized below:

- (i) **Advanced Earth Observing Satellite Project (ADEOS) named VNREDSat - 1 (2011 - 2014) (€55.8 million funded by France and Belgium).**<sup>51</sup>The DPF reported that this Project was successfully implemented and concluded 1 year in advance. As discussed, a PMU was established to implement the Project.

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<sup>51</sup> More information at <http://www.vast.ac.vn/en/news/science-and-technology-news/1638-2013-successful-year-for-vnreds-1-project> and <http://www.vast.ac.vn/en/news/activities/1537-vnreds-1-satellite-system-handover-ceremony> (more information available upon request).

The DPF was in charge of supervising and reviewing all procurement and consulting services documents from the PMU. Specifically, DPF assigned 1 specialist as focal point to directly supervise Project investment activities from the beginning of the Project until its completion. For each procurement of goods/construction and consulting packages conducted under the Project, an appraisal team under DPF was established. Normally, the team consisted of 4 members from DPF (these members possessed intensive experience in project management, finance, engineering construction) and 1 member with appropriate technical expertise coming from various VAST institutes). In the absence of standard bidding documents from the Governments of France and Belgium, and at the request of both governments, DPF used the bidding document templates of the Ministry of Planning and Investment (MPI) for construction packages under this project. MPI's procurement and review procedures (including detailed guidance on the bidding/recruiting process) were also adopted by the DPF.

- (ii) **Space Centre of Vietnam Project (2012 - 2020) funded by JICA.**<sup>52</sup> VAST was acting in the position of EA. According to DPF, this Project was slightly behind schedule. Similarly, a PMU was established under the Project. Unlike in the ADEOS project, the PMU is required to follow JICA's in-house procurement and consulting services documents which are similar to FIDIC. Having developed all the procurement and consulting services documents, including bidding documents and bid evaluation reports, the PMU hired an authorized independent consulting firm to conduct the necessary review and approval. Upon completion, the appraisal documents were submitted again to the VAST DPF for their final clearance and then submitted to the President of the Project Owner for signature. According to Deputy Director of DPF, this arrangement helps to expedite Project implementation progress.

10. It is noted that for these two Projects, the common bidding procedures applied were international competitive bidding (ICB) for procurement of goods and civil works, and international selection procedures for recruitment of consulting firms. The DPF has closely guided and supervised PMUs in implementing these projects.

11. **Department of Planning and Finance, VAST.** DPF will represent the VAST and manage the project. DPF comprises a (i) Directorate Board; (ii) Unit of planning; (iii) Unit of finance; (iv) Unit of development investment; (v) Unit of public property – infrastructure management; and (vi) Unit of administration. DPF is an administrative office that helps and assists the President of VAST to manage and execute the operations of the Academy in planning and budget estimates according to the laws and regulations of the Government and VAST.

12. DPF's role and function in VAST is defined as follows:

- (i) To setup and submit for approval by the VAST's President for the long term, short term, 5 years-period and annual plans and budget estimates of the whole Academy;
- (ii) To manage and to do executing direction for the Academy to perform the long term, short term, 5 years-period and annual scientific technological plans. To perform the

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<sup>52</sup> More information at <https://vnsc.org.vn/vietnamspacecenter/> (more information are available upon request).

- process of submission, selection, approval, evaluation and accomplishment for the scientific technological projects funded by the Academy and the international collaboration projects of the Academy;
- (iii) To co-ordinate with other ministries and organizations to manage the related scientific technological projects funded by the Government, National Aims Programs, Basic Investigation Tasks, National Environment Protection Programs, etc.;
  - (iv) To co-ordinate with the Department of International Cooperation, Department of Application and Development of Technology, VAST to manage the VAST level international cooperation and technological development projects;
  - (v) To manage and to do executing direction the plans of investment in infrastructure including construction, equipment and facility upgrade of the whole Academy.
  - (vi) To manage and to do executing direction the annual budget estimates and other financial activities of the Academy according to the law and regulations of the Government; and
  - (vii) To manage the land, equipment, infrastructure and other public properties of the Academy according to the Law and regulations of the Government.

13. **Procurement practices under VAST.** While the responsibility to carry out all project procurement activities lies with the PMU, oversight and approval of key procurement activities is the responsibility of the DPF. Oversight functions under procurement include (i) review and approval of bidding documents; (ii) review and recommendation for approval of bid evaluation reports for works, goods and services; (iii) review and recommendation for approval of contract negotiations; and (iv) contract award. For consulting services, DPF is responsible for (i) review of the invitation and evaluation of expressions of interest; (ii) issuance of the request for proposals; (iii) review and recommendation for approval of contract negotiations; and (iv) contract award if requested by the Project Owner. Please note that ADB does not allow contract negotiations affecting pricing for goods and works. The role of DPF therefore is key for efficient and prompt processing of procurement and consultant selection activities. DPF's review is always based on the Vietnamese version of the bidding documents.

14. Under VAST projects, bid evaluation committee (BEC) and consultants' selection committee (CSC) are appointed for each procurement and consultant selection package. The BECs and CSCs consist of an indefinite number of members. Members are appointed based on selection criteria established by VAST. The BEC and CSC members may be staff of VAST subordinate units and staff of DPF. In some cases, when the nature of the procurement or selection of consultants involves highly technical and complex matters, experts may be recruited to assist with preparation of technical specifications or TORs, and participate as members of the BEC or CSC. This arrangement was established for ODA projects where VAST is involved and which worked well both for assurance of quality and efficiency of project procurement.

15. The DPF of VAST is responsible to review all key procurement activities being undertaken by the PMUs for all packages. There is no threshold set for DPF's review. DPF is also tasked to review all documentation and key procurement actions undertaken by the PMUs and recommend approval to the President. The general practice is that DPF will form a team to review each package. All staff of DPF are required to hold a procurement certificate issued by public procurement agencies under the MPI, and regular training has been provided for staff who wish to improve their skills in procurement management.

16. **Implementing agencies.** An important measure adopted for this project is the centralization of all procurement responsibilities with MOET, the former EA, to limit the number of entities carrying out procurement activities thereby streamlining the procurement approval

process and ensuring consistency in procedures and documentation. Procurement was therefore carried out by implementing agencies – the University Implementation Unit (UIU) for packages required under Outputs 1 and 2, and the Project Management Unit (PMU) for packages required under Outputs 3 and 4. VAST will continue this arrangement.

17. **UIU.** Under the UIU, all technical positions are held by USTH permanent staff (12 positions). For its day-to-day operation, UIU also hires a number of contractual staff and consultants to support the implementation of Outputs 1 and 2. The contractual positions include an international higher education planning consultant, national procurement consultant, national gender consultant, chief accountant, national financial consultant, national disbursement consultant, IT manager, and interpreter. The composition of the UIU will remain unchanged. According to UIU Executive Director, with the engagement of permanent staff under USTH, UIU is closely linked with USTH. UIU's long term strategy for human resources development is to provide additional training to the contracted national consultants and retain them as permanent staff of USTH when the project completes. VAST intends to maintain this current setup in UIU, which may be further strengthened in the future through consulting services support in the areas of equipment selection and impact, quality assurance, information systems, and centers of learning and teaching excellence development.

18. **PMU.** The original PMU under MOET consists of 16 positions, including the project director, chief accountant, accountant for treasury transactions, cashier, 2 administrative staff, 6 national consultants, and 4 contractual staff who are responsible for implementing Outputs 3 and 4. There are national consultants on architecture and construction management who are familiar with bidding processes, but the PMU currently has no specific procurement staff. As soon as VAST is officially acknowledged as EA, it intends to strengthen the PMU structure by (i) assessing all staff and consultants and retaining those that are qualified; others may be replaced by more qualified and suitable staff/consultants; and (ii) more clearly delineating roles and responsibilities among major functioning units for procurement and civil works, planning and finance, and organization and administration. Key positions will be selected from among VAST's staff in its other subordinate units, or selected from external sources.

19. The respective project director positions in PMU and UIU will nevertheless be maintained unless VAST finds a need to replace either/both due to poor performance. Each agency has been working with ADB and has procured several consulting services, equipment, and small works packages using ADB guidelines and procedures. This familiarity will be maximized as both agencies will automatically be absorbed by VAST, and will continue to serve as the IAs. Good practices and qualified staff will be retained. Qualified consultants currently engaged by UIU and PMU will continue to support procurement activities under the Project. These include (i) 2 procurement consultants; (ii) a construction management consultant; (iii) a consultant on construction cost and (iv) a civil infrastructure consultant. VAST intends to strengthen this arrangement by further assessing qualifications, and replacing or recruiting new staff. VAST, PMU, and UIU should take full advantage of procurement expertise available from the ADB Viet Nam resident mission (VRM) in order to identify and resolve lingering or new issues.

20. **Information Management.** All files related to procurement are generally kept by the respective PMUs in accordance with the government's standard regulation on the management and retention of the project documents. This arrangement will continue even as VAST is now the EA. Copies of procurement documents sent to DPF for review are also kept at DPF. There is a central filing and storage system available to the PMUs. Hard copy files are kept in the storage and are scanned for archiving and back-up. Once projects are completed, files are

transferred to the Administrative Office of VAST for storage and archiving. The procurement law stipulates that procurement documents must be archived as required by the law on archival and government regulations.

### **C. Procurement Risks**

21. Despite VAST's extensive background and experience in its own field, procurement risk of the project was still assessed to be high. This considers (i) that VAST has yet to gain specific experience in projects funded by multilateral financing institutions such as the ADB or WB; (ii) VAST DPF which will facilitate certain procurement functions for VAST, likewise has no experience in ADB or WB-financed projects; and (iii) USTHDP includes significant consulting services contracts and large works packages that will entail ICB and likely follow FIDIC contracts. Key challenges in procurement observed are as follows:

22. **Lack of experience in ADB-funded projects.** The assessment identified a number of risks but the most significant one relates to VAST's inexperience in implementing an ADB project. Although VAST has experience with other ODA funded projects, this is their first Project with ADB, and it still has to establish its familiarity with ADB guidelines and procedures. As discussed above, while PMU will carry out major procurement activities for civil works, DPF plays an important role in the oversight and recommendation of key procurement activities. Efficient project implementation will also depend on their timely review and recommendation for approval of procurement and consultant selection milestones. It is therefore important that the responsible DPF staff are familiar with ADB procedures to ensure timely review of the documents.

23. **Appointment of PMU unit heads only after the change of the EA is approved.** Although VAST has confirmed that PMU procurement staff will be selected from existing VAST staff, they have yet to be appointed. It was not possible to directly assess their qualifications but just recently, VAST has advised the appointment of two PMU deputy directors. The qualifications and experiences of the nominated staff will be reviewed and in case qualifications are not satisfactory, ADB will request VAST to nominate more qualified staff. ADB also suggested recruitment of PMU staff who have experience in ADB-funded projects and have familiarity with FIDIC contracts. MOET engaged an international procurement consultant previously, but the consultant did not complete the TOR.

24. **BEC/CSC arrangements.** The members of the BEC and CSC are appointed for each package based on the nature of the goods and services. While this arrangement helps to ensure that the experts will be invited to the BEC/CSC, it may result to delay in formation of the BEC/CSC and inconsistencies in the evaluation of bid packages and technical proposals. VAST has developed qualification criteria for the selection of BEC and CSC members, but the only mandatory qualification to be a member is the holding of a public procurement certificate, which is not a guarantee for timely and consistent evaluation.

25. **Major consulting services need to be re-packaged.** The architecture and engineering (AEC) consultancy and project management supervision consultancy (PMSC) packages have to be restructured. PMU has failed to complete recruitment of AEC package. VAST, on behalf of the government, has confirmed that the package will be cancelled and repackaged as a design-build contract. This also resulted in cancellation of the PMSC package as the scope of civil works will be revised.

26. **Accountability measures.** A formal internal control and audit framework exists in VAST, with segregation of duties, and inspection / audit systems. It is managed by DPF and Department of Inspection. As these departments function as ministry's review agencies, the effectiveness of the control systems is uncertain because of lack of independence. This is however mitigated by a number of independent Ministerial level agency such a State Audit and the Public Procurement Agency (MPI), which reserve the right to conduct assessment at any time during project implementation and after project completion.

#### **D. Positive findings and proposed mitigation measures and recommendations**

27. **Positive findings.** The assessment observes some positive elements to possibly help mitigate the identified risks as follows:

- (i) **Same IAs will continue to work using the approved bid documents by ADB.** VAST has strictly followed the procurement law, which is gradually being harmonized with donor policies and procedures. National Competitive Bidding has been harmonized with major donors, while it has to follow the ICB for bidding documents (BD) and Quality Cost Based Selection/Quality Based Selection (QCBS/QBS) Request for Proposal (RFP) templates for engagement of consultants. These types of packages have been conducted under the Project, and the PMU can continue to follow the previously approved BDs and RFPs. The Deputy Director of DPF has almost 40 years of experience in procurement and construction supervision of civil works packages. He used to occupy the position of Deputy Project Director for an ODA funded Project (Advanced Earth Observing Satellite funded by Government of France). He will be tasked to directly manage and supervise the overall implementation of this Project. A lesson learned from when MOET still served EA was the weak coordination among MOET, PMU and UIU. By having a capable overall project director from VAST, and having both PMU and UIU under VAST's supervision, it is expected that project activities including procurement supervision and monitoring, will be strengthened.
- (ii) **Available human resources for project procurement.** The DPF has 19 staff with different expertise on finance, construction/equipment, investment and other technical areas. It is proposed that unit heads under the PMU will be appointed from among VAST's more than 30 institutes of different technical expertise, from which PMU could also seek technical guidance. DPF will play a key role in the procurement, oversight, and monitoring functions. Although PMU staff have yet to be assessed or newly recruited, national individual consultants including those from UIU can support and carry out procurement activities under the Project. These include (i) 2 national procurement consultants; (ii) national consultant on construction management; (iii) national consultant on construction cost; and (iv) national consultant on civil infrastructure. As agreed during the SPAM, VAST and UIU have developed the draft TOR and required qualifications for the new PMU staff under VAST. These information are available upon request.
- (iii) **VAST's experience in civil works investments.** Annually, VAST handles and implements around 30 construction investment projects using the State budget with an estimated budget of VND 400 billion (US\$20 million equivalent; amount

exclusive of ODA funds). For 2016-2020, VAST's total investment projects amount to about VND3,000 billion (about \$150 million equivalent) from the State budget alone. A separate VAST PMU is established for each project which is tasked to handle and implement the projects. The key positions in these projects are occupied by senior officers of VAST subordinate institutes. There is also a project coordination unit chaired by VAST leaders. The function of DPF is to directly manage the project performance and provide recommendations to VAST's leaders. VAST has several PMUs and experts of ongoing projects, which VAST has the full power to mobilize to support any of VAST's projects when needed. VAST leaders/DPF plan to select and mobilize experienced staff from the other civil works projects and from other subordinate institutes to be involved as member of the appraisal committee. The appraisal committee is chaired by Deputy Director, DPF and 3-4 DPF staff and members coming from VAST 30 PMUs and subordinate institutes.

- (iv) **English proficiency.** About 40% of DPF staff have proficiency with the English language (verbal and written) who can read and study the ADB guidelines. VAST management confirmed that any new PMU/VAST staff who will be involved in the implementation of USTHDP will be prioritized to attend project implementation training provided by ADB. All procurement documents are always translated into Vietnamese to assist DPF in the review of the documents.

28. **Proposed mitigation measures.** Key mitigation measures to be adopted by the project include below, which are further detailed in the Project Procurement Risk Analysis (available upon request):

- (i) Immediate assessment and if necessary, replacement/recruitment of qualified PMU staff upon ADB's approval of VAST as new EA. ADB and VAST should ensure that VAST appointed staff who will head or work for PMU units will be selected based on qualification requirements indicated in the TOR developed during the SPAM
- (ii) Engagement of international and national consultants who have extensive experience in ADB/WB funded projects, managing large infrastructure projects and using FIDIC contracts; and have good command of English to assist the PMU and build critical capacity in project implementation and procurement. Since the AEC and PMSC will be cancelled and re-structured, engaging international and national procurement consultants who have relevant experience in ADB/WB funded projects, in managing large infrastructure projects and experience or familiarity in using FIDIC contracts; and good English capacity to support the PMU in recruiting the consulting firm for the Basic Design, Detailed Design and Construction and PMSC and major civil works packages is critical.
- (iii) Careful review by ADB to ensure that the job description for procurement staff of the PMU include experience with procurement particularly ADB procedures, and proficiency in the English language.
- (iv) Enhancement of the capacity of DPF in its oversight functions through engagement of qualified consultants and ADB training. Providing training to PMU and DPF staff on procurement including familiarization with ADB guidelines and procedures would be an important element to effective implementation and mitigate procurement risks.
- (i) Close monitoring of VAST, streamlining of procurement packages and other processes, including review during project implementation for early resolution of

issues. ADB's close monitoring of the engagement of qualified staff/consultant, procurement processes, and timely support during the Project implementation for immediate resolution of procurement issues.

- (v) Packaging procurement of equipment and service contracts, and consulting services into groups as large as possible to streamline the procurement process, promote increased competition, ensure greater participation of larger international bidders, and reduce governance risks associated with large number of small packages

## I. Project Procurement Framework

29. **Revised project specific procurement thresholds.** There is no ADB specific threshold for education sector. The current procurement thresholds for this project are in accordance with ADB recommended practice in Viet Nam. Updated thresholds are shown in Table 3 below.

**Table 3: Thresholds for Procurement of Goods and Works for USTHDP**

Procurement of Goods and Works	
Method	Threshold
International Competitive Bidding (ICB) for Works	Above \$10,000,000
International Competitive Bidding for Goods	Above \$2,000,000
National Competitive Bidding (NCB) for Works	Beneath that stated for ICB, Works
National Competitive Bidding for Goods	Beneath that stated for ICB, Goods
Shopping for Works	Below \$100,000
Shopping for Goods	Below \$100,000

30. **Updated procurement plan.** The procurement plan for the project has been revised but will be subject to further review by VAST upon its formal appointment as new EA. To avoid further project implementation delays, PMU will be assessed and restructured/strengthened along with the engagement of 1 international procurement consultant. The consultant will assist the PMU in repackaging the AEC, PMSC, and a new civil works package to include preparation of terms of reference, request for proposals, advertisement for expressions of interest from consulting firms, and preparation of bid documents for the major detailed design and construction package. These actions are expected to expedite procurement and recruitment of consultants following the change in EA. In addition to repackaging of AEC and civil works package, VAST will also review the need for cancellation of major consulting packages under Output 1 and 2. The Mission has advised that some of the experts under these packages were already financed by France. VAST will also assess the need for various national consultants, who assume some key functions in the existing PMU transferred from MOET.

## IV. CONCLUSION

31. Overall, the project procurement risk was assessed to be high. The most significant risk identified by this assessment is the inexperience of VAST in handling ADB projects. However, the assessment shows that this can be mitigated by the continued implementing arrangements with PMU and UIU who have been working for this project since effectiveness. Possible delays in assessing and/or engaging new staff for the PMU upon the formal approval of VAST as the



new EA, and the qualifications of the PMU staff with respect to project implementation and procurement should be avoided. In the meantime, some of the national consultants currently contracted by PMU and UIU could assist in procurement activities.

32. Strengthening of PMU including the retention and/or appointment of its key staff should be monitored by ADB to ensure that (i) the procurement unit staff are appointed as soon as possible; (ii) experience and qualification of the staff are adequate to perform the tasks in accordance with the job descriptions; (iii) the procurement staff are familiar with ADB procedures and guidelines and proficient in English; and (iv) assessment of the need for additional training is conducted to enhance knowledge on ADB procurement and qualifications as a procurement staff.

33. The need for training of DPF staff is necessary to familiarize themselves with ADB guidelines and procedures. There is a need to recruit international and national procurement consultants to assist the procurement unit in its initial procurement involving the revised consulting services packages, and the preparation of the bidding documents for the huge and complex civil works package. Also, the consultants are expected to conduct capacity building for PMU procurement unit. Overall the risks identified by the assessment can be mitigated through the immediate, official appointment of VAST as the new EA as well as the appointment of qualified VAST and DPF staff to key PMU positions and oversight functions. Timely engagement of the international procurement and national consultant to support VAST and PMU, and ADB's close monitoring of the appointment/engagement of staff/consultants and supervision of procurement activities, and timely implementation are necessary.

## **APPENDIX 14**

### **List of ADB References**

1. Procurement Guidelines:  
<http://www.adb.org/Documents/Guidelines/Procurement/default.asp>  
Procurement Guidelines (in Vietnamese)  
<http://www.adb.org/Documents/Translations/Vietnamese/Guidelines-Procurement-vn.pdf>
2. Guidelines on Use of Consultants by ADB and Its Borrowers  
<http://www.adb.org/Documents/Guidelines/Consulting/default.asp>  
In Vietnamese  
<http://www.adb.org/Documents/Translations/Vietnamese/Guidelines-Consultants-vn.pdf>
3. Consulting Services Recruitment Notice:  
<http://csr.adb.org>  
<http://csr.adb.org:8080/csr/login.jsp>
4. Templates for engagement of consultants: ( including submission templates)  
<http://www.adb.org/Consulting/loan-rfp.asp>
5. Harmonized RFP (Loans)  
<http://www.adb.org/Consulting/all-methods-loan.asp>
6. Sample Individual consultant contract  
<http://www.adb.org/Consulting/ICS-Contract-Loan.pdf>
7. Consulting Services Operations Manual  
<http://www.adb.org/Documents/Manuals/Consulting-Services-Operations-Manual/CSOM.pdf>
8. Toolkits and Templates for Consultants:  
<http://www.adb.org/Consulting/toolkit-template.asp>
9. Procurement Documents:  
<http://www.adb.org/Procurement/prequalification-bid-documents.asp>
10. User's Guide ( Procurement of Goods)  
[http://www.adb.org/Documents/Manuals/Bidding\\_Documents/Goods/SBD-Goods-Users-Guide.pdf](http://www.adb.org/Documents/Manuals/Bidding_Documents/Goods/SBD-Goods-Users-Guide.pdf)
11. User's Guide (Small Civil Works - below \$10 Million)  
[http://www.adb.org/Documents/Manuals/bidding\\_documents/prequalification/SBDWorks-sml-UserGuide.pdf](http://www.adb.org/Documents/Manuals/bidding_documents/prequalification/SBDWorks-sml-UserGuide.pdf)
12. Guide on Bid Evaluation  
[www.adb.org/Procurement/guide-bid-apr06.pdf](http://www.adb.org/Procurement/guide-bid-apr06.pdf)
13. Procurement Plans  
<http://www.adb.org/Projects/reports.asp?key=reprs&val=PP>
14. Electronic Procurement  
<http://www.mdbegp.org/www/eGPInteractiveus/tabid/69/language/en-US/Default.aspx>
15. E-GP (Electronic Government Procurement) Toolkit  
<http://www.mdbegp.org/www/eGPToolkitus/tabid/67/language/en-US/Default.aspx>

16. Project Administration Instructions

<http://www.adb.org/Documents/Manuals/PAI/default.asp>

17. E-Handbook on Project Implementation

<http://www.adb.org/Documents/handbooks/project-implementation/default.asp?p=proj>

18. Anticorruption and Integrity

<http://www.adb.org/Integrity/default.asp>

19. How to report fraud and corruption

<http://www.adb.org/Integrity/howto.asp>