

Project Administration Manual

Project Number: 42079
Loan Number: TBD
23 March 2011

Socialist Republic of Viet Nam: University of Science
and Technology of Hanoi 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 Ministry of Education and Training (MOET), Viet Nam, 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 MOET 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
ADF	–	Asian Development Fund
ADFHT	–	hard terms facility of the Asian Development Fund
AEC	–	architects and engineering consultants
CCC	–	construction cost consultant company
CTLE	–	centre for teaching and learning excellence
DHE	–	Department of Higher Education
DPF	–	Department of Planning and Finance
GAP	–	gender action plan
GDP	–	gross domestic product
HEI	–	higher education institution
HERA	–	Higher Education Reform Agenda
HHTP	–	Hoa Lac High Tech Park
IA	–	independent auditor
ICB	–	international competitive bidding
JICA	–	Japan International Cooperation Agency
LIBOR	–	London Inter-Bank Offered Rate
MC	–	main contractor
MOET	–	Ministry of Education and Training
MOF	–	Ministry of Finance
MOJ	–	Ministry of Justice
NCB	–	national competitive bidding
MPI	–	Ministry of Planning and Investment
NEB	–	national executive board
NMU	–	new model university
OCR	–	ordinary capital resources
OSS	–	office of student services
PAM	–	project administration manual
PhD	–	Doctor of Philosophy
PM	–	probity monitor
PMC	–	Project Management Company
PMU-UE	–	project management unit for universities of excellence
PMU- USTH	–	project management unit for USTH
PPR	–	procurement and project readiness
QA	–	quality assurance
SEDP	–	Socio Economic Development Plan
UIU	–	university implementation unit
USTH	–	University of Science and Technology of Hanoi
USTHDP	–	University of Science and Technology of Hanoi Development Project
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—in June 2010. The design and monitoring framework¹ 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

¹ 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 (ASEAN). 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 Project² and Higher Education Development Policy Program³ 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 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

² World Bank. 2007. *Vietnam: Second Higher Education Project*. Washington DC.

³ World Bank. 2009. *Vietnam: Higher Education Development Policy Program*. Washington DC.

49th in 2010 to 45th 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						Responsibility
	1	2	3	4	5	6	
Advance contracting actions			√				MOET
Establish project implementation arrangements			√				MOET
Loan negotiations			√				Government and ADB
ADB Board approval				√			ADB
Loan agreement signing				√			MOF and ADB
Government legal opinion provided					√		MOJ
Loan effectiveness						√	MOF and ADB

18. **Implementation Strategies.** Detailed implementation strategies have been developed for each of the main project activities: university management (Appendix 2), academic development and equipment (Appendix 2), campus development (Appendix 3), and project management and procurement (Appendix 4).

Implementation Schedule

[illegible]

Activities	Year 1				Year 2				Year 3				Year 4				Year 5				Year 6			
	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV
(viii) Implement Gender Action Plan																								
Output 2. Systems to Promote High Quality and Relevance in Academic Programs at USTH Developed and Implemented																								
2.1 Establishing a Centre for Teaching & Learning Excellence																								
(i) Systems for development & approval of curriculum established, staff trained																								
(ii) Initial CB induction for 1 st & 2 nd cohort local staff in new pedagogy completed																								
(iii) Ongoing system for training in curriculum dev and pedagogy established																								
a Teaching Certification Programs for grad 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 T&L Centre established, trained, operating																								
2.2 Establishing a Quality Assurance & Academic Management Systems																								
(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 uni-based tracer studies of students, for employer needs info																								
b Establish other regular surveys of industry, feed-back to program design																								
c Establish staff selection, performance & management system																								
d Establish monitoring for appraisal of leadership for institutional change																								
2.3 Establishing a Research Support Centre																								
(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																								
2.4 Establishing an Industry Engagement Centre																								
(i) Roles and staffing agreed, staff recruited and trained																								

[illegible]

Activities	Year 1				Year 2				Year 3				Year 4				Year 5				Year 6			
	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV
(v) PMC procured, contract commenced, and active throughout project																								
(vi) AEC procured, contract commenced; then Main Contractor procured, commenced; contracts active throughout remainder of project																								
(vii) Accounts audited annually, reported to NEB , published																								
(viii) Regular ADB Review Missions ; Mid-Term Review ; Final Review																								
4.2 UIUs manage USTH development																								
(i) Oversee implementation of Output 1 & 2; coordinate with PMC to support education specifications for construction and procurement and installation of laboratory equipment																								
(ii) Capacity Building activities supported and monitored, completed																								

QS = Quantity Survey firm, providing construction support & quality management; DHE = Department of Higher Education; USTH = University of Science and Technology Hanoi; ICT = Information and Communication Technology; IP = Intellectual Property; M&E = Monitoring and Evaluation; MOET = Ministry of Education and Training; NEB = National Executive Board; PMU-USTH= Project Management Unit-for USTH; UIU = university Implementation Unit; QA = quality assurance, QAC = Quality Assurance Centre.

IV. PROJECT MANAGEMENT ARRANGEMENTS

A. Project Implementation Organizations – Roles and Responsibilities

Project Organizations	Management Roles and Responsibilities
National Executive Board	<ul style="list-style-type: none"> • Provide overall guidance to the project • Support cross-agency policy dialogue and coordination of recurrent financing for research activities • Approve requests and documents within its jurisdiction (i.e. approval of overall project implementation plan, General Procurement Plans,
Project Management Unit for Universities of Excellence (PMU-UE)	<ul style="list-style-type: none"> • Advise the Cabinet on key developments in project implementation • Provide guidance on strategy for development of USTH • Facilitating cross-agency dialogue, and cross-departmental coordination in MOET and with USTH and VGU • Review overall implementation plan at least twice annually.
Project Management Unit for USTH (PMU_USTH) (sub-unit of PMU-UE)	<ul style="list-style-type: none"> • Manage coordination with the UIU and other relevant agencies • Facilitating the processing and approval by the PMU-UE and NEB of the integrated procurement and implementation plan • Preparing the Project Procurement Plan and Procuring and contracting the PPR, the PM, the FMSI, the CCC, the IA, the PMC, the AEC and the MC • Establishing and maintaining an efficient financial management system, report and review withdrawal applications and send requests for direct payments to ADB • Develop specific processes of expenditure from counterpart funds, submit these processes to concerned authorities for approval • 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 • Consolidate project reports from the PMC, the CCC and the IA, and the UIU, and forwarding them to the NEB with MOET comments • preparing consolidated financial statements for the project as a whole, signed by MOET, and audited by the IA for the information of the NEB and the ADB • Managing the M&E for the project • Ensuring that recommendations in the reports of the PMC, the CCC and the IA and the UIU are followed up effectively • Submit periodic and ad-hoc reports on project performance as required by concerned agencies • Liquidate investment cost of the project in accordance with applicable regulations.
Project Director (PD), PMU-USTH	<ul style="list-style-type: none"> • Senior Manager of PMU-USTH day-to-day business • Supervise and oversee project implementation • Ensure the project achieves agreed outputs and outcomes in respect of Outputs 3 and 4 • Mobilize professional staff to support project implementation for Outputs 3 and 4 • Supervise contractors specified for outputs 3 and 4 • Ensure effective and cooperative coordination with all stakeholders, including MOET, Ministers, the NEB, the UIU and the ADB, to achieve all project outcomes and complete the project on time • Maintain liaison with the PMU-VGU and World Bank, to share information and lessons

Project Organizations	Management Roles and Responsibilities
	<ul style="list-style-type: none"> • Oversee financial management and disbursement in accordance with the provisions of the Project Administration Manual and the Loan Agreements; ensure timely processing of all financial transactions • Ensure that the planned timeline benchmarks in the project implementation plan and procurement sequence are maintained • 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) • Manage contract award approval timelines to standard (not exceed 7 days) • Sign the contracts administered by the PMU-USTH (after Ministerial approval)
Standing Deputy Director, PMU-USTH	<ul style="list-style-type: none"> • Assist the Project Director in all functions • Primary responsibility for preparing and submitting all PMU-USTH project reports • Primary responsibility for management of day-to-day procurement processes and ensuring the timely determination of contracts and preparation of TEP reports. Submit all procurement reports to the PD/Minister for approval, • Primary responsibility for routine liaison with all contractors and Government stakeholders • Primary responsibility for supervision of operational staff • Primary responsibility for managing the project monitoring and evaluation activities and ensuring timely monitoring reports and for adapting actions to respond to monitoring findings to improve implementation performance. • Ensure effective cooperation with the UIU; receive and integrate reports from UIU into Project implementation Reports
University Implementation Unit (UIU)	<ul style="list-style-type: none"> • 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 • Manage Procurement for UIU Procurement Adviser and Education Services Consultant and Education Equipment contractor • Advise PMU-USTH on specifications for architectural design, especially facilities brief and laboratory specification • 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: • Provide representatives to work with PMU-USTH on all relevant matters of construction management • Report the progress of the UIU to the PMU-USTH
ADB	<ul style="list-style-type: none"> • Supervise project implementation and ensure compliance with the Loan Agreement and PAM • Conduct review missions every six months with appropriately qualified experts to assess construction progress and university and academic development

B. Key Persons Involved in Implementation

Executing Agency

Ministry of Education

Mr. Pham Vu Luan
Minister of Education and Training
49 Dai Co Viet
Hanoi, Viet Nam
Telephone: +84-4-3869 1414; Fax: +84-4-3869 4085
Email: pvluan@MOET.edu.vn, pvluan@MOET.gov.vn,
bogddt@MOET.edu.vn

Implementing Agencies

PMU-USTH

Mr. Nguyen Quoc Huy, Standing Deputy Director
PMU-USTH
Ministry of Education and Training
49 Dai Co Viet
Hanoi, Viet Nam
Telephone (M): 09 8383 2468
Email: huybqd@yahoo.com

USTH Subproject Management Unit
(UIU)

Prof Pierre Sebban, Rector
University of Science and Technology of Hanoi
VAST, 18 Hoang Quoc Viet Road, 10307
Cau Giay, Viet Nam
Telephone: 012 2820 9393
Email: pierre.sebban@usth.edu.vn

ADB

Division Director

Ms. Ikuko Matsumoto
Director, Human and Social Development Division
Telephone: +632 632 5689
Email: imatsumoto@adb.org

Mission Leader

Norman LaRocque
Senior Education Specialist
Human and Social Development Division
Telephone: +632 632 6958
Email: nlarocque@adb.org

C. Project Organization Structure

19. A project steering committee, the National Executive Board (NEB), will be established by loan effectiveness to provide guidance on strategy for development and support cross-agency policy dialogue and will approve the overall implementation and financial plan. The NEB will be chaired by a Deputy Prime Minister and will include senior representatives from MOET, Ministry of Finance, Ministry of Planning and Investment and other ministries.

20. MOET will be the Executing Agency for the Project. It will also be the Implementing Agency (IA) for Outputs 3 and 4. USTH will be the IA for Outputs 1 and 2 and will establish a university implementation unit (UIU) by loan effectiveness. The EA has established an overall PMU (PMU-UE) to: (i) manage and oversee overall project activities, and (ii) facilitate dialogue and coordinate across MOET departments, and other relevant agencies. The PMU-UE will also oversee the implementation of the World Bank loan for Viet Nam-German University. The PMU-UE will be headed by the Minister of Education. In addition, the EA will establish a project management sub-unit, to be called PMU-USTH responsible for: (i) implementing Output 3; (ii) processing withdrawal applications, (iii) supporting the UIU in the implementation of Outputs 1

and 2; and (iv) monitoring USTH activities; and (v) preparing project reports. The PMU-USTH will be headed by a full-time professional project manager with relevant experience in a project of similar size, and will be supported by a fulltime Standing Deputy Director, drawn from MOET. The PMU-USTH will have at least 8 fulltime staff. A regulation establishing the PMU-USTH and appointing the Project Director of the PMU-USTH will be issued by loan effectiveness.

21. The UIU will: (i) implement activities under Outputs 1 and 2; (ii) manage the contracting and provide oversight of USTH's internal management and academic development; (iii) determine the specifications and lists of specialized equipment for laboratories and the library; (iv) liaise closely with the construction project manager to advise on and support the design specifications of the buildings and laboratories to be built; and (v) manage the procurement of the laboratory equipment and liaise with the PMC and MC to ensure that the procurement and installation is appropriately linked to the construction schedule. The UIU will be headed by a manager and will have at least 11 fulltime equivalent staff. The overall project organization structure is in Figure 1 and organization structures of PMU-UE, PMU-USTH and UIU are in Figures 2 and 3.

Figure 1: Project Organization Structure

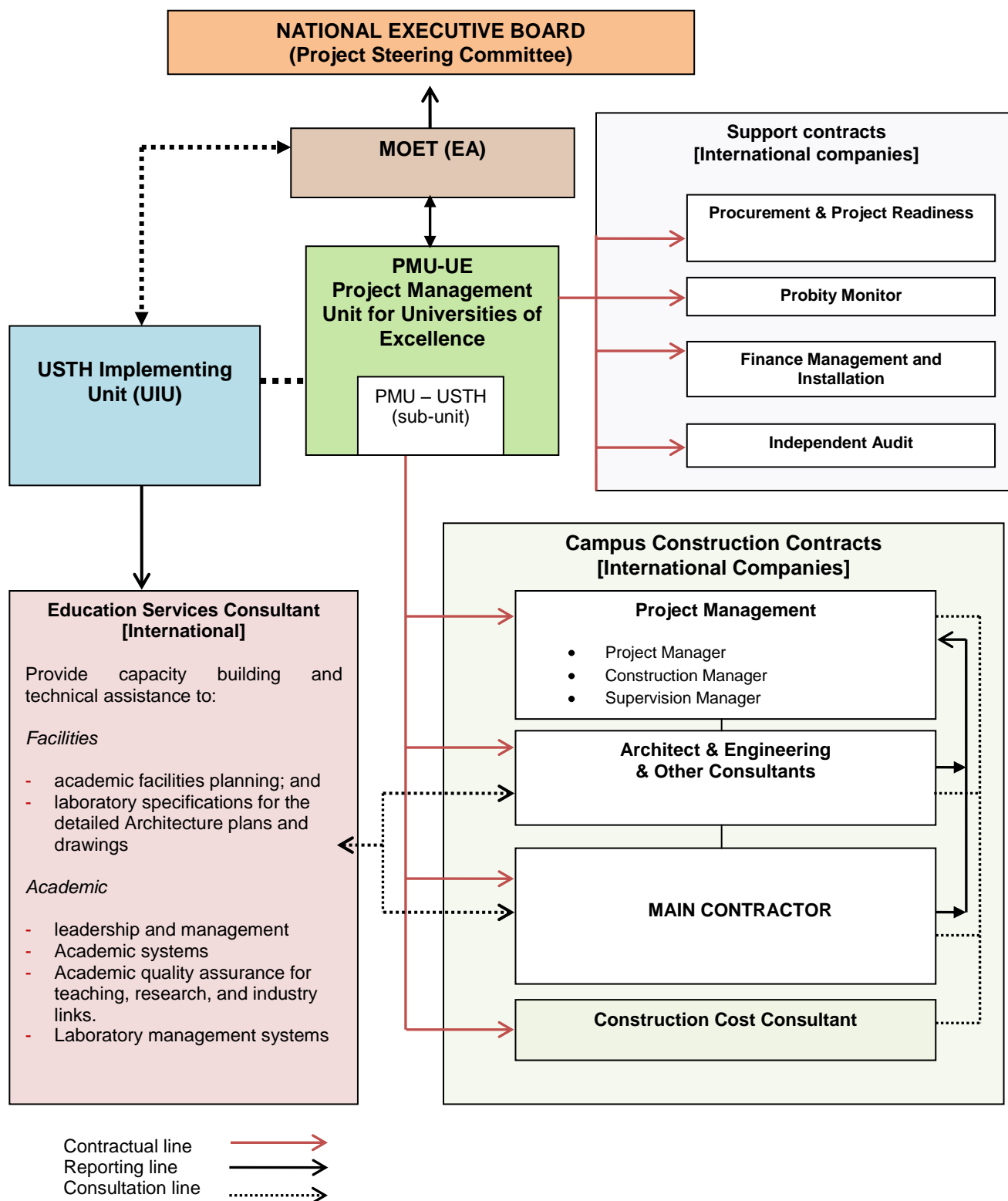
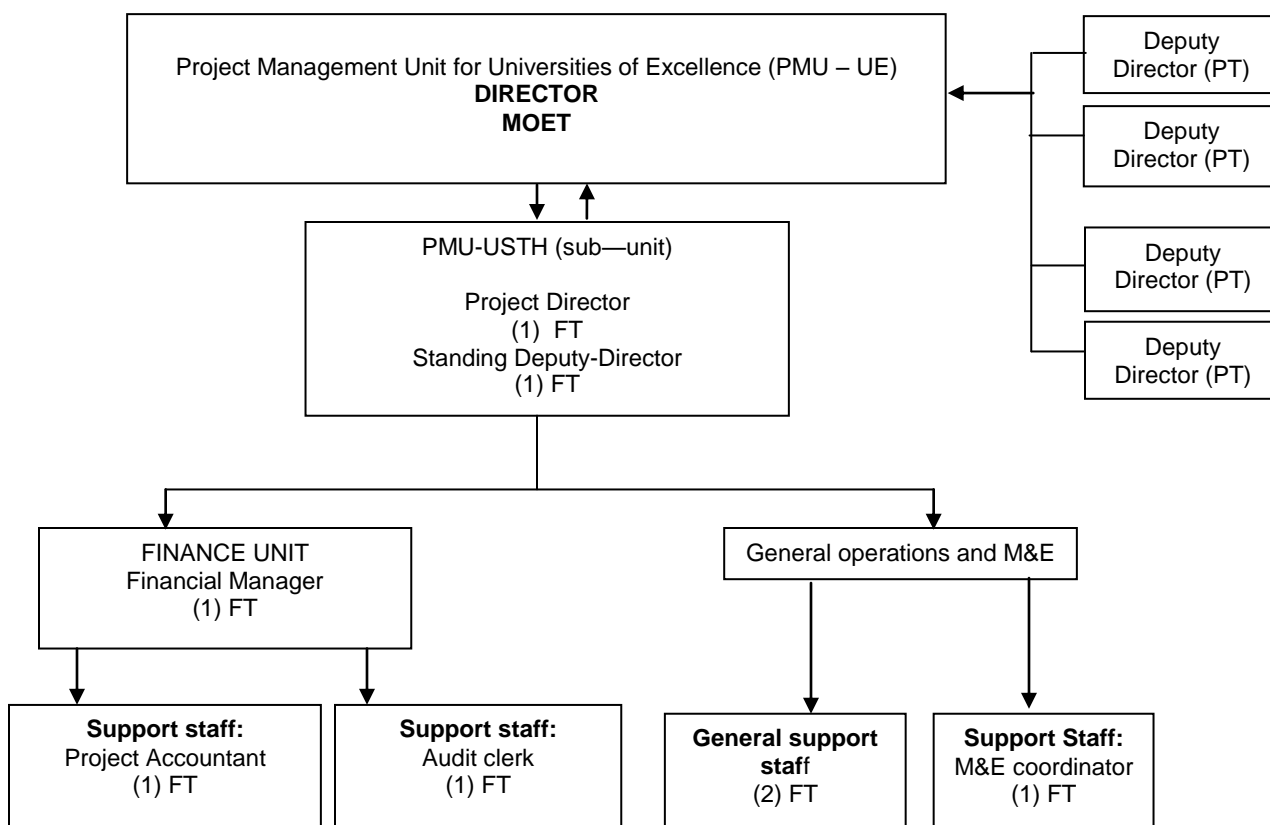
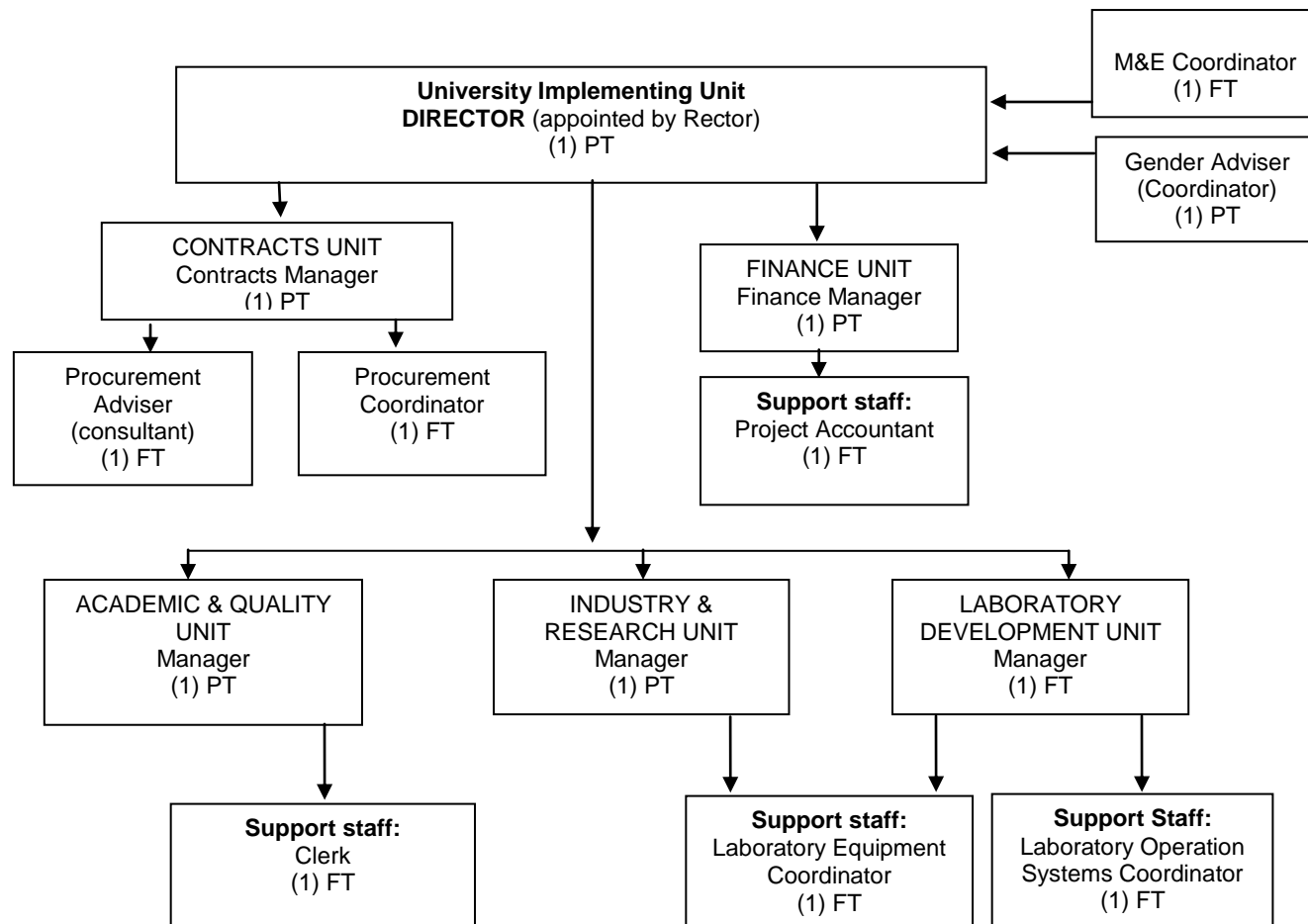


Figure 2: Organization Chart for PMU–UE & PMU-USTH



Notes: FT = full time. PT = part time.

8 full-time staff funded from project funds. Full time Project Director to be funded from project costs. Part time Deputy Directors are full-time MOET Department staff, not receiving salary from project funds. Part time MOET members may receive allowances from government counterpart contribution for sitting fees for attendance at formally specified PMU planning meetings (if consistent with Viet Nam law.)

Figure 3: Organization Chart for University (USTH) Implementing Unit - UIU

Notes: FT = full time. PT = part time.

11 UIU full time staff equivalent (FTE) funded from project funds:

Director – 0.25

Contract Manager – 0.75

Procurement adviser – 0.5 (international consultant)

Procurement coordinator – 1.0

Finance manager – 0.5

Project accountant – 1.0

Academic, Q manager – 0.75

Industry and Research manager – 0.75

Laboratory Dev manager – 1.0

Support staff – 3.0

M&E coordinator – 1.0

Gender – 0.25

V. COSTS AND FINANCING

22. 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 ^a
A. Base Cost^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	48.1
3. Physical facilities for USTH constructed and outfitted ^c	123.8
4. Effective project management and implementation	3.7
Subtotal (A)	180.4
B. Contingencies	21.2
C. Interest and Commitment Charges^d	11.4
Total (A+B+C)	213.0

USTH = University of Science and Technology of Hanoi

^a 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.

^b In 2010 prices.

^c Physical contingencies are set at 5.2% for civil works and equipment. Price contingencies are computed at 2.0% on locally sourced expenditure and 1.0% on foreign-sourced expenditure.

^d Includes interest during construction on ordinary capital resources and hard terms facility of the Asian Development Fund loans and commitment charges on the OCR loan.

Source: Asian Development Bank estimates.

23. 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)

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

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

^a Includes taxes and duties, resettlement costs, and contributions to other costs.

Source: Asian Development Bank.

24. 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).

A. Detailed Cost Estimates by Expenditure Category

		(VND Millions (a))			(US\$ '000)			Project	Local % of
Item		Foreign	Local	Total	Foreign	Local	Total	Costs %	expenditure (b)
A. Investment Costs									
1	Capacity Building	127,958	42,421	170,379	\$6,187.5	\$2,051.3	\$8,238.8		
1.1	Consultant Services – International (a)	127,958	0	127,958	\$6,187.5	\$0.0	\$6,187.5	2.9	0
1.2	Consultant Services – National	0	17,061	17,061	\$0.0	\$825.0	\$825.0	0.4	100
1.3	Rent & utilities		25,360	25,360	\$0.0	\$1,226.3	\$1,226.3	0.6	100
2	Systems Development and Training and Training	38,955	0	38,955	\$1,883.7	\$0.0	\$1,883.7	0.9	0
3	Scholarships	0	20,680	20,680	\$0.0	\$1,000.0	\$1,000.0	0.5	100
4	Equipment and Vehicles	703,120	124,080	827,200	\$34,000.0	\$6,000.0	\$40,000.0	18.8	15
5	Civil Works	895,274	1,342,910	2,238,184	\$43,291.8	\$64,937.6	\$108,229.4	50.8	60
6	Project Design and Supervision	191,364	127,576	318,939	\$9,253.6	\$6,169.0	\$15,422.6	7.2	40
7	Project Management Unit Operations	5,483	49,346	54,829	\$265.1	\$2,386.2	\$2,651.3	1.2	90
8	Re-settlement	0	62,509	62,509	\$0.0	\$3,022.7	\$3,022.7	1.4	100
10	Subtotal (A) - Total Base Costs	1,962,153	1,769,522	3,731,675	\$94,881.7	\$85,566.9	\$180,448.5	84.7	
B. Contingencies									
11	Physical Contingencies	59,103	88,655	147,759	\$2,858.0	\$4,287.0	\$7,145.0	3.4	60
12	Price Contingencies	104,817	186,131	290,948	\$5,068.5	\$9,000.5	\$14,069.1	6.6	64
13	Subtotal (B)	163,921	274,786	438,707	\$7,926.5	\$13,287.5	\$21,214.1	10.0	
C. Interest Charges									
14	Interest and Commitment Charges on OCR Loan	214,106	0	214,106	\$10,353.3		\$10,353.3	4.9	0
15	Interest Charges on ADFHT Loan	20,769	0	20,769	\$1,004.3		\$1,004.3	0.5	0
16	Subtotal C FCDI	234,875	0	234,875	\$11,357.6		\$11,357.6	5.3	0
	Overall Total (A+B+C)	2,360,948	2,044,308	4,405,257	\$114,165.8	\$98,854.4	\$213,020.2	100.0	46

^a Dollar costs are converted to VND at VND20,680 = USD1.

^b The percentages in this column are broad assumptions, based on the nature of the item and experience with previous projects. For item 12, the local-foreign split has been calculated based on the different rates of inflation assumed for local and foreign expenditure.

A. Allocation and Withdrawal of Loan Proceeds**Table 3: OCR Loan**

ALLOCATION AND WITHDRAWAL OF LOAN PROCEEDS (University of Science and Technology of Ha Noi Development [New Model University] Project)			
CATEGORY			ADB FINANCING
Number	Item	Amount Allocated Category	Withdrawal from the Loan Account
1	Equipment	39,600,000	100.00% 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
	Total	170,000,000	

* 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

ALLOCATION AND WITHDRAWAL OF LOAN PROCEEDS (University of Science and Technology of Ha Noi Development [New Model University] Project)			
CATEGORY			ADB FINANCING
Number	Item	Amount Allocated (SDR) Category	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	631,000.00	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	100% of amount due
	Total	12, 609,000	

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

** The remaining 60.9% of the expenditures 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
A	Investment Costs							
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	\$40,000.0	100.0					\$40,000.0
5	Civil Works	\$90,088.2	91.6			\$8,302.2	8.4	\$98,390.4
6	Project Design and Supervision	\$8,344.4	59.5	\$5,676.1	40.5			\$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)	\$138,432.6	77.8	\$18,995.6	9.3	\$23,020.3	12.8	\$180,448.5
B	Contingencies	\$21,214.1	100.0	\$0.0	0.0	0		\$21,214.1
C	Interest Charges	\$10,353.3	100.0	\$1,004.3	30.2	0		\$11,357.6
	Total Project Costs (A+B+C)	\$170,000.0	79.9	\$19,999.9	9.2	\$23,020.3	10.8	\$213,020.2

ADB = Asian Development Bank, GVN = Government of SR 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 Vietnam wishes to pay in full taxes and duties.

(b) Government of Vietnam 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		Development of Academic Programmes, Equipment		Output 3 - Physical Facilities for USTH		Output 4 - Project Management	
		Total	Amount	% of Cost Category	Amount	% of Cost Category	Amount	% of Cost Category	Amount	% of Cost Category
A	Base Costs									
1	Capacity Building	\$8,238.8	\$3,081.3	37.4	\$5,157.5	62.6				
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				
2	Systems Development and Training	\$1,883.7	\$678.1	36.0	\$1,205.6	64.0				
3	Scholarships	\$1,000.0	\$1,000.0	100.0						
4	Equipment and Vehicles	\$40,000.0			\$40,000.0	100.0				
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	400.0			400.0	100.0				
5	Civil Works	\$108,229.4					\$108,229.4	100.0		
5.1	Zone A - Administration and Learning Resources Centre	9,633.4					9,633.4	100.0		
5.2	Zone B - Academic	65,566.1					65,566.1	100.0		
5.3	Zone C - Dormitories and Student Activities	18,006.8					18,006.8	100.0		
5.4	Zone D - Services and Infrastructure	15,023.0					15,023.0	100.0		
6	Project Design and Supervision	\$15,422.6	\$130.8	0.8	\$1,715.1	11.1	\$12,560.6	81.4	\$1,016.1	6.6
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
7	Project Management Unit	\$2,651.3						0.0	\$2,651.3	100.0
8	Re-settlement	\$3,022.7					\$3,022.7	100.0		
Subtotal (A)		\$180,448.5	\$4,890.2	2.7	\$48,078.1	26.6	\$123,812.7	68.6	\$3,667.4	2.0
12	Physical Contingencies	7,145.0			\$2,036.3	28.5	\$5,108.7	71.5		
13	Price Contingencies	14,069.1	\$269.6	1.9	\$3,240.0	23.0	\$10,358.5	73.6	\$201.0	1.4
14	Interest and Commitment Charges -OCR Loan	10,353.3	\$0.0	0.0	\$3,064.6	29.6	\$7,247.3	70.0	\$41.4	0.4
15	Interest charges - ADFHT Loan	1,004.3	\$251.1	25.0	\$371.6	37.0	\$241.0	24.0	\$140.6	14.0
Subtotal (B)		\$2,571.7	\$20.68	1.6	\$712.53	26.7	\$2,955.48	70.5	\$382.98	1.2
GRAND TOTALS		\$213,020.2	\$5,410.9	2.5	\$56,790.6	26.7	\$146,768.2	68.9	\$4,050.4	1.9

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

		US\$ '000								
		Item	Total	2011	2012	2013	2014	2015	2016	2017
A. Investment Costs										
	1	Capacity Building	8,238.8	0.0	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	0.0	188.4	282.6	282.6	376.7	376.7	376.7
	3	Scholarships	1,000.0	0.0	100.0	150.0	150.0	200.0	200.0	200.0
	4	Equipment and Vehicles	40,000.0	0.0	0.0	4,000.0	6,000.0	6,000.0	12,000.0	12,000.0
	5	Civil Works	108,229.4	0.0	0.0	10,822.9	27,057.4	32,468.8	32,468.8	5,411.5
	6	Project Design and Supervision	15,422.6	771.1	1,156.7	3,855.7	3,084.5	2,930.3	2,930.3	694.0
	7	Project Management Unit	2,651.3	265.1	450.7	450.7	450.7	450.7	450.7	132.6
	8	Re-settlement	3,022.7	755.7	1,511.4	755.7				
		Total Base Costs (A)	180,448.5	1,791.9	4,231.0	21,553.4	38,261.0	44,074.3	50,074.3	20,462.6
B. Contingencies										
	9	Physical Contingencies	7,145.0	0.0	0.0	714.5	1,786.3	2,143.5	2,143.5	357.3
	10	Price Contingencies	14,069.1	30.9	139.6	1,004.9	2,475.3	3,623.6	4,812.7	1,982.0
	11	Interest and Commitment Charges - OCR Loan	10,353.3	133.7	283.7	533.9	1,259.0	2,335.3	3,625.2	2,182.5
	12	Interest Charges - ADFHT loan	1,004.3	5.2	30.0	84.9	153.6	225.9	304.7	200.0
		Total Contingencies & Interest (B)	32,571.7	169.8	453.3	2,338.2	5,674.2	8,328.3	10,886.1	4,721.8
		GRAND TOTALS (A+B)	213,020.2	1,961.8	4,684.3	23,891.6	43,935.1	52,402.6	60,960.4	25,184.3

Notes:

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

Items	2011	2012	2013	2014	2015	2016	2017	Total
Items 1-5.		0.1	0.15	0.15	0.2	0.20	0.20	1.00
Item 6			0.10	0.15	0.15	0.30	0.30	1.00
Items 7 and 11			0.10	0.25	0.30	0.30	0.05	1.00
Item 8	0.05	0.075	0.25	0.20	0.19	0.19	0.045	1.00
Item 9	0.10	0.17	0.17	0.17	0.17	0.17	0.05	1.00
Item 10	0.25	0.50	0.25					

2. The expenditure profile is based on the procurement time-line set out at Appendix 4 to this Manual.

VI. FINANCIAL MANAGEMENT

A. Financial Management Assessment

25. 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 14.

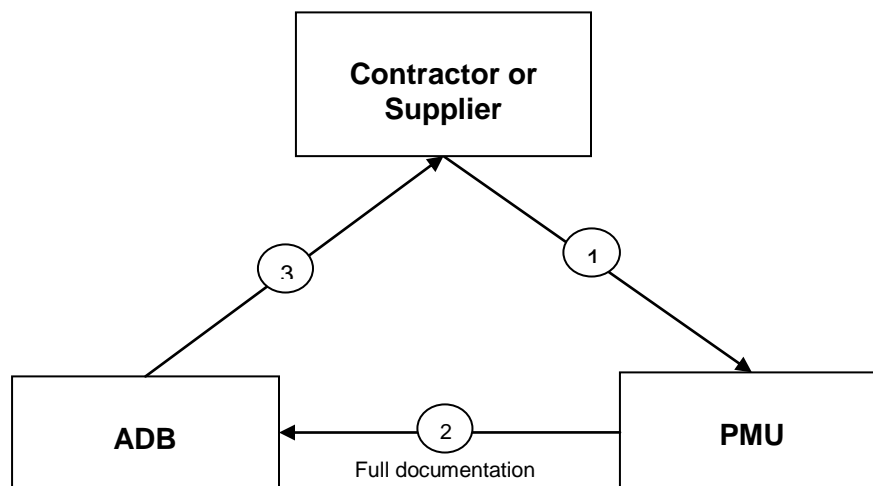
B. Disbursement

26. The loan proceeds will be disbursed in accordance with ADB's *Loan Disbursement Handbook* (2007, as amended from time to time),⁴ and detailed arrangements agreed upon between the government and ADB.

27. Pursuant to ADB's Safeguard Policy Statement (2009) (SPS),⁵ 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) to subprojects financed by ADB.

28. **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 3.

Figure 3: Direct Payment



⁴ Available at: http://www.adb.org/Documents/Handbooks/Loan_Disbursement/loan-disbursement-final.pdf.

⁵ Available at: <http://www.adb.org/Documents/Policies/Safeguards/Safeguard-Policy-Statement-June2009.pdf>

29. **Imprest Account.** The PMU-USTH and UIU will each establish two imprest accounts (total of 4) to manage all funds and payments that are not subject to direct payments. Each unit 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 Account 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 of Imprest Account 1 and 3 will not exceed the estimated ADB-financed expenditures to be paid from the imprest accounts for the next 6 months or \$17 million in aggregate (10% of the OCR loan amount), whichever will be lower. The maximum ceiling of Imprest Account 2 and 4 will not exceed the estimated ADB-financed expenditures to be paid from the imprest account for the next 6 months or \$2 million in aggregate (10% of the ADF loan amount), whichever will be lower.

30. 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.

31. The request for initial advance to the imprest account should be accompanied by an Estimate of Expenditure Sheet⁶ 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 account, 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.⁷

32. The minimum value per withdrawal application is US\$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.

33. 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.⁸

⁶ Available in Appendix 29 of the *Loan Disbursement Handbook*.

⁷ Follow the format provided in Appendix 30 of the *Loan Disbursement Handbook*.

⁸ 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/SOE-Contracts-100-Below.xls

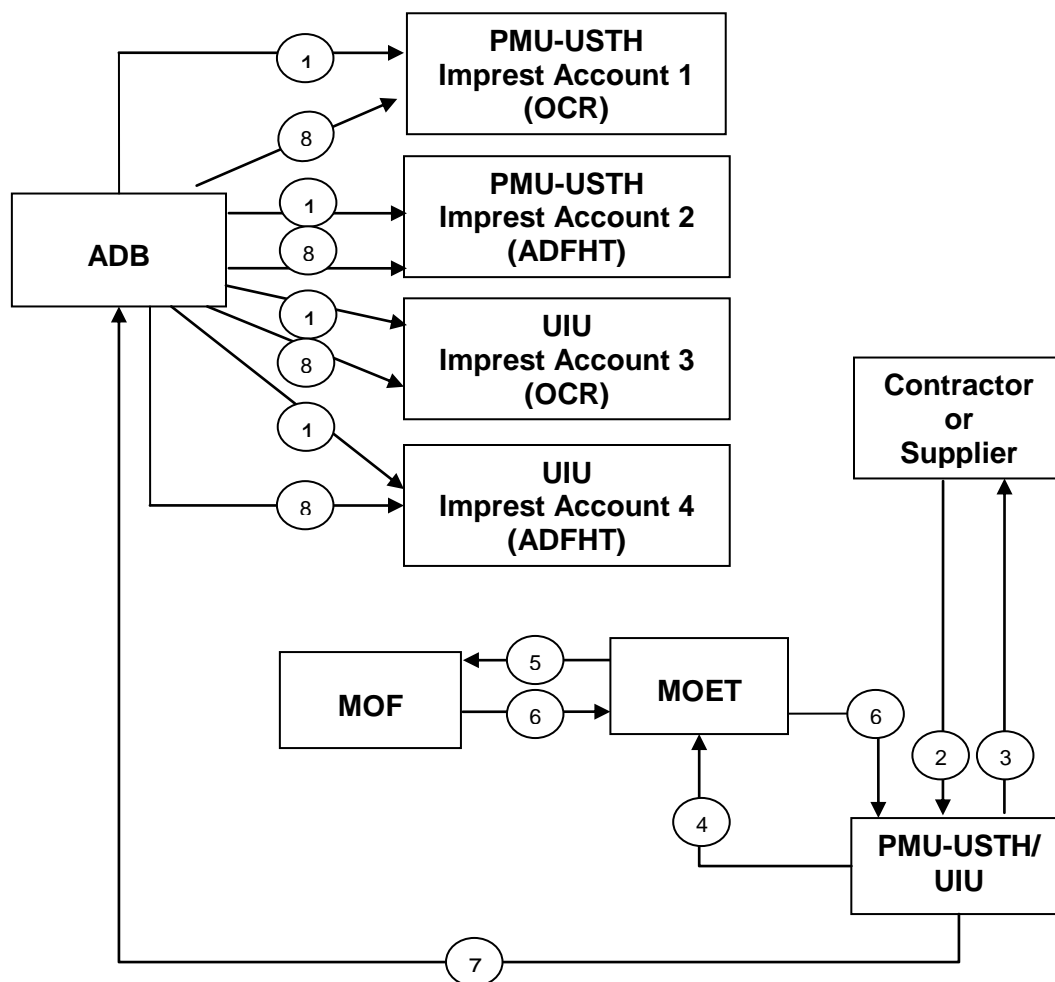
http://www.adb.org/documents/handbooks/loan_disbursement/SOE-Contracts-Over-100.xls

http://www.adb.org/documents/handbooks/loan_disbursement/SOE-Operating-Costs.xls

http://www.adb.org/documents/handbooks/loan_disbursement/SOE-Free-Format.xls

34. Process flow for Imprest Fund procedure is shown in Figure 4.

Figure 4: Imprest Fund



- (1) Initial Advance
- (2) Invoice/Billing
- (3) Payment to Contractor
- (4) Request for Endorsement of Withdrawal Application from MOET
- (5) Request for Endorsement of Withdrawal Application from MOF
- (6) Endorsement of Request
- (7) Withdrawal Application Submission to ADB (full documentation or SOE)
- (8) Replenishment of Imprest Account

C. Accounting

35. MOET will maintain separate project accounts and records by funding source for all expenditures incurred on the project. Project accounts will follow international accounting principles and practices. The UIU will report to the PMU-USTH on financial transactions and the PMU-USTH will be responsible for collating a set of coordinated (single) project financial reports on a quarterly basis.

D. Auditing

36. The PMU-USTH will consolidate project accounts. 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 the MOET 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. Advance Contracting and Retroactive Financing

37. All advance contracting and retroactive financing will be undertaken in conformity with ADB's *Procurement Guidelines* (April 2010, as amended from time to time) and ADB's *Guidelines on the Use of Consultants by ADB and its Borrowers* (April 2010, as amended from time to time).⁹ The issuance of invitations to bid under advance contracting and retroactive financing will be subject to ADB approval.

38. **Retroactive financing.** The government requested retroactive financing for consultant recruitment. Retroactive financing shall be allowed for eligible disbursements made not earlier than 12 months before loan signing, and not later than date of loan effectiveness. Retroactive financing is permitted only if (i) it is specifically agreed by ADB and the Borrower in the loan agreement; (ii) the goods, works, services and consultants for which it is requested are procured in accordance with ADB's *Procurement Guidelines* and *Guidelines on the Use of Consultants by ADB and its Borrowers* (April 2010, as amended from time to time) under arrangements acceptable to ADB; and (iii) the amount to be retroactively financed does not exceed 5% of the loan amount.

39. **Advance contracting.** The advance contracting will include (i) procurement of a Procurement and Project Readiness consultant firm (PPR) by the PMU-USTH, and a separate individual procurement adviser by the UIU. The PPR will assist the PMU-USTH with prequalification of contractors, tendering, and bid evaluation for the PM, the FMSI, the IA and CCC and PMC (procurement of subsequent contract packages for the AEC and the MC will be assisted by the PMC). The procurement adviser for the UIU will assist the UIU with (i) preparation of tender documents, selection processes and award of contract for the procurement of the Education Services Consultant and an Education Equipment Contractor. The timelines for advance contracting are shown in Figures 5 and 6.

40. The government has been advised that approval of advance contracting does not commit ADB to finance the project and that the action should be carried out in accordance with ADB's *Guidelines on the Use of Consultants*.

⁹ Available at: <http://www.adb.org/Documents/Guidelines/Consulting/Guidelines-Consultants.pdf>

Figure 5: Advance Contracting: PPR (Firm)

Activities	2011																											
	January				February				March				April				May				June				July			
CSRN																												
Evaluation of EOIs/Shortlisting																												
Issue of RFP/ Submission of Proposal																												
Evaluation of Proposal																												
Contract Negotiation with first-ranked firm																												
Approval of Contract (ADB)																												
Signing of Contract																												
Mobilization of Consultants																												

Note: Mobilization of consultants may proceed if retroactive financing is approved by ADB

Figure 6: Recruitment of Procurement Adviser (Individual)

Activities	2011																							
	January				February				March				April				May				June			
CSRN																								
Evaluation of EOIs/CVs and Shortlisting																								
Approval of Shortlist (ADB)																								
Contract Negotiation with first-ranked candidate																								
Approval of Negotiated Contract (ADB)																								
Signing of Contract																								
Mobilization of Consultant																								

Note: Mobilization of consultants may proceed if retroactive financing is approved by ADB

B. Procurement of Goods, Works and Consulting Services

41. All procurement of goods and works to be financed under the loan will be undertaken in accordance with ADB's *Procurement Guidelines*¹⁰ (April 2010, as amended from time to time) and the procurement plan prepared and agreed between the government and ADB.

42. Under the project, international competitive bidding procedures will be used for civil 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.

43. 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.

44. 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.

45. All consultants will be recruited according to ADB's *Guidelines on the Use of Consultants* (April 2010, amended from time to time).¹¹ All consulting packages must be advertised in Consulting Services Recruitment Notice (CSRN) on ADB's website, www.adb.org (<http://csrns.adb.org>). The minimum advertising period is 30 days. The government is advised to select electronic submission of Expression of Interest (EOI) to be able to cross-check companies' performance records in ADB Consultant Management System (CMS). The terms of reference for all consulting services are detailed in Appendix 5.

C. Procurement Strategy

46. The procurement plan includes provision for up to eleven (11) contracts to support the implementation of the project (Table 5). The PMU-USTH will procure eight (8) international firms, using QBS, for specialist assistance in procurement, financial management, audit, and construction cost management. The UIU¹² will procure up to three contracts, of which one will be for a procurement adviser/manager, and either one (1) or two (2) contracts to supply education services.

47. The implementation of the 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, the construction of the campus while the UIU will have primary responsibility for the implementation of the Outputs 1 & 2.

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

¹¹ 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>

¹² The UIU is the separate implementing unit located at the university, under the control of the university Rector.

Table 5: Summary of Main Contracts

Consulting Services	Person months		Responsible PMU
	International	National	
1. Procurement for Project Readiness (PPR) (firm)	19	12	PMU-USTH
2. Probity Monitor (PM) (firm) ^a	3.5	3.5	PMU-USTH
3. Financial Management, Software Installation (FMSI) (firm) ^a	4	4	PMU-USTH
4. Independent Audit (IA) (firm)	8	10	PMU-USTH
5. Construction Cost Consultant (CCC) (firm) ^a	40	60	PMU-USTH
6. Project Management Company (PMC) (firm)	88	221	PMU-USTH
7. Architects & Engineering Consultant (AEC) (firm)	216.5	532.5	PMU-USTH
8. Main Contractor (1 firm - construction)	NA ^a	NA	PMU-USTH
9. Education Services Consultant (firm)	275	150	UIU
10. Education Equipment Supply (firm)	36.5	91	UIU
11. Procurement Adviser (Individual)	6	0	UIU
Total	696.5	1084.5	

^a Contracts must be procured simultaneously, or may be merged into one contract.

Procurement of these is required to contribute to procurement of the main construction contracts.

48. This approach is selected because the NMU Project has been classified by the ADB as 'complex' and the use of a linked group of construction contracts under the direction of the Project Management Company is a specific risk amelioration strategy. The USTHDP is classified as an 'Education' project, because the primary objectives are to effect policy reform in higher education through development of a 'demonstration' new model of an international standard university, including construction of a greenfields campus to provide modern facilities for the demonstration university. However, construction and equipment absorb the bulk of the loan funding (80%). In effect, in respect to procurement, this makes the NMU a hybrid project, which needs to use procurement approaches that are appropriate for a large and complex infrastructure/construction project, rather than those that are usually applied in social sector projects.

49. The construction of the entire campus of approximately 15-20 buildings, including technically advanced science laboratories, from a Greenfields 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 of USTH will be very strongly dependent on the construction of the new campus being completed, within the timeframe of the loan and to the standards required for teaching and research in science and technology to international students, using advanced equipment. Timely procurement is also important to minimize the price escalation risk. A linked group of construction related contracts are agreed in order to integrate all the services necessary to construct the campus to the standards required. This group of contracts includes:

- (i) The Construction Cost Consultant Company (CCC), will be contracted direct to the PMU-USTH, to support it in monitoring of projects and to certify invoiced for construction services, goods and works. The CCC will supply specialist in quantity surveying, and inspections and certification of invoices.
- (ii) The Project Management Company (PMC) is a consultant firm with specialists for Project Manager, Construction Manager and Construction Supervisor. PMC will provide support and oversight in the procurement the contracts for Architects and Engineering Consultant (AEC) and Main Contractor (MC). It will also supervise those firms once procured. However, the contracts with AEC and MC will be signed directly with the PMU, with requirements to report to the Project Manager.

- (iii) AEC to (a) design concept and initial architectural plans at tender; (b) once awarded, refine and detail the architectural specifications; and (c) provide supervision and guidance to the MC to ensure compliance with the specifications during construction works.
- (iv) MC to will provide services for site management and planning and procurement and sub-contracting for a range of specialized services to build the campus. The MC will be an international firm experienced in management of major construction sites. It will comprise international engineering and construction specialists for supervision and direction of civil works, and will manage a number of packaged sub-contracts for the civil works for infrastructure, buildings construction including specialist science laboratories, and environmental management. The MC will also coordinate with the UIU in the planning and installation of the laboratory equipment. The MC will provide a team leader (MC project manager) to manage and coordinate the site management office and services with the sub-contractors.

The MC contract will include funds for management services and for a series of sub-contracts for construction consulting services, goods and works for building the new campus. The range of sub-contracts to construct all buildings and infrastructure across all zones may include:

- (i) consultants for Mechanical/Electrical, Structure and Civil, Interior Design, Landscape, FF & E, contract administration; and
- (ii) nominated sub-contractors for Geotechnical, Concrete, Steel, Architectural Facade system, Architectural Finishing system, Mechanical packages, Electrical packages, Telco and Data, Laboratories fit out and equipment supply, Interior finishing, Furniture, Landscaping and Infrastructure

The PMC and MC will review the list above and update the procurement plan within 3 months of commencement of the MC contract to guide detailed plans. The Procurement Plan will be subject to bi-annual review and revision, in consultation with the PMU-USTH, UIU and ADB. The updated Procurement Plan will be published on the ADB website (<http://www.adb.org/Projects/reports.asp?key=reps&val=PP>). In managing the sub-contract procurement, the MC will use ADB guidelines on procurement.

50. A framework for terms of reference is in Appendix 5 and a contractual relations diagram is shown in Appendix 16.

D. 18-Month Procurement Plan

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

Project Name: University of Science and Technology of Ha Noi Development (New Model University) Project	Executing Agency: Ministry of Education and Training
Country: Viet Nam, Socialist Democratic Republic	Loan (Grant) Number:
Loan Amount: \$190 million	Date of this Procurement Plan: 20 January 2011
Date of First Procurement Plan {loan approval date}:	

E. 18-Month Procurement Plan

52. The procurement plan is prepared in accordance with ADB's generic or country specific

templates as appropriate.

Project Name: University of Science and Technology Ha Noi Development [New Model University] Project	Executing Agency: Ministry of Education and Training
Country: Viet Nam, Socialist Democratic Republic	Loan (Grant) Number: -
Loan Amount: \$190 million	Date of this Procurement Plan: 23 March 2011
Date of First Procurement Plan: 23 March 2011	

A. Process Thresholds and Review

1. Project Procurement Thresholds

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 (unless otherwise specifically stated in Table 1)
International Competitive Bidding (ICB) for Works ¹	Above \$2,000,000
International Competitive Bidding for Goods ¹	Above \$500,000
National Competitive Bidding (NCB) for Works ¹	Beneath that stated for ICB, Works
National Competitive Bidding for Goods ¹	Beneath that stated for ICB, Goods
Shopping for Works	Below \$100,000
Shopping for Goods	Below \$100,000

2. ADB Prior or Post Review

53. 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		
Recruitment of Consulting Firms		
Quality- and Cost-Based Selection (QCBS)	Prior	Prior review for all contracts
Quality-Based Selection (QBS)	Prior	Prior review for all contracts
Recruitment of Individual Consultants		
Individual Consultants	Prior	PMU selects, negotiates and manages the contracts

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

54. The following table lists goods and works contracts for which procurement activity will be established within 18 months.

General Description	Contract Value ^a (\$)	Procurement Method	Prequalification of Bidders (Y/N)	Advertisement Date	Comments
Specialized equipment					
Equipment, computers and software for USTH	1,090,000	ICB	N	Q3, 2011	2 contracts
Laboratory Equipment Packages 2013	3,500,000	ICB	N	Q3, 2012	Up to 4 contracts

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

55. The following table lists consulting services contracts for which procurement activity is expected to commence within 18 months.

General Description	Contract Value ^a (\$)	Procurement Method	Type of Proposal	Advertisement Date	International or National Assignment	Comments
Procurement and Project Readiness (PPR)	\$487,500	QBS	STP	Q4, 2011	International	31 pm total: Int x 19pm; Nat x 12pm,
Financial Management, software installation (FMSI)	\$110,000	QBS	STP	Q1, 2012	International	8 pm total; Int x 4pm Nat x 4pm
Independent Audit (IA)	\$230,000	QBS	STP	Q1, 2012	International	18 pm total: Int x 8pm Nat x 10pm
Education Equipment Supply (EES) ^b	\$1,278,050	QBS	STP	Q1, 2012	International	126 pm
Procurement Adviser Consultant (individual)	\$135,000	ICS	-	Q4, 2011	International	6 pm
Construction group of contracts:						
Construction Cost Consultant (CCC)	\$1,200,000	QBS	FTP	Q3, 2012	International	100 pm total: Int x 40; nat x 60
Project Management Company (PMC)	\$3,083,000	QCBS(80:20)	FTP	Q3, 2012	International	309pm total: Int x 88 Nat x 221
Architects & Engineering Consultant (AEC)	\$7,533,750	QCBS(80:20)	FTP	Q4, 2012	International	749pm Int x 216 Nat 32
Capacity Building and Technical Assistance for Education Services/Education Management and Academic Devt						
Education Services Consultant (ESC) (1 firm):	\$6,937,500	QCBS(80:20)	FTP	Q4, 2012		425 pm total: Int x 275pm Nat x150pm
Breakdown of components of ESC contract:						
CB Group 1 – Leadership, Structures & Regulations	\$845,000				International	50 pm
CB Group 2 – Management Systems & software development	\$1,225,000				International	70 pm
CB Group 3– Student Services	\$552,500				International	37 pm
CB Group 4 – Academic Development	\$3,075,000				International	195 pm

General Description	Contract Value ^a (\$)	Procurement Method	Type of Proposal	Advertisement Date	International or National Assignment	Comments
CB Group 5 – Laboratory Management Development	\$1,240,000	QBS			International	73 pm

^a Contract values are calculated based on monthly unit costs of \$22,500 for international (inclusive of time, air travel, PDS and overheads), and \$5000 a month for local consultants (except for the MC which is inclusive in the proposed GMP). These estimates are exclusive of government taxes, VAT and fees.

^b May be a separate contract or may be absorbed under ESC if determined by the UIU and ESC.

General Description	Contract Value ^a (\$)	Procurement Method	Type of Proposal	Advertisement Date	International or National Assignment	Comments
<i>PMU-USTH and UIU Staff^d</i>			-			
Staff Package 1 – PMU-USTH – Professional Project Manager	\$260,000	Direct Contracting	-	Q4, 2011	National	Nat x e-65 months
Staff Package 2 – PMU-USTH – Unit managers x 3	\$525,000	Direct Contracting	-	Q1, 2012	National	Nat x 50 e-months x 3= 150pm
Staff Package 3– PMU-USTH – technical and support staff x 4	\$400,000	Direct Contracting	-	Q1, 2012	National	Nat x 50 e-months x 7= 200pm
Staff, Package 4 – UIU Director (0.25), & Managers x 3.75	\$706,250	Direct Contracting	-	Q1, 2012	National	e-50 x 3.5 = 187 pm & director x 12.5 pm
Staff, Package 5 – UIU x 6.25	\$625,000	Direct Contracting	-	Q3, 2012	National	e-50 x 6.75 = 312.5 pm

^d Based on averaged unit price of **\$3,500** for national management staff & consultants, and **\$2000** for support and clerical staff. FT PMU director estimated at **\$4000** pm. Sub-totals for **PMU = \$1,185,100; and for UIU(including the international Procurement Adviser listed in the previous table) = 1,466,250**. The combined resources of the PMU and the UIU for ongoing staffing will include: 8 Full-time staff hired by the PMU, using a mix of contract staff and internal salaried staff on transfer from MOET, as appropriate; and 11 Full-time equivalent (FTE) hired by the UIU. Therefore up to 19 individuals to be funded from the project funds (including loan and government contribution). These loan funded positions exclude the Senior Director of the PMU for Excellent Universities, who is an appointee of the MOET, funded from government contribution exclusively and the MOET full-time Heads of Departments, who will provide advisory services as Deputy Directors on a part time basis.

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

General Description	Contract Value ^a (\$)	No. of Contracts	Procurement/ Recruitment Method	Advertisement Date	Comments
Office equipment and supplies, and software for University (including temporary premises at VAST)	\$510,000	2	NCB	Q1, 2012	
Vehicles	\$100,000	2	NCB	Q1, 2012	
Probity Monitor(PM)	\$96,250	1	QBS	Q1, 2012	7pm; Int x 3.5 Nat x 3.5

^a These estimates are exclusive of government taxes, VAT and fees.

B. Indicative List of Packages Required Under the Project

56. The following table provides an indicative list of all procurement (goods, works and consulting services) over the life of the project.

General Description	Contract Value (\$)	Procurement/ Recruitment Method	Advertisement Date	No. of Contracts	Comments
Consulting Services:					
PPR	\$487,500	QBS	Q4, 2011	1	International
FMSI	\$110,000	QBS	Q1, 2012	1	International
IA	\$230,000	QBS	Q1, 2012	1	International
ESC	6,937,500	QCBS	Q4,2012	1	International
CCC	\$1,200,000	QBS	Q3, 2012	1	International
PMC	\$3,083,000	QCBS(80:20)	Q1, 2012	1	International
PM	\$96,250	QBS	Q1, 2012	1	International
AEC	\$7,533,750	QCBS(80:20)	Q4, 2012	1	International
EES	\$1,278,050	QBS	Q1, 2012		International
Procurement Adviser Consultant	\$135,000	ICS	Q4, 2011	1	International
PMU staff	\$2,516,250	Direct Contracting		multiple	National
Goods and Works:					
Main Contractor (MC) (1 firm)	\$98,390,400 ^b	ICB	Q4 2013	1	
Equipment, computers and software for USTH	\$1,090,000	ICB	Q4, 2012	2	
Laboratory Equipment Packages 2013	\$3,500,000	ICB	Q4, 2012	Up to 4	
Laboratory Equipment Packages 2014	\$5,250,000	ICB	Q3, 2013	Up to 4	
Laboratory Equipment Packages 2015	\$5,250,000	ICB	Q3, 2014	Up to 4	
Laboratory Equipment Packages 2016	\$10,500,000	ICB	Q3, 2015	Up to 4	
Laboratory Equipment Packages 2017	\$10,500,000	ICB	Q3, 2016	Up to 4	
Equipment Package Library stock	\$3,000,000	ICB	Q2, 2016	Up to 4	
Office equipment and supplies, and software for University	\$510,000	NCB	Q2, 2012	Up to 4	
Vehicles	\$100,000	NCB	Q1, 2012	Up to 4	

E. National Competitive Bidding

1. General

57. The laws to be followed for national competitive bidding shall be those set forth in the (i) 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 on 19 June

2009 that amended and supplemented a number of articles of the above mentioned two laws, and (iv) the processes described in Decree No. 85/2009/ND-CP on 15 October 2009 (which replaces Decree 58/2008/ND-CP), on Guiding Implementation of Procurement Law and Selection of Construction Contractors under the Construction Law. Collectively, the combination of these laws and decree is called 'National Procurement Laws'. Whenever any procedure in the National Procurement Laws is inconsistent with the ADB's Procurement Guidelines and Guideline on the Use of Consultants by Asian Development Bank and Its Borrowers, the later shall prevail including 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 post-qualification process.

3. Eligibility

- (i) National sanction lists may only be applied with approval of ADB¹³.
- (ii) A firm declared ineligible by ADB cannot participate in bidding for an ADB financed contract during the period of time determined by ADB.

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) 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.
- (iii) 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.

¹³ 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) 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 to 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) 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.¹⁴
- (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

58. 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 of the contracting entity. Furthermore, they will be subject to the same bid and performance security requirements as other bidders.

12. Non-eligibility of military or security units

59. Military or security units, or enterprises which belong to the Ministry of Defense or the Ministry of Public Security shall not be permitted to bid.

¹⁴ 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. Participation by Foreign contractors and suppliers. Joint Ventures and Associations

60. 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.

- (i) 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.
- (ii) License for foreign contractors operation in Viet Nam would be provided in a timely manner and will not be arbitrarily withheld.

14. 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.

15. Handling of Complaints

61. 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 Law on Procurement No. 61/2005/QH11.

16. ADB Member Country Restrictions

62. 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.

17. Fraud and Corruption

63. 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.

18. Right to Inspect/ Audit

64. 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.

65. A procurement capacity assessment is in Appendix 15.

VIII. SAFEGUARDS

66. 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"> • Ensure at least 2 female senior managers and university council members by 2017 • Ensure that at least 1 out of the 6 university council members representing the private sector is female, by 2012 • Ensure at least 30% female representation in capacity building programs for university council members, senior managers, technical and administrative staff • By 2017 ensure that at least 20% of academic staff are female • Develop university management, human resources and administrative policies/procedures to facilitate an increase in and retention of female students, faculty and management. • 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 • Ensure 40% of dormitory occupants are female by 2017 • 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 • 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 • Ensure that the education management information system (EMIS) data are collected, disaggregated and analyzed by gender and ethnicity
Output 2: Systems to promote high quality and relevant academic programs at USTH developed and implemented	<ul style="list-style-type: none"> • Ensure 30% female representation in faculty and senior managers training on quality assurance and pedagogical methods by 2014 • Ensure that all curriculum/program materials depict positive images of women in science and technology by 2014 • Ensure at least 30% females in post-graduate courses • Ensure 30% recipients of post-graduate scholarship programs are females • Ensure appropriate gender balance in industry placement programs by 2017 • Include sex disaggregated data and gender analysis in tracer studies of recent graduates by 2017
Output 3: Physical Facilities at USTH Constructed	<ul style="list-style-type: none"> • Construct facilities conducive to increasing female enrolment and supporting needs of female faculty • Contracts for civil works will specify recruitment of local labor and will promote equal opportunities for women and men • Target 40% female unskilled laborers in civil works • Male and female unskilled laborers will receive equal pay for equal work • Separate male/female latrines will be provided in the construction sites
Output 4: Effective project management and implementation	<ul style="list-style-type: none"> • Train all PMU and PMU-USTH staff including the M&E staff in gender and ethnicity issues, including gender analysis • Ensure gender balance in all training provided to PMU and PMU-USTH staff • Ensure that GAP targets are included in OSS operating manuals and EMIS • All project reports to include reporting and analysis on progress against GAP
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 PMU-USTH 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

Project Outputs	Actions
	between the PMU-USTH and PMU, 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/Sub-Committee for the Advancement of Women in MOET 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, MOET = ministry of education and training, PMU = project management unit, PMU-USTH = project management unit for University of Science and Technology of Hanoi

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 UC 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

67. The detailed DMF is in Appendix 1.

B. Monitoring

Project performance monitoring¹⁵

68. 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. The project assurances are also detailed in a format to facilitate a consistent checklist is reviewed at each Review Mission. This checklist is at Appendix 6.

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

¹⁵ ADB's project performance reporting system is available at:
<http://www.adb.org/Documents/Slideshows/PPMS/default.asp?p=evaltool>

70. 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.

71. 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.

72. ADB will conduct an inception mission within 2 months of Project start-up. ADB and the government will jointly conduct semi-annual 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.

73. 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 MOET leadership and senior staff, representatives of government ministries and agencies concerned the international strategic partners, consultants and ADB.

74. A final Review Mission will take place within the six (6) months after 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
- (iii) Determine the project satisfactory rating.

75. 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.¹⁶ This completion report will

¹⁶ Project completion report format available at: <http://www.adb.org/Consulting/consultants-toolkits/PCR-Public-Sector-Landscape.rar>

give the government's assessment of the project effectiveness, and will note and take account of the findings of the ADB final Review Mission.

76. **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 Agreement.

77. **Safeguards monitoring.** The involuntary resettlement category is A. The 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.

78. **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.

79. 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: (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.

80. 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 HRD 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

81. 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

82. MOET 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

83. The PMU-USTH will undertake press releases, 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 will also organize discussion sessions amongst the higher education professionals on 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 the New Model Universities. 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

84. 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.

85. 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.

86. The MOET 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 MOET 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 MOET, 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.

87. The website shall be updated within 1 week of each contract award. On the procurement-related information, the website shall disclose: (a) the list of participating bidders, (b) name of the winning bidder, (c) basic details on bidding procedures adopted, (d) amount of contract awarded, (e) the list of goods and services procured, and (f) 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 (a) 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; (b) liaise with the relevant law enforcement agencies as relevant; and (c) report immediately to ADB on any malfeasance or maladministration that occurred under the project.

XII. ACCOUNTABILITY MECHANISM

88. 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.¹⁷

XIII. RECORD OF PAM CHANGES

89. 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.

¹⁷ For further information see: <http://compliance.adb.org/>.

DESIGN AND MONITORING FRAMEWORK

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks
Impact The contribution of higher education to innovation in Viet Nam is increased	Viet Nam's rank on the innovation pillar of the World Economic Forum's Global Competitiveness Index increases from 49 th in 2010 to 45 th by 2022 The annual number of English-language scientific articles by Vietnamese authors increases from 875 in 2008 to at least 1,500 in 2022 Annual number of USPTO registered patents increases from 1 in 2008 to at least 25 by 2022	World Economic Forum annual Global Competitiveness Report Thomson Reuters Web of Knowledge database	Assumptions Viet Nam economy continues to grow on a sustainable basis Development of higher education sector remains a priority for Government of Viet Nam
Outcome A high-quality new model university that generates industry-relevant science and technology teaching and research	100% of firms, research organizations, and other universities with exposure to USTH express favorable view of its research and graduates by 2017 Favorable independent assessment of university governance and funding frameworks by 2017 100% of courses and programs offered by USTH meet international standards as determined by independent review by 2017	Independent survey of universities, firms, and research organizations Independent assessment of USTH funding, governance and quality assurance frameworks, and USTH courses and programs	Assumption Government of Viet Nam remains committed to the concept of new model universities
Outputs 1. Effective management and governance systems for USTH developed and implemented	Management and administrative systems, office of student services, and quality assurance systems in place, by 2014 20 senior managers, university council members, and academic leaders, of whom 30% are female, at USTH receive capacity building and mentoring, by 2016 The number of university council members representing the private sector equals six, of whom 1 is female, by 2012 \$1 million in equity scholarships awarded, of which 30% are for females, by 2017	Independent assessment of USTH funding, governance and quality assurance frameworks, and USTH courses and programs University financial and administrative records	Assumption USTH governance provides sufficient academic and managerial autonomy to ensure international standard science and technology teaching and research Risk Foreign strategic partner cannot sustain support for USTH at level required for capacity building
2. Systems to promote high quality and relevance in academic programs at USTH developed and implemented	100% of USTH academic staff, including 20% females, have PhDs, by 2017 Number of patents granted by USPTO to USTH academics increases from 0 in 2010 to at least 10, by 2017 90% of graduates, including 35% females, are in related employment or undertaking further study, by 2016 At least 70% of research projects undertaken in collaboration with private sector, by 2017 USTH research and consulting revenues represent 10% of total revenues by 2017	USTH administrative and financial records Independent evaluations of courses, programs, and research activity Tracer studies World Economic Forum annual Global Competitiveness Report	Assumption Government recurrent funding continues to be provided at level to ensure international standard S&T teaching and research Risk Foreign strategic partner cannot sustain support for USTH at level required for program development

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	Risk 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	NEB, PMU and UIU established and operational, by Q2 2011 Monitoring and evaluation system functional, by Q4 2011 All contracts procured in timeframe agreed in procurement plan	Progress reports	
Activities with Milestones		Inputs	
1. Effective management and governance system for USTH developed and implemented		Financing (\$ million)	
1.1 New university council established, Vietnamese members receive induction, and operating effectively, by Q4 2011		ADB	
1.2 University council and internal regulations established, by Q4 2012		OCR: \$170.0 million	
1.3 Governance charter for USTH reviewed and adapted to reflect lessons from first 2 years, by Q2 2013; new financing regulation on recurrent funding implemented, by Q2 2013		Item	Amount
1.4 New university financial management system developed, tested, and operating, by Q3 2013		Equipment and vehicles	40.0
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	90.1
1.6 All university systems developed, tested, and ready for move to new campus for full operations, by Q1 2017		Project design and supervision	8.4
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 Q1 2017		Subtotal	138.5
		Contingencies	21.2
		Interest and commitment charges	10.4
		Total	170.0
		ADF: \$20.0 million	Amount
		Item	
		Capacity building	8.0
		Systems development and training	1.9
		Scholarships	1.0
		Project design and supervision	5.7
		Project management	2.4
		Subtotal	19.0
		Interest charges	1.1
		Total	20.0
		Government – \$23.0 million	
		Item	
		Capacity building	0.0
		Systems development and training	0.0
		Scholarships	0.0
		Equipment and vehicles	0.0
		Civil works	8.3
		Project design and supervision	0.0
		Project management	0.3
		Resettlement	3.0
		Taxes and duties	11.4
		Subtotal	23.0
		Contingencies	0.0
		Interest charges	0.0
		Total	23.0
2. Systems to promote high quality and relevant academic programs developed and implemented			
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 Q1 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 Q1 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 Q1 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 Q1 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 Q1 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 Q1 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 Q1 2017</p> <p>3. Physical facilities at USTH constructed and outfitted</p> <p>3.1 Recruitment of initial procurement adviser completed, by Q3 2011</p> <p>3.2 Resettlements and site clearances completed, by Q2 2013</p> <p>3.3 Project management company 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 Q3 2013</p> <p>3.5 Main campus construction and fit out finalized ready for final testing in soft opening, by Q4 2016</p> <p>3.6 Commencement of academic and student transfer (soft opening, 4 months) to new premises, by Q4 2016</p> <p>3.7 Commencement of USTH at full operation in new campus, with first new intake on permanent campus, by Q1 2017</p> <p>4. Effective project management and implementation</p> <p>4.1 UIU established and staff recruited, by Q3 2011</p> <p>4.2 Project monitoring and evaluation system, including tracer studies, and baseline studies developed and implemented, by Q4 2011</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

Outputs 1 and 2: Capacity Building for University Leadership and Management, and Academic Development

1. Output 1: USTH Leadership and Management Established

- 1-1 – Governance, Leadership and Management for Councils and University Leaders
- 1-2 – University Management and Administrative Systems
- 1-3 – Student Services

1-1 Governance, Leadership and Management for Councils and University Leaders

1. A Capacity Building program for the Vietnamese Chair of the Council, Vietnamese Vice-Rectors and other **key leadership positions**, and for members of the Council, 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. 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
- (ii) Planning and developing supporting structures of council and the university
- (iii) Establishing the long term strategy for new research/teaching/industry integration
- (iv) Prioritising 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 the university's governing system, establish and commence the operations of the range of Council committees and sub-committees, determine the universities strategic directions and prepare 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 Technical Assistance and training for, and funding to, establish the 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 Technical assistance will support the establishment **internal management systems and data collection** for both monitoring of academic inputs and outputs, and for financial management for each university. The NMUs will need to establish new systems, based on the needs of the university 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 surveying for quality monitoring that will be necessary to sustain the standards expected of NMUs, and essential to underpin striving for World Class

Universities status. These systems will also be critical to the needs of the universities' 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 Quality Assurance system. A rigorous system for data collection is also needed to report on the performance Indicators sought by the ADB to measure the achievement of loan objectives. The systems used in MOET and current universities will not be adequate to support the NMUs and should not be adopted, even temporarily while the NMUs are operating in the interim premises. Associated training programs for financial managers and for leaders in financial/resources management will also be necessary.

1-3 Student Services

A program of Technical Assistance to establish an Office of Student Services, and provide Capacity Building in its operation, 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
- (v) Specialised facility to support programs under the University's Equity Promotion Policies and Gender Action Plan 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.¹ The SCC will also be responsible for development and implementation of the formal Gender Action Plan approved by the ADB.

2. Output 2: USTH Academic Development Established

- 2-1 – Centre for Teaching and Learning Excellence
- 2-2 – Quality Assurance Centre and Academic Management Systems
- 2-3 – Research Support Centre
- 2-4 – Industry Engagement Centre
- 2-5 – Laboratory Management Services

2-1 Centre for Teaching and Learning Excellence

5. This will provide TA assistance to establish a Centre for Teaching and Learning Excellence (CTLE) that has capacity to prepare graduate students to be university teachers and improve the teaching and curriculum development competencies of existing teachers. TA will support the development and embedding into the university systems the following key functions of these centres:

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

¹ An outline of Access plans for the poor, Ethnic Minorities and Women to be implemented through the SCC are in the Gender Action Plan. An initial, more detailed analysis of social assistance is at Volume II of the Final Report of the Preparation Project.

7. Funds will be available to support curriculum development software that will coordinate curriculum development with assessment design. Additionally 2-4 full time instructional design consultants should be assigned to the centre 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

2-2 Quality Assurance Centre and Academic Management Systems

8. This will fund Technical Assistance for training and capacity building amongst staff of new model universities 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 Quality Assurance Centers:* 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.

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.

9. This centre should also be the locus for managing the University's own regular research for monitoring quality and using it to feedback into continuous improvement processes. The TA 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.

10. As it forms an integral element of quality assurance, performance appraisal should be integrated with other institutional quality measures. This centre will therefore also be the base for developing and managing plans to assess staff performance. TA will be provided to develop and implement programs dealing with staff performance assessment and counselling, academic leadership and management and managing institutional change.³

2-3 Research Support Centre

11. This will provide TA and support funding to establish the centre and its programs, and embed them into the university culture. The centre will provide staff with high level support in designing and publishing their research, applying for grants and providing research training to postgraduate students. TA will provide initial full-time specialist to develop the services and procedures, and to train recruited staff. The centre should have full time support staff supplemented with 'consultants' from academic faculties with relevant experience, or from

² An outline of the concept for the CTLE is Appendix 10.

³ An outline of the concept for the QAC is in Appendix 10

mentor partner universities. The centre 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.⁴

2-4 Industry Engagement Centre

12. This will fund TA to assist in establishing an engagement centre that will have responsibility for building relationships with industry and other potential users of USTH's knowledge, expertise and technologies. The Centre'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. The TA will support the Centre in building competencies in:

- (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, and specifically with the new Technology Transfer Centres that are planned to be established elsewhere in Hoa Lac High Tech Park.
- (iii) Developing industry internship programs with industry for university undergraduate and postgraduate students and researchers
- (iv) Understanding and making full use of the provisions in existing laws and regulations, especially in relation to incentives for technology transfer.⁵

2-5 Laboratory Management Centre

13. This will provide funding and TA to assist the establishment of a Laboratory Management Center 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 Centre must be established to support three fundamental areas: skill development, infrastructure and equipment, all geared to ensuring maintenance of the highest standards of laboratory capabilities. The responsibilities of the centre include:

- (i) streamline and monitor equipment acquisition
- (ii) implement income generating activities
- (iii) provide staff training
- (iv) advise on laboratory design and management.

14. This centre will assume responsibility for developing acquisition plans for all laboratory equipment. This will be an on-going function, but in the Establishment (loan) period, the centre

⁴ An outline of the concept for the Research Support Centre is in Appendix 10, as above

⁵ An outline of the concept for the Industry Engagement Centre is in Appendix 12

will set up working groups of relevant academics from the thematic groups to review and determine the initial procurement of laboratory equipment.

15. The loan identifies a lump-sum for science laboratory equipment. A detailed list has been compiled to determine the level of the lump sum. Due to the passage of time and rapid changes in equipment development, and to the possibility of changes in some of the discipline areas or the particular focus of research program that may be included in the university's strategic plan, the list of equipment may be adapted throughout the project implementation. Any such adaptation 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 center will be assisted by the Education Services Consultant, or Education Equipment Supply contractor (as determined by the UIU) in managing the sourcing, procurement and installation of the selected equipment. The Contractor must engage appropriate international laboratory equipment specialists to support and provide TA to the university in this process. Before any procurement action can commence for science and IT equipment the items identified, with an indicative cost, must be prior -approved by the ADB. The total cost may not exceed the approved amount for science laboratory and IT equipment in the loan approval (unless the cost is supplemented by the government or donors). All expenditure on equipment must be acquitted with receipts. Supply contracts should generally include the cost of installation support by the supplier technical personnel, and where appropriate training in use and maintenance for the university staff. Exceptions to this requirement for installation servicing, and training must be justified to the satisfaction of the Rector and the Project Manager.

16. 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 i the university'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.

17. Equipment necessary for an approved academic program may be installed in the premises of an industry partner of the university, subject to the program and the partners being fully approved using the QA procedures of the university, 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 the university and be subject to asset audits and maintenance actions within the university's planned program of maintenance and depreciation.

18. Procurement actions for the supply and installation of equipment may be handled in reasonable lots, on an annual or half-annual basis. All lots must be tendered under ICB conditions by the agreed Contractor.

Specialised software for laboratory management systems

19. The Laboratory Management Centre will require some specialised software to support the equipment maintenance and repair/replacement management programs developed by the Centre. Training for this would be aimed at a 'cascade' model of staff training focused on the Technicians employed for the 'hands-on' work of data generation. Standard Operating Procedures, (SOPs) will have to be developed for laboratory operations such as the laboratory quality manual and a management system for an equipment and reagent inventory, instrument

calibration, etc. This would be done using MS Office programs. On the other hand, laboratories such as the Chemistry analytical, biology and environmental laboratories would require the development of a specialised 'Laboratory Management Information System' (LIMS). This software is expensive and the purchased 'off-the-shelf' versions tend to limit laboratory operations to comply with the software. Ideally, the software should be adapted to accommodate the specific laboratory operations. However the more configurable the system, the more it costs to develop and maintain. As an indication, in each of the chemistry, environmental and biology laboratories a specially adapted LIMS may vary from \$15,000 - \$100,000, depending on the specific programs being undertaken in each. Such systems may not be applicable for labs in other specializations. The Laboratory Management Centre 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, at an estimated cost of \$700,000 each (x3).

20. Decisions on the approach can only be made in consultation with the discipline research leaders and the Science Council and incorporated into the early strategic plan of the university. TA will support the management in the development of these plans.

21. The TA 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. The TA 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.
- (iii) Training for practical responsibilities of the Technicians, and as such will be set up to be conducted on-site as equipment becomes available.

22. Technical training for Technicians must always focus on the proper use of the equipment and its maintenance and not on the theoretical knowledge surrounding the technique.⁶

⁶ An outline of the concept for the Laboratory Management Centre is in Appendix 11.

Output 3: Campus Construction and Site Development

1. Output 3 will develop the physical facilities at USTH through:
 - (i) Providing supervision of design and construction and providing technical assistance to the PMU-USTH in project management for construction;
 - (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. Its boundaries are bench-marked 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 will be occupied by a private university – FPT University – dedicated to information technology. The construction of FPT University has already begun. 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 eg plot density and building height which apply throughout HHTP; information is available from the Management Board. HHTP MB 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 TA 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 Management Board at each relevant stage of planning.
5. 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 re-settled:
 - Within 16 months of loan effectiveness, the Government will issue a Prime Ministerial decision to allocate the land to USTH sufficient to permit construction to commence in accordance with the agreed construction timeline²⁴.
 - In Dec 2010 the site was partly occupied by two units of the Vietnamese Army and partly by individual residents and farmers. As stated in the Resettlement Plan²⁵, The Government aims to hand over the army land for the USTH site by the end of 2011, and the land occupied by individual households by the end of 2012. Construction of the university campus is expected to start in late 2013. Construction works cannot start until the Independent Monitoring Adviser has certified that resettlement is complete.

²⁴ Assurance 10 in Appendix 6 to the PAM.

²⁵ Linked Document 14.

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. The Government has undertaken to provide within 1 month of the 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 HHTP²⁶.

6. The TA Team Architect prepared Campus Design Guidelines for USTH²⁷. They look to:

- the provision of facilities for teaching and research of international standard, using space standards derived from international good practice; and
- a landscape which respects and enhances natural features, notably the lakes, has substantial green space, and is sustainable, with a low carbon imprint.

7. The TA Team, working with the MoET Institute of School Design and the French international partner prepared proposals for the Master Plan in line with the Guidelines, and presented them to the Loan Fact Finding Mission in September. The Plan at the end of this Appendix is based on the presentation²⁸. 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 stories 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.

8. There was agreement at the LFF on most aspects of the campus development plan proposed by the TA Team. The main outstanding issue is 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 TA 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 of the northern sites. The cost estimates allow 22,000 m² 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.

9. Most of the TA Team's work on USTH has focused on the Establishment Phase in which a first instalment of the university is to be built for 5,000 students, and a Consolidation Phase where, subject to the availability of funds, a second instalment 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 go up to 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

²⁶ Assurance 9 in Appendix 7 to the PAM.

²⁷ See Paper C in Part 4 of Vol II of the Mid-Term Report.

²⁸ Joint USTH and ADB Team Presentation on the Campus Masterplan, Powerpoint, 01/09/2010.

complete expansion to 15,000 within the next 20 years, it would be prudent to increase some building heights now.

10. It is important to obtain Master Plan approval within one month of loan effectiveness so that the approved plan is available before any significant expenditure is incurred. The indicative site layout shown in the Master Plan may be varied where the Request for Tender so allows, but the key principles and mandatory requirements must be retained in the designs tendered.

4.1 Facilities for Teaching and Research

11. The terms of reference for the Technical Assistance 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^2 ;
- (v) Cost of construction per m^2 for different types of space.

Information for all these items is needed to prepare and cost schedules of the spaces which the university will require.

12. For the report on the USTH completed by the TA 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 TA Team; a four year undergraduate course; research organized according to the six themes²⁹ agreed between Vietnam and France; students split evenly (with one or two exceptions) between the various subjects and themes;
- (iv) Space standards based on international practice as described in the Education Planning Guidelines³⁰;
- (v) Construction costs in Vietnam 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 Team prepared space schedules and cost estimates. The total base cost estimated for buildings was \$103.2m, and for equipment \$69.4m.

²⁹ In late 2009 to early 2010 the TA Team knew little more than the titles of the six themes. The Team had to make educated guesses as to likely content.

³⁰ These form part of the Campus Design Guidelines.

13 For the TA extension from August to October 2010, some new parameters came into play:

- a) USTH had published³¹ 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;
- b) In the preparation of the draft Project Detailed Outline MoET and the ADB agreed limits to base costs of \$98m for buildings, and \$40m for equipment.

In the light of these new parameters the TA Team, working with the PMU and the French international partner, revised the space schedules and cost estimates.

14 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 TA 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.

15. The Final Space Schedule³² prepared by the TA Team Architect in late September 2010 provides for:

- in Zone A (Administration) the management structure of USTH as set out in the then current draft of the Charter;
- 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 Team was not able to impute to individual faculties; a research administration center, shared research facilities, and six research centres with facilities appropriate to the respective themes;
- in Zone C (Dormitories and Student Activities) savings through reducing space standards in the dormitories³³ and placing indoor sports spaces within the ground floors of the residence blocks; and
- in Zone D (Services and Infrastructure) savings through reducing space for Storage.

There was not time during the Loan Fact-Finding Mission to discuss the Final Space Schedule in detail, but in any event it was clear that the information needed to take it to the point where it could form the basis for bidding documents was not to hand.

16. The Totals Worksheet of the Final Space Schedule shows a cost of \$108,229,400 including VAT. Excluding VAT this is equivalent to \$98,390,000. Table D on p.22 of this PAM shows a breakdown of cost by the four zones.

³¹ At www.usth.edu.vn

³² Supplied to the PMU-USTH

³³ Four students per room for undergraduates, and two for postgraduates, instead of two and one respectively.

17. The absence of detailed information about teaching and research plans for USTH also limited the work which could be done on how to reduce equipment costs funded from the loan from \$69.4m to \$40m. The \$69.4m 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 \$40m. Meanwhile the breakdown shown in Table D on p.22 is based on a temporary “lump sum” solution agreed during the LFF Mission³⁴. 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. An important factor is that 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

18. 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 which 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.

19. The Procurement and Project Readiness (PPR) Consultant will provide a Facilities Scheduler to assist USTH and the PMU-USTH to up-date the Space Schedule, from September to December 2011, so that the revised Space Schedule is available as a bidding document when tenders are request for the Project Management Company in the first quarter of 2012. Outline terms of reference for this scheduler are at para 4 of Appendix 5. They look to the preparation of a complete revised schedule, costed to comply with the \$98m limit.

20. For the scheduler to succeed in these tasks, substantial input from USTH will be needed. In particular USTH will need to produce decisions or working assumptions on a number of matters such as organizational structures and faculties, and outlines of teaching and research programs in sufficient detail to enable a scheduler to identify needs for general purpose and specialist accommodation, and the broad types of specialist activity which are planned. Much of this information is needed to enable the PPR scheduler to begin work – he will not complete in the planned four months if the basic information has to be gathered after arrival.

21. This is an exacting task for USTH which is still in the early days of building up its staff. The French international partner has undertaken to assist the university with it. It is envisaged that USTH will thus be able to have its own 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 PPR scheduler and the PMU-USTH.

22. The scheduling of equipment will primarily be the responsibility of USTH, assisted by the French international 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.

³⁴ A note by Robert Horne on Campus Development Information sent to Mr Cuong of the PMU on 28-09-10 has the details.

5.1 Construction management and supervision

23. 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 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 ensure that the government can minimize price escalation.

24. Integrated management and procurement systems will be essential. The University of Construction, the MOET Institute for Research in School Design and Architecture and the MOET Department of Facilities have some relevant experience, but it is not considered sufficient to meet the requirements of the international standard construction and of the complex integrated planning that will be necessary for USTH. Neither do any of these agencies or Departments have the capacity (human resources in sufficient numbers and experience with international standard construction) to take on the extra workload that would be involved in any lead role in the project. It is expected these agencies should provide valuable support services, but not leadership or supervision management.

25. Accordingly the loan provides for the procurement of an international Project Management Company 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.

26. **Project Management for Construction:** An experienced international company will provide project management services. This will include the following specific services:

- (i) technical expertise in overall management for the campus development, to include the site plan, architectural design, infrastructure development, construction and fit-out of the campus buildings and coordinating with and advising the university in the finalization of the Facilities Brief (for the Architectural tendering) and the time scheduling for and the procurement and installation of laboratory equipment.
- (ii) Support and guidance to the PMU-USTH for the procurement of the Architect and Engineering firm, and the Main Contractor
- (iii) scheduling and coordination of works to control efficient order of all works, and reviewing the construction plan on a twice annual basis, and advising the PMU-USTH and the UIU on any requirements for adaptations or variations.
- (iv) quality monitoring for building quality assurance, environmental controls, quantity ordering controls, occupational health and safety inspectors and advisory services in management and control of large construction workforce, including occupational health and safety management and inspectors, and support for social monitoring and disease control (especially STD and HIV and other relevant pandemic exposure).
- (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 PMC and then cross-verified by the CCC.

27. The use of the PMC is a key tool in quality assurance for international standards of construction and risk management. The PMC's primary responsibility is to manage and coordinate implementation, and to provide regular reports to MOET and the NEB on the

progress of the construction. The PMC's contract with MOET is to give the PMC freedom of action to manage the project using appropriate technical procedures so as to ensure construction of USTH to international standards, and timely completion. MoET will not intervene in the normal exercise of the PMC's functions under his contract.

28. In the event of any dispute by MOET of the PMC services, MOET should first raise its concerns with the PMC, and seek a mutually acceptable resolution. If MOET remains unsatisfied with the PMC's response, then the dispute must be notified to the ADB and be subject to international arbitration as provided for in the contract. The dispute and the arbitrator's ruling must be communicated to the NEB and to the ADB simultaneously. If it is agreed by all parties that good cause is evident, MOET may then suspend or give notice to terminate the contract pending new procurement. Any such suspension or termination of the PMC will automatically trigger a commensurate suspension of construction work, until a new project management firm is in place.

29. **Architectural Design:** The campus development will be implemented using a Design-Bid-Build approach. Design will involve two stages:

- (i) architectural concept design for all buildings, via a two-step international tender, which will be procured by the PMU-USTH with the assistance of the PMC; and once the concept is awarded,
- (ii) provision of detailed plans and drawings by the winning firm to support construction activities

30. The selected Architectural and Engineering Company 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 PMC, PMU-USTH as appropriate to coordinate the design and works schedules
- (v) Liaison with UIU to support the input of end-users into final design specifications and refinement of the facilities schedules and laboratory design requirements
- (vi) Assurance that provisions for in-campus roads (including limits on total roadway area, security requirements and vehicular usage) that are included in the design brief are adhered to in the architectural specifications.

31. **Site Preparation and Buildings Construction and Basic Fit-out:** An experienced international construction firm or consortium will be engaged as a 'Main Contractor' to implement the construction of all infrastructure and building works. The Main Contractor will be separately procured by the PMU-USTH with the assistance and guidance of the PMC. A single contract is to be awarded, which will assign the Main contractor the whole 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 Main Contractor will employ an international expert as full-time MC project manager.

32. The Main Contractor will be responsible for ensuring international standards in construction works. This should be achieved through use of foreign expert firms and individuals where necessary, adopting a skill transfer approach by training of local management staff wherever possible, and using local sub-contracting firms where it is demonstrated they have relevant technical expertise. The Main Contractor and the local sub-contractors would be expected to use local labor wherever feasible (including a target of 40% employment of women in local construction works).

33. Key responsibilities of the Main Contractor will include but not necessarily be limited to:

- (i) Assume control over the whole of the allocated campus land (65 H) and maintain that control until all the buildings and landscaping of the approved plan for the initial design capacity of 5000 students is completed and handed over to the university - the site is not to be subject to limited occupation by faculties whilst continuing construction is taking place.
- (ii) Developing a construction plan (in consultation with the PMC) 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) Construct site infrastructure and buildings consistently with the principle (to be incorporated into the architectural plans) that the project funds, (loan and government contribution) are to be maximized for investment in education facilities and use for site infrastructure (roads and utilities) is to be the minimum required for the internal needs of the university; and accordingly, ensure that provisions for in-campus roads (including limits on total roadway area, security requirements and vehicular usage) that are included in the architectural plans are adhered to in the construction.
- (iv) Liaising with the PMC, and with AEC, and PMU-USTH through the PMC, to coordinate the works schedule.
- (v) Liaising with UIU (through the PMC) to coordinate the schedule of procurement of equipment (managed by the UIU) with the timelines for installation in buildings as construction proceeds 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 (February 2017, Semester 2 of the 2016-17 academic year) (depending on the procurement ensuring the timely commencement of works).
- (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 sensitive disease amongst 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 PMC in the preparation of all reports on construction required to be sent to the PMU-USTH, the NEB and ADB.

- (xi) Maintain adequate full-time professional staff in Viet Nam to ensure effective management and works delivery on a continuous basis; and

34. The Main Contractor, working in coordination with the PMC and the UIU's Education Services Consultant, will ensure that the University 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.

35. **Fit-Out and Laboratory Equipment Installation.** The funding for and selection of laboratory equipment is located in Output 2 and is under the implementation management of the UIU. However, the PMC, in association with the Main Contractor, shall 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 provide access to the buildings as appropriate to facilitate the training of relevant university staff in its use and maintenance (which should from part of procurement contracts).

36. Equipment installation may be by the UIU's Education Services Consultant or by a separate Education Equipment Supply Consultant, as determined by the UIU and the ESC on a case by case basis. The activities of equipment installation must, nevertheless, be integrated with other campus development works and should be responsive to the guidance of the PMC.



Campus Site Development Plan

Sequence and Timeline for all of Procurement Actions and Construction

1. The sequencing of procurement actions and the timeline for completion of each action is important for the effective implementation of Output 4 – Project Management. The following is an indicative timeline for the key actions.

- Mid-February 2011 – PMU-USTH commences advance action to procure the PPR contract – after loan negotiations (two-step action of total 6.5 months detailed timeline in PAM, Para 44, (figure 5), using STP
- February 2011 – MOET and VAST and French Consortium jointly agree on establishment of UIU and Director agreed by Rector.
- **Mid-March – ADB Board project approval**
- March 2011 – PMU and UIU commence actions to fill all staffing positions. UIU to procure individual international procurement advisor, with guidance from PMU
- **1 June – Project Effectiveness**
- By end June 2011 – recruitment of all PMU and UIU staff completed. All staff ready for FULL-TIME work on USTH with dedicated/exclusive contracts (no outside work). (Procurement and Financial Training to be done later after consultants commence)
- Mid July 2011 – PMU completed procurement of PPR, contract signed
- **End July 2011 – PPR commences, mobilizes specialists for procurement advisory. Facilities scheduler mobilize mid-September-mid-December 2011**
- **Mid September 2011** – PMU invites Stage 1, EOI called for three support contracts, collectively called the Management Quality Consultant(s) (MQC)¹ 30 days
- 1 October 2011 – procurement action for Independent Auditor undertaken – 6.5 months to complete by mid-May 2012
- Mid-October 2011 – EOI for MQC received by PMU
- End October 2011 – EOIs assessed and shortlist determined
- 7 November 2011 – RFT sent to shortlisted firms, 45 days to submit
- End November 2011 – PMU-USTH finalizes arrangements for TEP for MQC, availability of all members in the timeline required confirmed
- Mid-December 2011 – Tenders close for MQC
- End December 2011 – TEP finalizes evaluation and report on selection
- 7 January 2012 – Ministerial approval finalized, notification to successful firm sent.
- 17-19 January 2012 – contract negotiations and contract signed (before TET, estimated from 20-27 Jan)
- Mid February 2012 – MQC commences

¹ The MQC group of consulting contracts includes the Probity Monitor; the Financial Management and Software Installation (FMSI) firm, and the Construction Cost Consultant (CCC) firm, as set out in the Procurement Plan and in Appendix 5. These contracts may be tendered as separate contracts, or may be merged into one larger contract. If tendered separately it is essential that all should be tendered **simultaneously**, in the timeframe set out herein, so that all are available to commence services in time to support the procurement of the PMC, AEC and Main Contractor.

- **Mid-March 2012 – EOI advertised for Project Management Company (PMC)** – 30 days [NB this action should have input from the Facilities scheduler in the PPR and the Quantity Surveyors in the MQC contract before advertising]
- **End March 2012** – PMU-USTH finalizes arrangements for TEP for PMC, availability of all members in the timeline required confirmed
- Mid-April 2012 – EOIs for PMC received by PMU.
- Mid May 2012 – TEP meets as often as necessary, EOIs for PMC assessed and shortlist for PMC approved, advised by MQC; RFT for PMC tender completed, approved, certified by PM, and sent to shortlisted bidders. (50 days to submit)
- 9 July 2012 – tender for PMC closes.
- 23 July 2012 – Tender Evaluation Panel (TEP) for PMC commences meetings. (3 weeks to determine)
- End July 2012 – TEP finalizes evaluation and report, sends recommendation on award of PMC contract to Minister. Process certified by Probity Monitor
- 10 August 2012 – Decision on award of contract to PMC finalized by Minister
- **24 August 2012 – PMC contract signed**
- **24 September 2012** – PMC commences services. First priority is support for procurement action for tenders for AEC and Main Contractor
- 8 October 2012 – PMC/UIU reviews accommodation schedule (revised with PPR Facilities adviser) in readiness for inclusion in Architect tender
- **15 October 2012** – Stage 1 (EOI pre-qualifier) for AEC advertised; (4 weeks to submit). Facilities details included in information
- End October 2012 – PMU-USTH completes arrangements for separate TEPs for AEC. Schedules agreed and availability of all members confirmed for respective times
- 12 November 2012 – EOIs for AEC received
- 30 November 2012 – EOIs for AEC assessed and shortlist approved, advised by PMC; RFT for AEC tender completed, approved, and sent to shortlisted bidders. (FTP, 55 days to submit)
- 31 January 2013 – Tender for AEC received
- 15 March 2013 – **AEC** tender agreed. Site and Architect concept Plans accepted by PMU and USTH. Process certified by Probity Monitor (time allows for TET, estimated 7-14 Feb 2013)
- 15 March 2013 – Stage 1 (EOI pre-qualifier) for Main Contractor advertised; (4 weeks to submit). Facilities brief, as for AEC, also included.
- 27-29 March 2013 – contract negotiations for AEC.
- End March 2013 – TEP for Main Contractor selected; meeting time schedule for evaluation finalized and all members availability confirmed
- 5 April 2013 – contract for AEC approved by minister, notice sent
- Mid April 2013 – EOIs for Main contractor received
- **1 May 2013 – AEC commences.** First priority is to contribute to finalizing of RFT specifications for Main Contractor. Thereafter detailing of design commences

- 17 May 2013 – Main contractor shortlist approved, advised by PMC and certified by Probity Monitor; RFT for Main contractor completed, including details from architect plan as approved; RFT sent to shortlisted bidders. (55 days to submit)
 - 12 July 2012 – Main Contractor tender submitted
 - End July 2013 – Main contractor selection finalized. TEP report sent to Minister. Process certified by Probity Monitor. Minister 7 days to approve.
 - 9 August 2013 – Advice to successful MC sent. Contract negotiations complete by 23 August
 - 30 August 2013 – contract for MC signed.
 - **30 September 2013** – Main Contractor mobilized. Office established.
 - November 2013 construction planning and initial sub-contracting for civil works
 - **December 2013 – construction works commence [Minimum 3 years progress]**
 - **End November 2016 – site construction and fit-out completed.** Soft –opening commences (4 months includes TET in Jan-Feb 2017)
 - End February 2017 – handover complete – full programs available in new campus from Semester 2 of 2016/17 academic year (After TET, February 2017)
 - End February 2017 – PMC, AEC and Main Contractor construction contracts close
- | |
|---|
| <ul style="list-style-type: none"> • <i>By November 2014 – PMU and ADB complete arrangement for Mid-Term Review.</i> • <i>March 2017 –PMU-ADB final review of implementation commences.</i> |
|---|
- 1 May 2017 – all implementation actions completed – project end
 - October 2017 – all accounts liquidation and final reports completed and project closed.

2. Procurement sequence by UIU – for Education Services Consultant and Education Equipment Supply consultant

February 2011 – MOET and VAST and French Consortium jointly agree on establishment of UIU and Director agreed by Rector. March 2011–UIU commences advance procurement action for procurement adviser (individual) (10 weeks to complete, end with mobilization in early June, immediately after project effectiveness)

- **Mid-March – project approval**
- **June – Project Effectiveness**
- May – June 2011 – UIU procures local staff for UIU and appoints university staff to appropriate positions
- Mid -May - 2011 – UIU procurement preparation commences. Determination if separate Education Equipment Supply (EES) consultant needed, or if this can be Incorporated into ESC ; preparation of tender documentation²
- Mid-June 2011 – UIU commences **EOI advertisements** for Education Consultant(s), 2 step procurement, 30 days to submit EOIs

² It is optional for the UIU to determine if this service can be included within the contract of the ESC, or if it is more effective to procure a separate specialist firm, (or several firms) to support the sourcing and installation of laboratory equipment. Decision on this may be linked to the nature of equipment to be obtained. It may be that some very specialized equipment may need to be sourced only by narrowly specialized firms.

- End June 2011 – UIU finalizes arrangements for TEP and ensures availability of all members
- Mid-July 2011 – EOIs received
- End-August 2011 – TEP finalizes shortlist(s), sends out RFT to shortlisted tenderers, 55 days to submit tenders
- Mid-November 2011 – tenders close
- Mid-December 2011 – UIU completes TEP, sends recommendations to PMU-USTH and Minister
- Mid-January 2012 – Ministerial approval (finalized before TET holiday commences, 20 January); Rector signs notification to successful tenderer(s). Thereafter no further approval from Minister required – university granted autonomy to negotiate and sign contracts
- 1-2 February 2012 – contract negotiations
- Mid-February 2012 – contract(s) signed
- **Mid-March 2012 – Education consultants commence services**
- Subsequent sourcing actions for specialists and equipment as agreed.
- Stage 1 of Capacity Building activities in first two years after commencement – complete before November 2014 for MTR
- Stage 2 of Capacity Building to concentrate in last year to support planning for full establishment at Hoa Lac campus and **during soft opening** to finalize establishment of university operating systems and staff training – complete by mid-March 2017.
- End March 2017 – Final reports completed. Contracts close.
- 1 May 2017 – UIU finalizes all accounts and submits to PMU-USTH.
- October 2017 – all accounts liquidation and final reports completed and project closed. PMU-USTH and UIU closed

Outline Framework for Contracted Activities

1. Consulting services and implementing contracts will be required for three main sets of procurement actions, for:

- (i) advisory firms to support the central PMU in managing the procurement, finances and supervision of the project (five contracts);
- (ii) the construction contracts - three contracts, to include
 - a. A Project Management Company (PMC)
 - b. An Architect/Engineering Company to provide a competitive tender for the site design and buildings AEC; and
 - c. the Main Contractor (MC) to assume responsibility for the infrastructure and construction and fit-out of the whole campus.
- (iii) a management firm for education services to support the USTH in the implementation of the development of the university management (output 1) and the academic policies and systems (Output 2) – called the Education Services Contractor (ECS). This may also sub-contracted services, and/or a separate contract may be determined for managing sourcing and procurement of science laboratory equipment.

Group 1: packages of consulting services will be procured, as set out in Table 1:

Table 1 – Overview of Indicative consultant personnel for Construction related contracts

Contract 1 – Firm - Procurement and Project Readiness (PPR)		Person Months		
		International	National	Total
1.	Procurement Adviser	15	12	27
2.	Facilities scheduling and space utilization adviser for RFT	4	-	4
	total	19	12	31
Contract 2 – Firm -- Construction Cost Consultant (CCC)		Person Months		
		International	National	Total
1.	Quantity Surveyor – Cost Controller and contract administrator	20	30	50
2.	Quantity Surveyor – Works inspections and verification	20	30	50
	total	40	60	100
Contract 3 – Firm -- Financial Management, software installation and Training (FMSI)		Person Months		
		International	National	Total
1.	Financial System Adviser / trainer	4	4	8
	total	4	4	8
Contract 4 – Firm – Independent Audit		Person Months		
		International	National	Total
1.	Independent auditor (annual accounts audit)	8	10	18
	total	8	10	18
Contract 5 – Firm -- Procurement Probity Monitor		Person Months		
		International	National	Total
1.	Probity Monitor (procurement)	3	3	6
	total	3	3	6
Contract 6 –Project Manager Company (PMC)		Person Months		
		International	National	Total
1.	Project Manager/Project Executive			
2.	Construction Manager			
3.	Construction Supervisor			
4.	Contracts Manager, Quality Managers			
5.	Administration and office services			
	total	88	221	309

Contract 7 – Architect and Engineering Company (AEC)

1. Supervising Architect(s)
2. Supervising engineers (s)
3. Drafts persons

Total	216.5	532.5	749
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Consultants

2. **Contract 1: Procurement and Project Readiness (PPR) (Total 31 pm: International, 1x15, 1x4pm; national 12 pm) – (Advance action)** The procurement advisor firm will be recruited four months before anticipated loan effectiveness. The primary work of the PPR will be to will assist the PMU to establish the procurement procedures of the PMU, procure the Probity Monitor, the FMIS, the CCC, and the PMC, assist the PMU and the UIU to revise and finalize the Facilities brief prior to tendering for the AEC, and provide on-the-job training for the procurement staff of the PMU. The firm will supply two international specialists, one for 15 months, to support the general procurement planning and actions, and one for 4 months to work with the USTH specialists from France to refine and detail the internal space scheduling for the construction, for inclusion in the RFT documents for the AEC. One national procurement specialist (12 months) with experience in construction will assist the international advisers. The PPR contract is with the PMU but TORs will include that assistance also be provided to the UIU as required.

3. The procurement specialist will:

- Assist the PMU 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 PMC, covering both construction and capacity building across all components.
- Support the PMU to manage all procurement actions in accordance with the detailed timeline (as set out in appendix 4)
- Advise on specialist criteria for recruitment of the procurement staff of the PMU and UIU and assist the PMU and UIU to undertake the recruitment of the staff
- Provide training in procurement relevant to meeting ADB requirements to those new staff of the PMU who require it
- Assist the PMU to prepare documentation to obtain approval by the ADB and by the Minister of Education of the procurement strategy for the PM, FMIS, CCC, PM, Audit and PMC
- Assist the PMU to undertake the procurement action for contracts for the PM, FMIS, CCC, with completion of procurement stages up to and including tender assessment and readiness for approval of contract award before effectiveness – ready to sign contracts within two months of effectiveness.
- Working with the Probity Monitor and the CCC, once those contractors are active, to assist the PMU to refine the Design Guidelines, tender specifications and bidding processes¹ for the PMC and AEC, then to support the conduct of the PMC tender evaluation and award of contract².
- Assist the PMU to prepare the tender documents for the Audit firm and support the selection and awarding of the contract.

¹ The Design Guidelines for the construction and tendering specifications were included in the final report of the Preparation Team (Volume 8), but due to new developments subsequent to their submission will require revision and refinement

² Once the PMC has commenced, this firm will subsequently assume the role of support for subsequent procurement actions for the AEC and the Main contractor, including acting as a probity monitor for those two procurement actions.

4. The procurement adviser for space scheduling will:

- revise the space schedules given in the final report of the Technical Assistance in the light of advice from the USTH management and the French international partner about the space requirements for the teaching and research functions of USTH, and about office and ancillary spaces and infrastructure
- update the space scheduling spreadsheets, checking that the cost for buildings and infrastructure remains within the totals approved by ADB for the loan;
- monitor the preparation by USTH and the French international partner of the equipment schedule to ensure that the documentation meets tendering requirements and the cost estimate remains compatible with the total approved by ADB for the loan.

5. The PMU must commence advance action as soon as the ADB completes the final circulation of the RRP/PAM. The action should be undertaken so that the PPR contract can be awarded in time to permit commencement by June 2011. The international PPR consultant firm must ensure that the procurement adviser (international) has had at least one work experience with ADB procurement guidelines, and have at least five years relevant experience in construction procurement and be familiar with the methodology for international standard 'Design-Bid-Build' contracting. The second adviser should have experience in space scheduling for university design and construction.

6. **Contract 2: Probity Monitor (international firm) (7 person months – International x 3.5pm, National x 3.5pm spread over 8 months with 4 visits by the international)**³ The consultant will provide an expert in procurement processes who will monitor the conduct of the procurement actions for the PMC, the AEC and the Main Contractor. The Probity Monitor will:

- review the procurement documentation in advance
- monitor the procurement actions and selection assessments as the processes are undertaken – by attending all sessions of assessment panels and decision meetings and reviewing the written reports to the Minister and NEB on the selection recommendations reviewing; and
- make independent reports direct to the NEB on the probity of the each procurement action (as processes are completed).

7. This PM contract will be procured immediately after the commencement of the PPR consultant. The PPR will assist the PMU to develop the EOI and RFT and oversight the selection. The PM should be established in time to support the PMC firm, continuing until the selection report on the PMC has been completed and sent to the Minister for approval and the Probity Report sent to the NEB. All reports of the PM will also be sent separately to the ADB.

[Estimates are based on an assumption that an international firm will have access to a Viet Nam based local office and that key consultants will be deployed there, reducing the need for significant international travel]

8. **Contract 3: Financial Management and Software Installation (FMSI)** (international), (total 8 pm – International 4 pm; National 4 pm) A small team of international specialists must be provided by the firm, with qualifications in set up of the chart of accounts, establishment of financial software, and financial management training. These positions may be job-shared with a

³ Contracts for the Probity Monitor, the FMSI and the CCC may be included in one contract, or kept separate. If separate the procurement must occur simultaneously, as the mobilization of the Probity monitor and the CCC are essential to the procurement preparation for the PMC.

national consultant who has relevant international qualifications, with the proviso that the reports must be co-signed by both the international and national specialists.

9. The FMIS will ensure the financial management accounts at the PMU and the UIU are set up and the software for managing them is correctly installed, and the financial management staff has adequate training in its use. Under the Design-Bid-Build model the PMC will also deploy a senior financial manager and contracts manager, and the system for financial management for the PMC and the PMU need to be synchronized. The financial manual and procedures need to be reviewed. The services will include as a minimum:

- Establish the PMU chart of accounts for the project, taking account of the ADB cash flow system for the project
- Establish the operating software and customize it for the chart of accounts, the cash flow requirements, and the project reporting needs, including linking the reporting to the government monitoring system
- Review the PMU financial manual (established for the VGU) and certify the applicability of the procedures to the ADB reporting requirements and the suitability for common usage
- Review the training and knowledge of the PMU full-time financial management staff and certify that it is appropriate to the requirements; provide training as needed to adapt to

10. The PMU accounts for the USTH must be kept separately from those of the VGU, but the software may be shared or based on systems and software established under the WB loan, (if that is done in time), and if it is appropriate to the needs of the ADB loan. The consultant will review the existing system in the PMU and provide advice on the appropriateness and need for adaptation.

11. **Contract 4: Independent Audit (International Firm) (18 person months – International x 8pm; national x 10pm)** It shall be mandatory for the PMU to hire an international audit firm to supply personnel who have international audit qualifications to provide independent auditing of all the project accounts and financial records. For this purpose the project accounts also includes the accounts of the PMU, the UIU and MOET,. . The Audit firm will

- Undertake an audit of the financial records annually, within two months of the close of the financial year, and report direct to the NEB on the consolidated annual financial statements prepared by the PMU, the propriety and efficiency of the financial management of the loan and the government funds.

12. **Contract 5: Construction Cost Controller (CCC) (International firm), (total 100 pm – International 40 pm; National 60 pm)** The CCC will provide quantity surveyors to provide a dual role: (i) initially to provide support (additional to the PPR) in development of the RFT and contract documents for the procurement for the PMC; then (ii) subsequently to assist PMU 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:

- assist the PMU in the review of the detailed specification for the RFT, to refine the construction cost estimates, support the finalization of tender and contract documentation for construction and assist in the assessment of tenders for the PMC and subsequent AEC and Main Contractor;

- supporting the PMU during construction of the campus by assisting them in monitoring the costs during design, development and construction stages, with project cost management;
- providing quality monitoring (inspection and certification services) for building quality assurance, environmental controls, quantity ordering controls, and managing any design change Instructions and other variations;
- certification of work progress and advise the PMU on approvals for Contractors progress payments. It shall be mandatory that no invoices for work done or goods procured may be paid by the PMU without the certification of the CCC representative as to true and correct invoice and appropriate work quality and quantity of goods supplied and correctly installed; and
- provide regular reports to MOET, the NEB and the ADB on the progress of the construction.

13. The CCC firm must supply at least two international specialists to cover advising in construction procurement and management, and for inspections and verifying of works, supplies and invoicing. The CCC is encouraged to include Viet Nam national consultants in tenders, who have appropriate experience who may benefit from long term training on the job while supporting the quantity surveying activities. The quantum of time is to be managed flexibly to meet the on-going needs of the PMU. To support this, the CCC firm is expected to maintain at least one consultant available full-time in Hanoi, (working from their own office but available to the PMU on need). Concentrated full-time services must be provided in the first six months of the contract and thereafter at regular intervals as necessary to support inspections and regular invoicing periods, and any reviews and support for variations.

[Estimates are based on an assumption that an international firm will have access to a Viet Nam based local office and that key consultants will be deployed there, reducing the need for significant international travel]

14. **Contract 6: Project Manager Company (PMC), (International firm), (total 309 pm – International 88 pm; National 221 pm)** The PMC will provide overall project management for construction and perform services to ensure the project is delivered on time and within the funds available. Personnel will be determined in the tender but an indicative list is shown in Table.2.

Table 2:– indicative PMC Management Team

Contract 6 – PMC-		Person Months		
		International	National	Total
1.	Team Leader/Project Executive	52	-	52
2.	Construction manager	15	52	67
3.	Construction supervisor	21	52	73
4.	Administration and office services	-	117	117
total		88	221	309

15. The PMC will provide a Project Executive (Team Leader) to coordinate and integrate all services and act as the senior representative of the PMC in dealings with MOET, the PMU and the USTH. The PMC will:

- 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.
- Liaise closely with the PMU 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

- Ensure that local employment is used to the maximum extent, consistent with maintaining standards and working within costs – this will include ensuring that hiring of unskilled labor on civil works will include up to 40% women
- 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, and once agreed, for approval of the ADB and the NEB.
- Oversight and manage the implementation of the campus construction, including supporting the procurement and contracting to:
 - secure a international AEC who will provide a competitive proposal for a refined site and architectural plans, and
 - A Main Contractor to implement the civil works for infrastructure and the construction of the approved buildings.

16. Contract 7: Architect and Engineering Company (AEC - (International firm), (total 749 pm – International 216.5 pm; National 532.5 pm)

The AEC will provide architectural concept design for the site layout and all buildings (via tender) and once the concept is approved, will provide detailed plans and drawings and oversight of construction as the design is implemented by the Main contractor. Indicative personnel are listed below in Table 3, though the final list will be determined in the tender.

Table 3 - AEC		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.
total		217	531	748

17. The Architectural and Engineering Company will provide:

- Initial architectural concepts and drawing (sufficient to enable a decision on the preferred plan and cost structure of the campus development) – these will be included in its tender
- technical expertise in architectural planning and detailed drawings to guide the construction (based on the winning architectural concept as awarded)
- technical expertise for Green Building Design and landscaping and appropriate certification with international standards for this expertise
- supervisory service as necessary to ensure architecture, engineering and construction adherence to design drawings and standards specified.
- Liaison with the PMC, PMU-USTH as appropriate to coordinate the design and works schedules
- Liaison with UIU to support the input of end-users into final design specifications and refinement of the facilities schedules and laboratory design requirements
- Assurance that provisions for in-campus roads (including limits on total km, security requirements and vehicular usage) that are included in the design brief are adhered to in the architectural specifications.

18. The AEC, working through the PMC, 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.

19. **Contract 8: Main Contractor.** The Main Contractor will implement the construction of the campus to the design, on time and within budget. To undertake this, the MC provide a full-time 'MC project manager' and a range of technical specialists (some of whom may be sub-contractors) to perform the works. An indicative list of management and specialist positions is shown in the Table 4 below. This is however, provisional, and will be refined by the Main Contractor in its tender and implementation planning.

Table 4: Main Contractor - Indicative Management Personnel and Technical Consultants

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

20. The Main Contractor will provide staff and consultants as required for:

- Liaising with the PMC, and through the PMC with the PMU, and UIU and the CCC.
- Developing a campus construction plan and managing its implementation within the approved contract budget and time period.
- Providing expertise in: civil structures, mechanical/electrical, laboratory construction and fit-out, specialist materials handling (chemicals and other sensitive materials), IT fit-out, academic Library construction, interior design, lighting, landscape design, graphic design, and acoustics.
- Ensuring quality assurance, environmental controls, quantity ordering controls, occupational health and safety management support for social monitoring and disease control (especially STD and HIV and other relevant pandemic exposure).
- Reviewing, with the PMC and AEC, the construction plan on a twice annual basis, and advising on any requirements for adaptations or variations.
- Procuring nominated sub-contractors and supervising their works implementation.
- (depending on the timely commencement of works), over-sighting the completion the campus construction and hand-over in time for teaching services to commence in the agreed timeframe (indicated to be February 2017).
- Applying professional standards and ensuring construction to international standard buildings and fit-out.
- Managing social responsibilities and ensuring harm avoidance strategies are adopted to prevent spread of HIV and other sensitive disease amongst construction workforce and local populations.

- 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.
- Assisting the PMC in the preparation of all reports required to be sent to the PMU.
- Maintain adequate full-time professional staff in Viet Nam to ensure effective management and works delivery on a continuous basis.

21. Detailed specifications of the technical personnel for construction are in the procurement documentation in Volume VIII of the TA Preparation Project Final Report (noting that these will need revision and adaptation for the changes made to the construction approach since they were prepared).

22. **Group 2: Capacity Building for University Management and Academic Development (Outputs 1 & 2)** The UIU will manage the implementation of Outputs 1 & 2. Accordingly it will manage the procurement of contracts for Technical Assistance and Capacity Building, and will manage the awarded contracts and finances to support them. It is expected that the UIU will procure up to three contracts, to cover:

- Initially, a procurement adviser to assist with the follow-on procurement; and
- An Education Services Consultant (ESC) ; and if appropriate a separate
- Education Equipment Supply Consultant (EES)⁴

23. The ESC will provide general management of the capacity building for Output 1 & 2. An indicative list of services packaging is shown in Table 5 below. To implement these services packages the ESC will arrange the supply of individual specialists, or of smaller sub-contracting firms, as may be appropriate. The UIU will determine if the ESC should manage the provision of the ESS 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 5: Consulting Services Groupings for Capacity Building and Technical Assistance

<i>Summary – Service Groupings for Outputs 1 and 2</i>	Person Months		
	International	National	Total
1 Procurement advisor	6	0	6
2 Education Services Consulting:	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
total	318	240	558

⁴ It is optional for the UIU to determine if this service can be included within the contract of the ESC, or if it is more effective to procure a separate specialist firm, (or several firms) to support the sourcing and installation of laboratory equipment. Decision on this may be linked to the nature of equipment to be obtained. It may be that some very specialised equipment may need to be sourced only by narrowly specialised firms.

Outline of Service groupings for CB technical services – (provisional)

CB Group 1 – Leadership, Structures & Regulations		Person Months		Total
	International	National		
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	
total	34	16	50	
CB Group 2 – Management Systems & software development		Person Months		Total
	International	National		
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	
total	50	20	70	
CB Group 3– Student Services		Person Months		Total
	International	National		
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	
total	21	16	37	
CB Group 4 – Academic Development		Person Months		Total
	International	National		
<i>Team Leader, Academic Development</i>	24	12	36	
<i>Centre for Teaching and learning Excellence:</i>				
Teaching, curriculum and assessment development specialist	12	11	23	
Integration of teaching and research development specialist	5	3	11	
Teaching certification specialist	5	3	11	
TESOL program specialist	5	3	11	
<i>Quality Assurance Centre</i>				
University QA systems specialist	10	5	15	
Academic management Systems specialist	7	5	14	
Quality Data system specialist	8	5	13	
<i>Research Support Centre</i>				
Research Design and Methodology specialist	10	6	16	
Publication editing specialist	10	-	10	
<i>Industry Engagement Centre</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	
total	120	75	195	
CB Group 5 – Laboratory Management Development		Person Months		Total
	International	National		
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	
total	50	23	73	

TA, Group 1– Education Equipment Supply	Person Months		
	International	National	Total
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
total	37	90	127

24. 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.

25. A detailed Human Resources (HR) Plan elaborates areas for development and training tasks to be provided. The HR plan is at Appendix 13.

26. Outline Framework for these teams are set out below. They are provisional and maybe adapted and elaborated by the UIU and Education consultant, to reflect emerging needs of the university and to fit with professional assistance provided by the French management and academic leadership:

27. Consultants for Capacity Building in University Leadership and Management (Output 1) and Academic Development (Output 2) Each group will have an international sub-team Leader and other international and national specialists as required for the specifications. The ESC will determine that one of these will also act as overall team leader and group coordinator. The ESC shall propose the best mix of consultants with the averaged mix being approximately 70% international / 30% national to reflect the need to transfer of international knowledge in the requirement for development of international standard university operations. International and national consultants shall work cooperatively across the activities as fits each consultant's skills and qualifications, and each consultant must accept responsibility for report preparation on their field of expertise and activities assigned by the team leader. As a general guide the requirements for consultants will include, but not be limited to:

- (i) **Overall Team Leader:** The Team Leader's responsibilities include (i) provide leadership and guidance in the technical issues relevant to the package and ensure that the management and academic development programs outlined in Appendices 7 to 12 of this PAM are used to guide the implementation and the objectives met in the policies and systems developed; (ii) serve as adviser to the Rector and Senate in development relating to the nominated field of work of the package and lead consultations as necessary; (iii) prepare work plans and guide and coordinate activities of international and national consultants; (iv) coordinate 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; (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.

- (ii) **Sub-team leaders and Group Consultant 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 Appendices 7 to 12 of this PAM, (where relevant to the assignment); (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 closely consulted and coordinated with the USTH management, teaching and research academics, and are designed to develop the Capacity of the function or service to be embedded into the permanent operations of the university and are sustainable; (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; (viii) prepare reports on activities, as necessary, to contribute to progress reports for the PMU .
- (iii) Each team will provide services according the requirements for Capacity Building associated with the package. For the five packages, these are as follows:

28. **CB Group 1 – Leadership, Structures and Regulations** (50 pm for USTH; cumulative over six years, with emphasis in early years and close to the time for the move to the new premises)

29. Develop and provide a program of assistance to build the capacities for the President, Rector and other **key leadership positions**, and for members of the Council, 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. This will involve a mix of short training modules, mentoring support and Capacity building activities to support the following roles and functions:

- Understanding the charter and roles and responsibilities
- Planning and developing supporting structures of council and the university
- Establishing the long term strategy for new research/teaching/industry integration
- Prioritizing for program development and preparing annual operating and financing plans to build research and academic strength
- Understanding university financial management and balanced allocation of resources, aligned with the strategic plan, and understanding of financial accounts as necessary (*Note (a)*)
- Planning and managing for high quality personnel - recruitment and development. (*Note (b)*)
- Understanding new university accountability requirements and standards to be expected in over-sighting accountability to the government, students and the public. (*Note (c)*)
- Understanding of international standards for new approaches to university management and analyze the strengths and weaknesses of the initial establishment to contribute to a

2012 review of the Charter to establish more effective autonomy and management structures for implementation over the remaining four years of the loan period. (Note (a))

30. The Training Program will support the appointed founding Chair of Council and President, and Council members to establish the detailed structure of the university's governing system, establish and commence the operations of the range of Council committees and sub-committees, determine the universities strategic directions and prepare 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 President positions.

Note (a) – A set of operating principles for best practice in international standard university governance and management is set out at NMU Program A, Appendix 7

Note (b) – A detailed program for best practice in academic establishment and development (staff recruitment and HR policies) is set out at NMU Program C, Appendix 9. This program is to be developed and demonstrated at USTH during the period of the loan.

Note (c) – An outline of the principles and data relating to adequate levels of recurrent financing are relevant to this planning and set out at NMU Program B, Appendix 8

31. **CB Group 2 – Management Systems and Software Development** (50 pm for USTH; cumulative over six years, with emphasis in early years and close to the time for the move to the new premises)

32. Develop and Implement a program of Technical Assistance and training to establish the 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 (Note (c) above)
- (iv) Library Collection Management and Catalogue systems and operating manuals
- (v) Personnel Management systems and operating manuals (Note (b) above)
- (vi) Installing and maintaining all Management Information Systems - data collection, processing and use of data for planning and for monitoring of quality.

33. The Technical Assistance 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 the university to establish new systems, based on the needs of the university 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 surveying for quality monitoring that will be necessary to sustain the standards expected of NMUs and essential to underpin striving for achieving international excellence (refer Notes (a), (b) & (c) above); (iii) assist the university 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 Quality Assurance 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.

34. 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 MOET 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:

- To work over a period of six months with representatives of the government, of USTH and of the international and domestic partners of USTH to develop mechanisms for the recurrent funding of USTH based on international good practice, and to report conclusions to the government and other stakeholders by 30th September 2012.
- 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.
- The consultant should develop a special international study tour for selected officials in MOET DPF, MOF and OOG, (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 HR plan at Appendix 13)
- 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 (indicated for completion in 2010) is warranted.
- The Asian Development Bank 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.

35. **CB Group 3 – Development of the Student Services Office and Support Programs** (37pm for USTH; cumulative over six years, with emphasis in early years and close to the time for the move to the new premises)

36. Develop and implement a program of Technical Assistance to establish an Office of Student Services, and provide Capacity Building in its operation, including:

- (i) Student Advisory and Mentoring Service for study and academic support
- (ii) Financial Counseling and Student Assistance Schemes (fee rebates and other assistance)
- (iii) Medical services (referral clinic) and social counseling services
- (iv) Employment Services
- (v) Specialized facility to support programs under the University's Gender Action Plan 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

37. CB Group 4 – Establishment of the Specialized Centers/Units for Academic Development (195pm for USTH; cumulative over six years, with emphasis in early years and close to the time for the move to the new premises)

This package will bring together four of the five sub-components under Component B for academic development. The ESC will design and implement an integrated program of Capacity Building across the sub-components, 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) Centre for Teaching and Learning Excellence (CTLE); (ii) Quality Assurance Centre and Academic Management Systems; (iii) Research Support Centre; and (iv) Industry Engagement Centre.

38. For the Centre for Teaching and Learning Excellence, - The specialists will develop internal university Capacity 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. TA will support the development and embedding into the university 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.
- (iv) Programs for graduate students whose first language is not English.

39. 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.

Note (d) - A detailed program for best practice in internal university system for managing the establishment and review of programs and curriculum and of the internal Quality Assurance systems is set out at NMU Program D, Appendix 10. This program is to be developed and demonstrated at USTH during the period of the loan.

40. For the Quality Assurance Centre and Academic Management Systems - The ESC specialists will build Capacity amongst all staff of the university to embed a holistic and permanent internal QA management service for use by management and academic staff. The Capacity Building will include the following activities:

- *Senior management level (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
- *Staff of Quality Assurance Centre:* 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.

- *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.

41. The consultant will also: (i) develop the centre to be the locus for managing the University's own regular research for monitoring quality and using it to feedback 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.

Note (d) - *A detailed program for best practice in internal university system for managing the establishment and review of programs and curriculum and of the internal Quality Assurance systems is set out at NMU Program D, Appendix 10. This program is to be developed and demonstrated at USTH during the period of the loan.*

42. For the **Research Support Centre** - The ESC will provide TA to establish the centre and its programs and embed them into the university culture. 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. 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.

43. For the **Industry Engagement Centre**, - the ESC will assist in establishing an engagement centre that assumes responsibility for building relationships with industry and other potential users of their knowledge, expertise and technologies. The Centre's priority will be to support researchers 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 and to access industry advice to the university on teaching and research that would be relevant to industry needs. The Consultant will support the Centre in building competencies in:

- (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, and specifically with the new Technology Transfer Centers that are planned to be established elsewhere in Hoa Lac High Tech Park.

- (iii) Developing industry internship programs with industry for university undergraduate and postgraduate students and researchers
- (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 the university.

44. 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 centre; (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.

Note (e) - *A detailed program for best practice in industry linkages is set out at NMU Program F, Appendix 12. This program is to be developed and demonstrated at USTH during the period of the loan.*

45. CB Group 5 – Development of the Laboratory Management Centre/Unit (73pm for USTH; cumulative over six years, with emphasis in early years and close to the time for the move to the new premises)

46. The ESC will provide TA to assist the establishment of a Laboratory Management Center 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 Centre 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 centre with responsibilities to:

- (i) streamline and monitor equipment acquisition
- (ii) implement income generating activities
- (iii) provide staff training
- (iv) advise on laboratory design and management.

47. The consultant will: (i) assist the Laboratory Management Centre 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 the 'hands-on' work of data generation; (iii) develop Standard Operating Procedures, (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 for the Chemistry analytical, biology and environmental laboratories a specialized 'Laboratory Management Information System' (LMIS), which is built to accommodate the specific laboratory operations (rather than adapting an 'off-the-shelf' proprietary product; (v) develop Capacity for the Centre to provide services to the discipline laboratories through the maintenance and calibration of equipment, including a calibration laboratory in each of the key areas of temperature, mass and volume; (vi) assist the university to review and specify the equipment list for all discipline laboratories, and the calibration laboratories within in the Centre; (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; (viii) establish a training program and curriculum for the

development of Technician support staff; (ix) develop a structure for a career path for Technicians, 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.
- (iii) *Training for practical responsibilities of the Technicians*, and as such will be set up to be conducted on-site as equipment becomes available.

48. The consultant will include methodology that ensures the technical training for Technicians will always focus on the proper use of the equipment and its maintenance and not on the theoretical knowledge surrounding the technique.

Note (e) - *A detailed program for best practice in laboratory management systems is set out at NMU Program E, Appendix 11. This program is to be developed and demonstrated at USTH during the period of the loan.*

49. 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 the following expertise and experience:

An Overall **Team Leader and sub-group team leaders** with expertise in university institutional management and background in academic leadership. He/she must 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.

Team 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)
- (v) strong skills in training workshop delivery and experience working with translators in training delivery.

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
- (iv) Some relevant experience in activity implementation in their field of technical expertise, in developing countries.

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
- (v) Relevant language skills.

Loan Assurances and Checklist for Review Missions

A. Assurances

1. The government will ensure that the design and construction of physical facilities under the Project comply with all applicable environmental laws and regulations of the government, and the ADB's Safeguard Policy Statement (2009). In case of discrepancies between the government's environmental laws, regulations, and procedures and ADB's Safeguard Policy Statement, ADB's policy will prevail.

2. Within 1 month of the effectiveness of the loan, the government will have issued a regulation, to the satisfaction of ADB, that will provide the framework for USTH to operate with substantial level of autonomy, including to be governed by its own university council, rector and academic board. The government and the ADB will conduct a joint review by December 2012 to assess the effectiveness of the regulation. Three months after the end of the review, the government will amend, as necessary, the regulation to reflect the result of the assessment.

3. Within 1 month of the effectiveness of the loan, the government will have established and appointed the members of the university council of USTH. The university council will have the authority to: (i) approve a strategic direction; (ii) establish an internal organization and administration; (iii) manage student intakes; (iv) approve a university budget; and (v) make its own selections and appoint the members of the council for the second and subsequent terms. The government will appoint up to two government representatives as university council members. Such government representatives will not be eligible for election or appointment as chair of the university council, who will also act as the President of the university.

4. The government will ensure that the appointment of the second and subsequent Rectors of USTH will be based upon: (i) a transparent, merit-based, international selection process; and (ii) the recommendation of the university council.

5. Within 3 months of the effectiveness of the loan, USTH will have established and appointed a science and academic council with the responsibility to: (i) establish and maintain academic standards; (ii) approve all academic programs; and (iii) award all academic qualifications.

6. Within 9 months of the effectiveness of the loan, the government, through MOET, and USTH will approve a written commitment as to its objectives and goals to be achieved in the following year, and over a period of at least 3 years; such commitment will serve as a basis for MOET to oversee USTH's performance and to allocate budget for the university. The government, through MOET, and USTH will review the relevance and efficacy of the written commitment on an annual basis.

7. By December 2012, the Prime Minister of the government will issue a special financial mechanism in the form of a regulation to provide for the state funding support for USTH., according to which the state ensures that: (i) investment funds will be provided to build the campus and to supply advanced equipment in order to sustain teaching and research of high quality; (ii) USTH will be autonomous and accountable in matters relating to financing sources and expenditures and in assets, salaries and financial management; and (iii) the state will allocate a level of funding to support recurrent expenditures at USTH, that, when combined with other income from tuition fees and other sources of revenue, provides USTH with a per-student

subsidy that ensures USTH is able to operate at international standards of teaching and research in science and technology. This regulation must be agreed in advance with the ADB.

8. Within 1 month of loan effectiveness, the government will have, to the satisfaction of ADB, established the sub-unit of PMU-UE, to be called PMU-USTH, and specified detailed project management responsibilities for the implementation of Output 3, including a requirement for a fulltime professional project manager as Director.

9. Within 1 month of loan effectiveness, the government, through MOET, will have i) provided 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.

10. Within 16 months of loan effectiveness, the government, through MOET, will have issued a Prime Ministerial decision to allocate the land to USTH sufficient to permit construction to commence in accordance with the agreed construction timeline.

11. The government will ensure that (i) adequate counterpart funds required during project implementation period are provided on a timely basis; (ii) annual budgetary appropriation requests are submitted in a timely manner; and (iii) appropriated funds are disbursed promptly when needed for project implementation purposes.

12. The government will ensure that all land acquisition and resettlement activities under the Project will be conducted in accordance with (i) the resettlement plan; (ii) the relevant laws, regulations, and procedures of the government; and (iii) ADB's Safeguard Policy Statement (2009). In case of differences between the laws, regulations, and procedures of the Beneficiary with ADB's Safeguard Policy Statement, then the ADB's Safeguard Policy Statement shall apply.

13. The government will disclose the updated resettlement plan to the affected people and implement the approved resettlement plan to the satisfaction of ADB, including provision of adequate counterpart funding to cover the actual costs. It will ensure that all people affected by the Project are compensated, resettled, and rehabilitated in accordance with the requirements of the approved resettlement plan prior to any physical or economic displacement taking place.

14. Prior to the commencement of any resettlement activities, the government, through MOET, will sign a contract with a qualified institution acceptable to ADB to conduct independent external monitoring and periodic reporting of resettlement.

15. The government will not award the civil works contracts until: (i) the government has updated the resettlement plan in accordance with ADB's Safeguards Policy Statement; and (ii) ADB has approved the updated resettlement plan.

16. The government will not commence civil works activities until (i) the updated resettlement plan has been fully implemented, which will be verified by a report prepared by the independent monitoring agency; and (ii) the implementation report prepared by the independent monitoring agency has been approved by ADB.

17. The government will ensure that the Gender Action Plan (GAP) is fully implemented and that all project activities are designed and implemented in accordance with ADB's *Policy on Gender and Development* (1998) including, but not limited to: (i) development and implementation of equity strategies to increase female student enrollment in the university; (ii) an allocation of 40% of dormitory accommodation for girls; (iii) a quota of 2 females in senior management, academic staff and university council positions; (iv) a quota of 30% female participation in capacity building programs for senior managers, technical and administrative staff; (v) gender balance in industry placement programs in USTH to increase female employment and participation in further studies in science and technology; (vi) gender inclusive design of physical facilities; (vii) include relevant provisions in the civil contracts works to ensure that the recruitment of local labor will be conducted on the basis of equal opportunities and equal pay for women and men and that 40% of unskilled laborers are female; and (viii) all monitoring and evaluation data disaggregated by sex and ethnicity.

B. Checklist for Review Missions

University Council operating as per Role/Responsibility Statements in Charter, effectively assuming full responsibility for strategic planning and acting as autonomous authority for operational affairs of the University
Chair of Council and the Rector are each acting according to Position Role/Responsibilities specified in Charter; distinction of authorities and operating procedures between Chair of Council and CEO are clear, and working appropriately to specification and in harmony
The Rector is assuming effective control over the internal operations of the university and is effectively managing the development of the Leadership structures and management/administration framework of the university, as specified in Component A of the Loan Agreement
Science / Academic Council is assuming effective control of the academic development of programs, curriculum, standards, and the establishment of the academic support framework specified in Component B of the Loan Agreement
MOET and MOF manage an effective process of preparation of the NMU relevant Finance Regulation and a Performance-Resource Agreement, in accordance with the Principles in Part 1 of these Assurances, and are managing the payment of tranches of the agreed state budget subsidy in a timely manner, ensuring the university has sufficient resources to develop to international standard in accordance with objectives
The Rector and Council are managing an appropriate HR policy, which is enabling the recruitment of high quality staff based on merit criteria alone and is remunerating them on university contracts at levels adequate to attract high quality and to ensure full-time service at the university.
The University (Council, Senate and Rectorate working cooperatively) is managing a gradual but consistent program to establish reasonable levels of external sources of funding, taking into account time required to establish reputation and relevant industry links
The Rectorate establishes an appropriate system within the Administration to ensure the preparation of the Annual Accountability Reports, including independent audit of university accounts to the standards expected of an international standard university; and the delivery of them to the government, and publication on the university website in a timely manner

** These review checks relate to the effective performance as an NMU. Other implementation benchmarks for loan management are in a separate category under the DMF.

Reform of Education Management Policies for University Governance to Support USTH Attain International Standards

A. Objectives and Concept

1. The purpose of Outputs 1 and 2 is to provide assistance to the 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.
2. Capacity building advisers will be engaged to provide technical assistance in the design of systems, development of operating manuals and internal regulations, mentoring for management practice, and training through action learning workshops and seminars.
3. Detail of the range of tasks of the capacity building is in Appendix 2 above (Outputs 1 & 2) and in the Procurement Plan and Framework for Consulting Services. This Appendix provides 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 advisers and the university as the new governance and management systems are developed for USTH. Adherence to these principles and policies will be monitored by the ADB Supervision missions throughout the loan period. A check-list for monitoring the achievement of appropriate and effective governance is at Appendix 6 and the DMF has performance indicators to be monitored.

B. Core Principles for NMUs to Attain International Standards

4. A research university is a creator of new knowledge, through research, a synthesiser of knowledge through scholarship, and a disseminator of that knowledge through teaching.
5. 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.

6. 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.

7. In Viet Nam, to establish the NMUs so that they can become true international standards research universities, 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 operations of universities to provide the necessary enabling environment for the NMUs to realise these objectives; and the NMUs 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.

8. The following have been identified as the minimum principles and features that will be needed in Viet Nam to establish and to sustain USTH as a NMU and to reach the status of international standard research university over time:

- (i) USTH should be a **fully autonomous research university** operating on a specific regulation that devolves MOET’s current operational management controls to the University Council; and establishes a unique charter that empowers the University Council and Rector to take executive decisions about 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 cost via a special regulation** that authorizes MOET to negotiate a five year rolling funding plan that allows a level of funding based on the special needs for 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 a higher concentration of resourcing that is needed to establish a university developing from a Greenfields site, and to support it to attain 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 New Model Universities

9. 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) the academic strategy, the research priorities and teaching programs
- (iv) the discipline mix and how the disciplines are configured into faculties and programs
- (v) the curriculum, including its development by members of staff of the University, or if it is to be acquired from other universities, whether purchased or shared
- (vi) the methods of teaching, and how teaching and research should be integrated
- (vii) the academic standards, as indicated in admission policies and practices, and policies and practices for the assessment of student learning
- (viii) links to external organisations – 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 on merit criteria, policies for remuneration and conditions of employment including the right to hire all staff as university employees rather than as civil servants attached to MOET and for determining the conditions for the allocation of titles (e.g. Professor) and promotions
- (xi) the capital assets of the University – all buildings and equipment, land use, bank accounts and investment funds

10. The government should guarantee to 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 two phases, Establishment and Consolidation, lasting up to ten years from approval as a university by the Prime Minister (details are in Appendix 8)

D. NMU Responsibilities

11. Each University Council will be responsible for the good governance of the University and for performance of the university in meeting academic and research objectives. Each 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 outcomes targets, and may offer comment on the policies and practices adopted by the University for achieving them.

12. All accountability reports to the government should be published each year by each university, in hard copy and on the university web-site, for general availability to the public.

Reform of Education Management Policies for University Recurrent Financing to Support USTH attain International Standards

A. Objective

1. The purpose of Outputs 1 and 2 is to provide technical assistance to work with the government, and USTH to develop for USTH a recurrent funding mechanism based on international good practice relating to universities of science and technology, so as to ensure it 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 technical assistance in the design of the internal USTH financial management system and to develop operating manuals and regulations necessary to support their implementation. Amongst other technical matters, 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 enough 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. Detail of the range of tasks of the capacity building is detailed above in Appendix 2 (Outputs 1 & 2) and in the Procurement Plan and framework for Consulting Services. This Appendix provides the principles and methodology recommended for estimating a sufficient level, to achieve the 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 Supervision missions throughout the loan period. A check-list for monitoring the achievement of appropriate and effective recurrent financing is at Appendix 6 and the DMF has performance indicators to be monitored.

B. Recurrent Funding Principles

4. NMUs are intended to be small sector 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 NMUs 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 Asian Development Bank. NMUs also need much higher recurrent funding than other universities in Viet Nam, for at least the following 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;
 - (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 5000 students.

- i. 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 MOET 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 GVN budget cycle.
- ii. 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.
- iii. An additional targeted funding program might progressively be introduced to reward universities that are successful in attracting revenue from industry and other collaborative ventures.

7. 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 GVN for the acquisition of this stock.

8. 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. Consistently with such an approach, NMUs set their own fees and determine the pay of their staff.

9. An indicative pattern of expenditure and funding sources for USTH over time is set out in Table 1 at Annex A to 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 the MOET/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 done 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 \$US4000 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.

14. These paragraphs below explain why the initial recurrent funding of the NMUs should be benchmarked against an average of US\$4000 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 \$4000 Benchmark¹

15. The \$4000 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 \$4000. 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 \$4000 in the Establishment Phase to \$5000 in the Consolidation Phase and \$6000 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.

¹ 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.

G. Need for a Benchmark

16. 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 Team has accordingly made recommendations for infrastructure and capacity-building investments of a high international standard costing \$210m. One of the risks for the developing country and for the Bank 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.

H. Evidence on Which the Benchmark is Based

17. The basic evidence was set out in the Team's Mid-Term Report², later reproduced in Volume V of the Final Report. Table 2 attached to this letter spells out the underlying ratios, which 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 the developing country context.

18. Existing world-class universities (WCUs) are mostly sited in developed countries with high cost levels³. The Preparation Project research supplemented data from such countries substantially to include more universities where costs are lower as they are in Viet Nam, and where Top 200 rankings have been attained at significantly lower unit costs⁴.

19. It was concluded from this work 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 \$4000 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

20. If MOET adopted the benchmarks, it would ***not follow that the State budget has to allocate \$4000 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

² 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.

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

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

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. MOET 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 Preparation Project prepared a more detailed paper on cost weights drawing on international evidence to underpin the EFSA weights.

J. The Establishment Phase

21. 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.

K. Conclusion

22. The purpose in proposing the \$4000 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 Viet Nam-German University. 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

23. It is recommended that: (i) financial analyses on USTH feasibility be based on a recurrent funding benchmark set initially at \$4000 in 2009 dollars and rising over time as shown in Table 1 of Annex A; 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.

Annex A (to Appendix 8): Tables on recurrent financing**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 Nos for Col C assume growth in USTH to 7000 students and in DIU to 4500 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.
2. Total Annual Operating Expenditure in Cols B and C is the product of multiplying the student number by the guide-line 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).
3. Percentage shares for Funding Sources are as in Figure 1 on p.10 of MTR Vol I Final.
4. The "Income from State Budget" line is increased by \$1.5m 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	\$6000
7.	Non-staff costs per student per year	\$1500
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 (MTEF)⁵, reflecting international experience.

24. The ratio between class-room and laboratory based courses is steeper; the MTEF 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.

⁵ 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.

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

A. Objectives of Program

1. The purpose of this reform program 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.
2. Capacity building advisers will be engaged to provide technical assistance 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 HR management are seen as separate, though linked activities. The recruitment policy is seen as an integral factor in developing quality academic programs through the Centre for Teaching and Learning Excellence and the Quality Assurance Centre under Output B; 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 A.
3. Details of the range of tasks of the capacity building are detailed above in Appendix 2 (Outputs 1 & 2) and the Procurement Plan and Framework for Consulting Services. This Appendix provides 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. Adherence to these principles and policies will be monitored by the ADB Supervision missions throughout the loan period. A check-list for monitoring the achievement of appropriate and effective human resource policy and practice is at Appendix 6 and the DMF has performance indicators to be monitored.

B. Human Resource and Capacity Development for NMUs – Summary Recommendations¹

4. 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.
5. 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 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.

1. The Importance of Recruiting Star Leaders

6. 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-centered activities.
- (ii) Newly created universities that aspire to be world-class start from the top by appointing 'powerhouse' leaders (see 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.

7. The following case study and recommendations reflect these important considerations.

Case Study – Recruitment of President, Hong Kong University of Science & Technology

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.

Note: HKUST is now placed 39th worldwide on the THES-QS rankings and 24th in technology.

- 1.1 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 should be:

- proven academic leadership ability;
- top managerial skills;
- ability to manage change effectively as the incumbent must oversee institutional planning and apply the vision developed with high level skills;
- outstanding scholarly achievement; and
- an exemplary research career (research leadership is particularly vital in building high prestige).

- 1.2 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.
- 1.3 Recruitment must be via a highly competitive, merit-based and transparent process that draws from national and international fields of expertise.
- 1.4 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.

Recruiting talent involves planning for excellence

Example: 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 groundbreaking 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.

9. Early planning for building human resource capacity will thus need to occur in the establishment phases.

2.1 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.

10. Based on these key principles, in the initial phases stringent measures must be taken 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 centre);
- (v) engage in major curriculum reform;
- (vi) plan to diversify funding sources to ensure budgetary requirements can be met; and
- (vii) build international networks and strategic alliances to strengthen teaching and research activities.

Examples: 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 within 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

- 2.2 The second phase of development must consolidate actions taken in the first stage and ensure ongoing development of human resource management systems.
- 2.3 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.

3.1 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 credible universities;
 - can teach and publish in English;
 - have not been influenced by the norms and practices from former traditional universities but are able to engage in new and innovative methods of teaching.

3.2 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 US\$1,500-2,000 per month with on average US\$1,700 US per month (equal to US\$20,400 per year). **To attract high performing international scholars, salary levels would need to be even more competitive.**

Example: Beijing Normal University in 2006 paid its full-time overseas scholars US\$40,000 per year. Another Chinese university in 2006 paid its full professors with PhDs from prestigious overseas universities US\$60,000 per year.

3.3 Also to attract and build world-class talent, it is recommended that USTH, like the National University of Singapore and Chulalongkorn University, forge strong strategic alliances with cooperating overseas universities. It is therefore recommended that USTH:

- form strategic alliances with leading-edge research universities in industrially-developed countries via sponsorships or twinning arrangements; and
- attract new staff from the diaspora of highly qualified national scholars by monitoring their progress abroad and investing in their return.

Example: 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 centres, linking with the world's best educational institutions, and developing new programs taught in the international lingua franca – English.

3.4 *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.*

Example: the Charter for the Viet Nam-German University (VGU), Article 5 (1) 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

4.1 To attain best practice in personnel management it is recommended that:

- personnel policies be developed as soon as possible in areas such as recruitment, promotion, organisational development and staff assessment;
- top level academic and professional training be provided where needed by a properly established, specialist education development facility;
- appointments of local staff be on a probationary basis until they have satisfied all required training and development;
- academic staff appointed from overseas must demonstrate high standards in teaching and research ability demonstrated via rigorous assessment prior to appointment;
- criteria for assessing the standard of teaching and research required should be developed, and applied as illustrated in 4.2 and 4.6 below;
- promotion and tenure should not be granted until standards in research and teaching are considered to be of a high level;
- no full-time appointments should be made based on 'preferments' of staff from local universities;
- 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.

4.2 Appointment of academic staff at Lecturer level should be conditional on the demonstrated ability of the applicant to **at least** be able to:

- draw on state-of-the-art research-based curricula;
- apply modern teaching methodology aimed at deep learning;
- integrate research and scholarship into teaching;
- teach and publish in English;
- teach in multidisciplinary contexts; and
- possess the necessary research skills to supervise postgraduate research students.

4.3 It is recommended that the process for appointing academic staff will:

- 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;
- 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
- 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.

4.4 As middle level managers, Deans, Directors and Heads of Departments should be appointed against a capabilities framework that encompasses the elements of:

- Faculty or academic unit governance; and
- management of teaching programs, human resources, budget and financial resources, professional development of staff, communication with external clients and ensuring strategic goals are implemented.

4.5 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:

- demonstrate outstanding academic leadership and performance in their discipline or profession;
- 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;

- 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
 - 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.
- 4.6 **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.
- 4.7 **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.
- 4.8 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.**
- 4.9 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 the NMUs have a ratio of 1:3 teaching to support (administrative and technical) staff.**
- 4.10 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.**
- 4.11 Initial and ongoing programs that will ensure academic staff at all levels of the organization are trained to full 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:
- preparing and giving lectures (for face-to-face and on-line teaching)
 - multi media approaches to teaching and learning
 - teaching pedagogy and methodology
 - how students learn
 - small group teaching
 - designing curriculum
 - assessment methods
 - integrating research and scholarship into teaching and learning
 - incorporating international perspectives into courses
 - assessment and examination methods
 - responsiveness to the needs of students, employers (public and private)
 - counselling students
 - supervising research students
 - using information-communication technology

4.12 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.

4.13 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 ensure the impact of their research). A research support centre concentrating on upgrading research capacity of staff with limited research skills could offer courses on the topics of:

- research methodologies (quantitative and qualitative) and their applications
- technical and scholarly writing
- building a track record and publishing
- writing research grant applications
- intellectual property
- entrepreneurship
- research management (e.g., attracting research grants, working with industry, commercialisation, technology transfer and IP).

4.14 The support centre would need to be located in a central office for research.

4.15 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

5.1 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:

- generous remuneration packages;
- high level facilities and equipment;
- tenure;
- laboratory and research assistants;
- funding for travel to maintain scholarly networks; and
- travel and relocation costs.

5.2 Realistic incentives for USTH, especially in the formative stages, could include:

- 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;
- secure up-front agreements regarding conditions of service, working hours, teaching loads, and time for research and professional development;
- promotion and tenure by merit to reward high performers;
- financial assistance provided to new staff to help them get established in research;
- sabbatical leave offered to high performing teacher-researchers; and
- 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.

5.3 Critical for success in retaining top personnel is that the new universities have full management autonomy, particularly the power to raise salaries and offer more competitive employment packages as mentioned earlier.

6. Summary of Key Recommendations

6.1 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.

6.2 In addition to appointing a star institutional leader, it will be critical in the establishment and consolidation phases that:

- 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;
- a coordinator be appointed for planning all non-academic policies, operations, and logistics;
- a staff development unit be established, preferably within a larger education resource centre;
- leaders, teaching staff and support staff are appointed against stringent merit criteria using processes that reflect 'best practice';
- management and staffing autonomy is forthcoming;
- the budget allows for flexibility of employment packages and staff development;
- more flexibility with staffing arrangements will occur by staff becoming employees of the universities and not regulated by civil service regulations;
- the percentage of hours for teaching be 40%, 50% for research and 10% for other (administration and service). The percentage for research for full professors should be raised to around 60%.

- blockages to progress such as poor salaries and conditions that are centrally controlled, low level qualifications of staff, backward teaching methods, lack of research capacity, outdated curricula and lack of incentives are removed and replaced with new, innovative initiatives;
- qualifications of academic staff are upgraded, with a view to attaining the target that by 2017 all USTH academic staff have a doctoral qualification;
- strategic alliances are forged with leading international universities;
- proper academic leadership is provided by lifting the percentage of full professors to 25% by 2020;
- research and teaching skills of academic staff are of the highest order;
- all staff are provided with the training they and the institutions need;
- vital infrastructure support is in place; and
- all operations receive the high level of resources they need.

C. Recommended procedures for the initial establishment phase, in year 1 and 2

1. Staff appointment on Merit Criteria

12. 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.

13. In the Establishment/transition 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 recommended²:

- (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 and other Viet Nam system 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 – these should be eligible for support to do so through the academic Capacity Building program; and
- (iii) staff appointed to *full-time positions* who have trained in foreign international standard universities (including foreign citizens, Viet Khieu and Viet Nam citizens) who have had more than three years of experience working in foreign international standards universities – these must meet the required merit criteria in advance to be selected.

² Article 27-29 of the draft Charter for USTH discussed between MoET and the French international partner deals in general terms with the use by USTH of staff currently employed by VAST. It appears to envisage mainly full-time permanent transfers of staff. The arrangements discussed in this report are those which the TA Team believes to be in the best interests of USTH, and do not follow in all respects the provisions of the draft charter.

- (iv) Expert personnel who are made available under donor programs by an international strategic partner, as part of the partner's development program, 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 program³.

14. 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.

15. 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.

16. 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. (TA can be available to assist in the development of these criteria and the assessment methods).

17. 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.

³ These visiting academic staff in in-line positions are to be distinguished from off-line academic advisers who may also be appointed on TA TORs for supporting the capacity building program, but who do not work as operational staff nor provide any direct teaching or research services. However, both in-line donor staff and off-line capacity building advisers may work together in teams to support the academic development program.

18. 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 in due course:

- (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) the staff of VAST might remain as full-time positions at VAST and be 'contracted out' to USTH by VAST under the service agreement suggested below, and then be paid a supplement allowance by VAST from the revenue gained from USTH.

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 provide technical assistance 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. Details of the range of tasks of the capacity building are detailed in Appendix 2 (Outputs 1 & 2) and in the Procurement Plan and Framework for Consulting Services). This Appendix provides 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. Adherence to these principles and policies will be monitored by the ADB Supervision missions throughout the loan period. A check-list for monitoring the achievement of appropriate and effective curriculum and quality assurances systems and practice is at Appendix 6 and the DMF has performance indicators to be monitored.

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 centres are recommended – a Centre for Teaching and Learning Excellence and a Research Support Centre. These 'centres' are not necessarily intended to be physical hubs, but rather the concept of 'centre' 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 'centres'.

1. Importance of Developing a Centre for Teaching and Learning Excellence

- 1.1 A Centre for Teaching and Learning Excellence (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.

Rationales and justifications for establishing such a centre are that:

- 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;
- 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
- ensuring the quality of teaching and learning, curriculum and assessment via targeted development programs represents 'best practice' in leading universities.

1.2 Programs that are recommended for offering by the CTLEs could be:

- 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.
- 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.
- Teaching certification programs for graduate students wishing to become university teachers.

Example: 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.

1.3. 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. Below is an example of how Iowa State University in the US deals with the issue of graduate entry.

Example: 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

5. These standards for English should also be the standards required at the New Model Universities. The Centre for Teaching and Learning Excellence at the NMUs could develop similar programs for the graduate students.

2. Establishing a Research Support Centre

2.1 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 centre needs to be located in the research office of the university. As a minimum this centre 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 centre 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 below.

Example. 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.

Assistance in such centres needs to include:

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

These areas of assistance need to be emphasized in the NMU research support centres in Viet Nam.

6. 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

7. The Centres for Teaching and Learning Excellence and for Research support at the 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. The Centre 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
- (vii) Support in using the results of research to improve teaching.

8. The Centres must be an integral and ongoing part of the university with funding that is consistent and robust to assure that the 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. 9. Funds should be available to support curriculum development software that will coordinate curriculum development with assessment design. A respected professor who is known as an excellent teacher should be assigned part time administrative responsibilities 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.

10. 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.

11. 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. This will assure that USTH will be continually improving.

12. 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 Systems¹

4. Quality Assurance Systems and New Model Universities

13. 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.

14. 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 new model universities must be exemplary in meeting national 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

15. 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 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.

16. Institutions need to value the development and enhancement of quality assurance expertise. Particularly important will be the establishment of Quality Assurance Centers (QACs), with related personnel and structures embedded in various colleges and departments. USTH should be provided with funding to establish a Quality Assurance Centre, 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. While such Centre's could be separate specialist units, a more attractive option is for QACs to be parts of more comprehensive Educational Development Institutes.

¹ 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.

17. QACs should play a major role in assisting the University 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.

18. The formal brief of the QACs 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

19. If the new model universities are to achieve international and 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) for contacts to be made at an early stage with key international university ranking agencies providing information on academic programs and research, and assessment of 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

20. 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 (so that all students are assessed using published criteria that are applied consistently).

21. 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.

22. 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

23. 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 the 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.

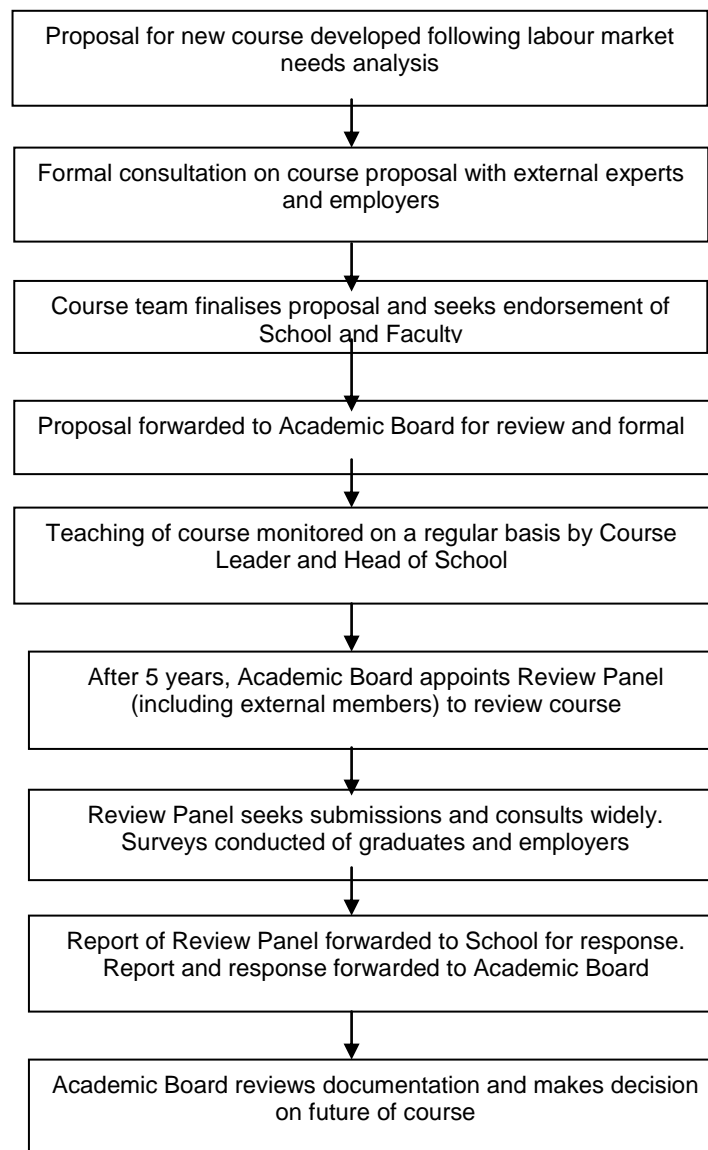
9. Performance Data from Student Management Information Systems

24. New model universities should ensure that they collect, analyse and use 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.

Diagram 1: Processes of Course Development and Approval, and Course Review



10. Monitoring Research Outputs and Quality

25. 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.

26. 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.

Case-Study: 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 1) develop robust quality indicators for all disciplines to underpin a selective funding approach; 2) reduce the burden especially on universities; 3) avoid undesirable incentives; and 4) 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

27. 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.

28. 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 the University's strategic plan.

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

29. 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

30. Project funding could be usefully employed to support capacity building amongst staff of new model universities with regard to quality assurance. Such capacity building might include the following efforts:

- (i) Senior management level (including deans of faculties and heads of departments):
Topics should include: recent developments in quality assurance internationally; Vietnamese quality assurance for higher education, including detailed briefing on the current accreditation system and the national standards and criteria; desirable characteristics for internal quality assurance, including development of a quality culture, overall quality assurance plans and annual plans for improvement; and the functions and operation of QACs within universities.
- (ii) Staff of Quality Assurance Centers:
Topics should include: recent developments both internationally and in Viet Nam about quality assurance systems and national accreditation; the structure and possible responsibilities of QACs; developing quality cultures and key aspects of internal quality assurance 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 quality assurance issues.
- (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.

Development of Laboratory Management Programs for Sustainability of Science Assets¹

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 advisers will be engaged to provide technical assistance 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 (Outputs 1 & 2) and in the Procurement Plan and Framework for Consulting Services. 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. Adherence to them will be monitored by the ADB Supervision missions throughout the loan period. A check-list for monitoring the achievement of appropriate and effective laboratories is at Appendix 6 and the DMF has performance indicators to be monitored.
4. The Preparation Project developed detailed proposals and recommendations for future 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 the then proposed themes of the NMUs. (available separately)
5. The following summary of suggestions and comments are offered for future 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.

¹ Details of the research and proposals for establishing Laboratory Management Centres 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 dictates 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 TA 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 are well aware of the need to scrutinise and adapt the TA 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.

7. For other 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 the 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.

8. Because they are detailed technical papers it is not practical to reproduce them here without risk of loss of information.

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.
	Provide Technician Training: 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.	Course material can be used for students and income generation
	Implement OJT program	Course material developed and courses delivered to target laboratories	

Networking Programs

EXPECTED OUTPUTS	INPUTS PROVIDED	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 PROVIDED	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 PROVIDED	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 TO BE PROVIDED	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"> ➤ 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; ➤ Training on project management software in each laboratory; ➤ Measurement uncertainty; ➤ Method validation (verification); ➤ Statistics and control charts; ➤ Internal auditing. 	<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>

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 provide technical assistance to establish 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 (Outputs 1 & 2) and the Procurement Plan and Framework for Consulting Services. 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. Adherence to these principles and policies will be monitored by the ADB Supervision missions throughout the loan period. A check-list for monitoring the achievement of appropriate and effective use of industry links and incubator space is at Appendix 6 and the DMF has performance indicators to be monitored.

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;
 - (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 infrastructure¹;
- (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.² In 2007-08 financial year, Imperial College London received endowment funding of US\$22.6 million and US\$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 US\$22.1 million in donations and benefactions.³

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.⁴

¹ 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).

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

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

⁴ 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...

C. Understanding Industry Needs

10. The location of the USTH in Hoa Lac Hi 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 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.⁵

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 expertise⁶

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 commercialisable technologies. 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 relevant⁷. 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

⁵ 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.

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

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

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.

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 commercialisable products and services, 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.⁸

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.

⁸ 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.

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.⁹ 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 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.¹⁰

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.¹¹ 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 centre 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.

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;
- (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.

NOTE: Additional information that may be of value to the USTH in establishing 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. These papers are available from the PMU-USTH and the HHTP.

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

¹⁰ Ibid., section 2, Article 33.

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

Human Resources Development Plan

Training Program	Target Group	Program	Program Length and Timing	Means of implementation	Number of Participants	Unit	Total Days	Program Cost
Output 1.1 Effective management and governance system for USTH developed and implemented								
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 1500	\$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 second Rector appointment. = 12 D. Total D=47</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	Av 450 pd	\$4500
							450	

Training Program	Target Group	Program	Program Length and Timing	Means of implementation	Number of Participants	Unit	Total Days	Program Cost
Output 1.2: Effective Establishment of USTH Management and Administrative Systems								
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.	2 day Consultation and training WS to review best practice in university strategic planning and sample plans; 2 day WS to develop system design and details for operating manuals 2 day WS to train administration staff in implementation	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	15 attend consultation WS; 5 attend design and writing WS (20% female) Imp WS?	Av 5 consult WS = 150 pds 20 design and writing WS = 200 pds	350	\$3,500
1.2.2 Develop a new integrated financial management Department and system – inclusive of chart of accounts, computerized data base & 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 Write the operating regulations for the FM system.	Viet Nam academic and administration staff.	2 day Consultation and training WS to review best practice in university financial management 2 day WS to develop system design and details for operating manuals 2 day WS to train administration staff in implementation 2 day WS for installation planning.	60 sets of WS over 2 years; yr 1 and yr 2 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; 5 attend design and writing WS 5 attend the installation planning WS	Av 5 consult WS = 150 pds 40 design and writing WS = 400 pds 15 WS for installation planning = 150 pds	700	\$7,000
1.2.3 Assist the development of new policy for a special recurrent financial regulation to ensure USTH has an	Viet Nam leaders and academic and senior administration staff. staff of MOF;	1 day Consultation WS with MOF and MOET and USTH Council and Rectorate leadership to review best practice in university financing and	40 sets of WS over 2 years; yr 1 and yr 2 New Financial Regulation and 3	Project consultants and the USTH ISP to conduct needs assessment, prepare workshop materials and	15 attend consultation WS;	Av 5 consult WS = 75 pds	317pds (Hanoi) 1367	\$3,170

Training Program	Target Group	Program	Program Length and Timing	Means of implementation	Number of Participants	Unit	Total Days	Program Cost
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.	staff of MOET DPF and PMU-EU	<p>resource planning, and mechanisms for managing state budget support</p> <p>2 day WS with MOF and MOET and USTH finance Department to develop financial mechanism regulation and template for resource agreements</p> <p>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</p> <p>1 day WS to train administration staff in implementation</p>	year Resource Agreement system to be fully developed and operational by Dec 2012.	conduct and facilitate workshop	<p>8 (2 USTh & 6 Gov) attend design and writing WS</p> <p>5 (2 USTH & 3 Gov) participate in Study tour (selected from best learners at WS)</p> <p>2 USTH participants =</p>	<p>10 design and writing WS = 160 pds</p> <p>1 study tour @ 14 days = 70 pds</p> <p>6 WS = 12 pds</p>	70 pds (foreign)	<p>Est \$3600?</p> <p>Total this Item: \$5,270</p>
<p>1.2.4 Establish the USTH Library Collection, the catalogue and its management system, continuous acquisitions policy, purchasing strategies, depreciation planning and maintenance systems; develop operating manuals; train staff in use</p> <p>Support move from</p>	Viet Nam leaders and academic and Library administration staff.	<p>2 day Consultation and training WS to review best practice in university Library management and operations</p> <p>2 day writing WS to develop policies and operating procedures</p> <p>1 day WS to train library staff in implementation</p> <p>1 day WS to plan move & installations in new</p>	<p>60 sets of WS over 3 years; yr 1 & yr2 & yr 5</p> <p>Library system to be fully established, initial set of stock installed and operating effectively by Dec 2012.</p> <p>Library to be moved to Hoa</p>	Project consultants and the USTH ISP to conduct needs assessment, prepare workshop materials and conduct and facilitate workshop	<p>10 attend consultation WS;</p> <p>10 attend design and writing WS</p> <p>6 attend staff training WS</p> <p>6 attend</p>	<p>Av 3 consult WS = 60 pds</p> <p>20 design and writing WS = 400pds</p> <p>3 staff training WS= 18 pds</p> <p>3 planning</p>	496	<p>\$4,960</p> <p>496</p>

Training Program	Target Group	Program	Program Length and Timing	Means of implementation	Number of Participants	Unit	Total Days	Program Cost
VAST to Hoa Lac in 2016, and re-establishment		premises	Lac in soft-opening in 2016		planning for move WS	for move WS = 18 pds		
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 2 day WS to plan move & installations in new premises	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 6 attend planning for move WS	Av 3 consult WS = 60 pds 10 design & writing WS = 100 pds 3 staff training WS= 18 pds 1 planning for move WS =12pds	190 pds 710	\$1,900

Training Program	Target Group	Program	Program Length and Timing	Means of implementation	Number of Participants	Unit	Total Days	Program Cost
Output 1.3. Student Services Centre established and operating to support recruitment and retention of quality students								
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 & installations in new premises</p>	<p>17 sets of WS over 3 years; yr 1 & yr 2 & 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 & 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>1 day WS to plan move & installations in new premises</p>	<p>17 sets of WS over 3 years; yr 1 & yr 2 & 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 & writing WS = 40pds</p> <p>3 staff training WS= 6 pds</p> <p>1 planning for move WS = 2pds</p>	60 pds	\$600

Training Program	Target Group	Program	Program Length and Timing	Means of implementation	Number of Participants	Unit	Total Days	Program Cost
1.3.3 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)	<p>2 day Consultation and training WS to review best practice in relevant student financial counseling and assistance 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 & installations in new premises</p>	<p>17 sets of WS over 3 years; yr 1 & yr 2 & 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 & writing WS = 40pds</p> <p>3 staff training WS= 6 pds</p> <p>1 planning for move WS = 2pds</p>	60 pds	\$600
1.3.4 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)	<p>2 day Consultation and training WS to review best practice in relevant student medical services 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 & installations in new premises</p>	<p>25 sets of WS over 3 years; yr 1 & yr 2 & 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>5 attend consultation WS;</p> <p>5 attend design and writing WS</p> <p>5 attend staff training WS</p> <p>5 attend planning for move WS</p>	<p>Av 5 consult WS = 50 pds</p> <p>15 design & writing WS = 150pds</p> <p>4 staff training WS= 20 pds</p> <p>1 planning for move WS = 5pds</p>	225 pds	\$2,250

Training Program	Target Group	Program	Program Length and Timing	Means of implementation	Number of Participants	Unit	Total Days	Program Cost
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 & installations in new premises</p>	<p>17 sets of WS over 3 years; yr 1 & yr 2 & 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 & 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 & installations in new premises</p>	<p>17 sets of WS over 3 years; yr 1 & yr 2 & 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 & writing WS = 40pds</p> <p>3 staff training WS= 6 pds</p> <p>1 planning for move WS = 2pds</p>	60 pds	\$600

120

Training Program	Target Group	Program	Program Length and Timing	Means of implementation	Number of Participants	Unit	Total Days	Program Cost
Output 2 –Academic Systems to support the delivery of high quality teaching and research programs developed								
2.1: The Centre for Teaching and Learning excellence Developed and Operating sustainably								
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 curriculum approval processes and links to assessment tracking	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 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	1205 pds 2485	\$12,800

Training Program	Target Group	Program	Program Length and Timing	Means of implementation	Number of Participants	Unit	Total Days	Program Cost
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 premises	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 planning for move WS	Av 5 consult WS = 50 pds 5 design & writing WS = 50pds 10 staff training WS= 50 pds 1 planning for move WS = 5pds	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
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
2.2: The Quality Assurance Centre and Academic Management Systems established and operating sustainably								
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 operate this QAC centre)	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 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 375	\$2,650

Training Program	Target Group	Program	Program Length and Timing	Means of implementation	Number of Participants	Unit	Total Days	Program Cost
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 centre)	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 performance counseling,	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 centre)	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 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 615	\$2,650

Training Program	Target Group	Program	Program Length and Timing	Means of implementation	Number of Participants	Unit	Total Days	Program Cost
2.2.5 QA Training– Series 1: 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	Senior personnel, 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
2.2.6 QA Training – Series 3: in: (i) understanding the holistic culture and key features for new QA with special attention to teaching and research program delivery ; (ii) strategies staff use to take their own responsibilities for improve teaching quality (iii) use of new feedback from data to understand market needs and integrate into teaching; (iv) use of peer review and other strategies	All Vietnamese Academic staff 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 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 490	\$2,450

Training Program	Target Group	Program	Program Length and Timing	Means of implementation	Number of Participants	Unit	Total Days	Program Cost
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.	premises at VAST (**Approx 3 specialist staff and 2 support staff need to be hired to establish and operate this Research Support centre)	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	Dec 2012. Systems to be moved to Hoa Lac in soft-opening in 2016		5 ** attend staff training WS 5 **attend planning for move WS	15 staff training WS= 75 pds 2 planning for move WS = 10pds		
2.3.2 Develop and implement (i) providing internal technical 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 editing into refined technical English	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 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	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
2.4: Industry Engagement Centre established and operating sustainably								
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 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 290	\$1450
2.4.3 specific program (ii) Develop industry internship programs	USTH Vietnamese academic staff	2 day Consultation and training WS to review best practice in industry engagement practices in international universities.	15 sets of WS over 3 years; yr 1 & yr 2 & yr 5	Project consultants and the USTH ISP to conduct needs assessment, prepare workshop	10 attend consultation WS; 5** plus academic staff	Av 2 consult WS = 40 pds	145pds	\$1450

Training Program	Target Group	Program	Program Length and Timing	Means of implementation	Number of Participants	Unit	Total Days	Program Cost
		<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 & installations in new premises</p>	Systems to be fully established and operating effectively by Dec 2012.	materials and conduct and facilitate workshop	<p>5 ** attend design and writing WS</p> <p>5 ** attend staff training WS</p>	<p>8 design & writing WS = 80pds</p> <p>5 staff training WS= 25 pds</p>		
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 & installations in new premises</p>	<p>15 sets of WS over 3 years; yr 1 & yr 2 & 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 & writing WS = 40pds</p> <p>5 staff training WS= 25 pds</p>	<p>85pds</p> <p style="color: red;">230</p>	\$850

[illegible]

Training Program	Target Group	Program	Program Length and Timing	Means of implementation	Number of Participants	Unit	Total Days	Program Cost
Summary	Person Days	Unit Cost	Total Cost					
Training WS	13,977	\$10	\$139,770					
One Study Tour	5 people 14 days	\$4000 per person	\$20,000					
Taxes		10%	\$15,977					
Total			\$175,747					

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

FINANCIAL MANAGEMENT CAPACITY ASSESSMENT

I. INTRODUCTION

1. The purpose of conducting the Financing Management Assessment (FMA) is to review the Ministry of Education and Training (MOET) system for financial and management accounting, reporting, auditing and internal control. The FMA is designed to determine whether the MOET and Department of Planning and Finance (DPF) has established a 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 was prepared during the loan fact finding mission. Issues or weaknesses identified during the FMA will be taken into consideration in project design and implementation. ADB's Financial Management Assessment Questionnaire, and disbursement handbook were used and referred to during the assessment.

II. PROJECT EXECUTING AND IMPLEMENTATION AGENCIES

2. As the Executing Agency (EA), MOET will be responsible for overall project management and guidance. The Department of Higher Education (DHE) and the DPF are the two departments directly involved in this project. DHE is the lead department for this project and will be responsible for managing the quality, effectiveness and efficiency of project implementation within the funds allocated. The DPF will play an important role in annual budgeting and planning and will oversee any issues related to disbursement and budgets.

3. The preparatory work on the University of Science and Technology of Hanoi (USTH) has been undertaken under the direct guidance of the Minister of Education. The project management unit (PMU) was established under Decision No. 49/QD BGDDT dated 6 January 2009 and Decision No. 7885/QD-BGDDT dated 2 November 2009. The PMU consists of representatives from various MOET departments: DHE, DPF, Department of Facilities (DOF), Department of Personnel and Department of International Cooperation. The Deputy Director of the DOF was appointed to be Project Manager and is working full time on project management for USTH and VGU. MOET has also appointed a qualified accountant as Chief Accountant, two finance officials who have experience working with projects financed by the World Bank (WB) and the Japan International Cooperation Agency. The project intends to recruit two local accountants to support the Chief Accountant. A sub-project management unit (University Implementation Unit) will be established at the USTH, and will be involved in academic development, human resource development. UIU is also the key body to identify laboratory lab equipments.

4. The overall project implementation is foreseen as high risk due to the fact that (i) major activities, civil works and equipment will be managed and procured by PMU with full support from the procurement office under the DOF. Officials in the procurement office have been familiar with ADB procurement guidelines and requirements since 2000. The main concern will be the availability of procurement staff who have managed many projects financed by external funds as well as those funded by the government budget.

5. DPF has had good experience with ADB guidelines and requirements. DPF has 28 permanent full time staff, including 2 department leaders and 26 staff. This department includes 4 units (ODA, Finance, Planning and Investment and Statistics) and each unit has two unit leaders (chief and deputy). All DPF staff hold university qualifications, of which 4 are at the doctorate level and 8 at masters level. In this department, there are 8 persons with English

levels ranging from fair to good. ADB and WB projects have organized many training courses on procurement and financial management and it is confirmed that all of them have participated in at least one of these courses recently, with some even participating as trainers.

6. It seems that at project level, poor English has been a persistent problem in all ODA projects and programs in Viet Nam. There are presently not many Chief Accountants who can speak English even at an acceptable level. This issue not only contributes to delays in the disbursement of funds, and the preparation and issuance of required reports to donors, but also limits or even prevents the Chief Accountant from controlling the quality of work of his/her staff in respect of documents prepared in English for donors. Limited government salary norms have negatively impacted on recruitment of good accountants, and especially Chief Accountants, for a long time.

7. Since civil works and equipment under the project will be procured through international competitive bidding, qualified staff with good English skills are critical to the success of project implementation. Hence, it requires the recruitment of experienced international and national consultants to assist the PMU, particular in the early stages of project implementation.

III. FUNDS FLOW

8. Project financial flow consists of direct payments and payments through imprest account. Direct payment has been applied for payment to large scale procurements: civil works, procurement of equipment and supplies. The PMU prepares withdrawal applications when it receives invoices from contractors. The withdrawal application is submitted to MOET for endorsement and forwarded to the Department of Debt Management and External Finance, Ministry of Finance for clearance. The signed withdrawal application is then submitted to ADB for payment. ADB transfers the payment directly to the contractor's account. Payment is done based on the terms indicated in the contract agreement.

9. A dollar imprest account will be established by PMU at any commercial bank in Viet Nam that is acceptable to the ADB. Imprest funds are mainly used for minor contract and project operation costs and training expenditures. The PMU prepares a statement of expenditure (SOE) that cannot exceed \$100,000 in accordance with ADB requirements.

10. The overall MOET budget covers the period January to December. Annual counterpart funding for projects financed by ADB, WB, and other donors are incorporated into the MOET's annual budget. A concern is that there are often insufficient counterpart funds, especially for construction, which has a direct impact on project implementation.

IV. ACCOUNTING POLICIES AND PRACTICES AT MOET

11. MOET is required to comply with Vietnamese Accounting Standards (VAS), which requires the recording of all project financial transactions, including the allocation of expenditures under each output, disbursement category, and source of funds. There are two main accounting systems used, depending on the type of project. They are (i) Investment Owner Accounting System issued by MOF in 2000; and (ii) Accounting System for Administration and Service Units (ASASU) issued by MOF in June 2006. PMU has not yet decided which accounting system will be used under the Project.

12. Projects in MOET normally use a computerized accounting system which means it should be easy to reconcile the general ledger at PMU and subsidiary ledgers at the PMU-USTH, if designed to do so. All the accounting and supporting documents are retained by the Project at both central and local levels on a permanent basis.

13. The Project Director has full authority to execute the project transactions under a project subject to ADB's approval. The Chief Accountant delegates authority to his/her finance accounting staff to record transactions, including the custody of assets involved in the transactions. Project management staff, as authorized by the Project Director, order and monitors all goods and services, and all payments are prepared by accounting staff. Bank reconciliation is prepared by accounting staff and approved firstly by the Chief accountant and secondly the Project Director.

14. To mitigate any risk, selected accounting system and accounting software should be clearly identified in the project design and implementation plan. Accounting policy and procedure should be regulated in the financial management plan. Training in financial management should be arranged for PMU staff and recruitment of qualified accountants is required.

V. SAFEGUARD OVER ASSETS

15. Fixed asset management at MOET level is found to be acceptable. Each department has a book to register names, serial numbers and record status of the asset, and each asset has a label. MOET implements annual fixed asset review and update this book to reflect the current value of the fixed asset (after deduction of depreciation) into accounting books at MOET's head office.

16. Where education facilities and equipment are provided by projects funded by donors, maintenance and operation cost come from the government budget. This has become a major issue for this sector for the period 2009-2015. For New Model University, provision of civil works and equipment will be financed by the loan, and the operation and maintenance budget will be paid through the government's budget. This will create a high risk for project implementation.

VI. INTERNAL CONTROL AND EXTERNAL AUDITS

17. **Internal Control at MOET level.** Findings from previous studies of WB and ADB designed projects and programs for this sector confirm that the internal control system at MOET level was designed and updated in accordance with guidance in the government's Accounting system for ASASU. This should be acceptable to ADB.

18. **External Audit by Independent Auditing Firm.** This is mandatory for all donor-funded projects in MOET and relevant staff in MOET are aware of this. In the past, delays in the reconciliation and preparation of reports on the use of counterpart funds partly led to delays in implementation of external audits and issuance of audit reports. Under current government regulations, PMUs have to complete an Annual Report on the use of counterpart funds by 31 January of the following year. This has helped to improve this situation by allowing the PMU to recruit auditors and make the audit report available within 6 months of the end of the fiscal year.

VII. REPORTING SYSTEM

19. At DPF office, accounting and other documents are kept in a well organized and good location. It is also confirmed that the DPF has been able to prepare relevant reports and submit them to MOET and other relevant government agencies on time. The accounting system includes guidance and templates to facilitate preparation of these reports (Decision No 19/2006/QD-BTC). This ensures that information on planning, budgeting, fund notification, and actual

costs incurred for each activity under ongoing programs or projects can be conveniently and timely extracted from MOET's system for reporting and assessment purposes, if required.

20. MOET has used the government's Aligned Monitoring Tool (AMT) and templates for preparing quarterly and annual reports. Given the limitations of staff of PMU as well as English language barrier, preparation of quarterly reports may be delayed. A project implementation action plan including tasks and timeframe should be clearly identified and shared between PMU and PMU-USTH. PMU will take the lead in preparing the quarterly and annual reports to MOET, with these reports expected to provide a narrative discussion of progress made during the period, changes in the implementation schedule, problems or difficulties encountered, and the work to be carried out in the next period.

21. Within 6 months of physical completion of the loan, the PMU will submit to ADB a Project Completion Report that describes in general: (i) the physical progress of the project, (ii) actual costs incurred in relation to cost estimates, (iii) the results of capacity-building activities, (iv) the outcome of safeguard efforts to mitigate the reverse social impacts (v) a preliminary assessment of achievements and lessons learned to be replicated for future projects.

VIII. FINANCIAL RISK ASSESSMENT

22. Since ADB has not yet provided any support in higher education in the country, a quick financial risk assessment is critical for successful project implementation. The table below indicates the level of risk and mitigation solutions which should be taken into account during the project design.

FINANCIAL RISKS IDENTIFIED AND PROPOSED MITIGATION MEASURE

No	Risk	Level of Risk	Risk Mitigation Measures
1	Limitation capacity of PMU and the various project management units to implement the project	High	<ul style="list-style-type: none"> - Qualified staff will be appointed - Experience consultant will be recruited to support PMU and PMU-USTH - Project Administration Manual has been provided. - Series training on OM and Financial Management Manual (FMM) will be provided
2	Limitation on financial management capacity and availability of appropriate skills in the organization	High	<ul style="list-style-type: none"> - Officer with relevant background and qualifications will be appointed to be Chief Accountant - Experienced accountants will be recruited to support PMU and PMU-USTH - FMM will be developed - Series training on FMM followed by training for relevant key staff
3	Complexity of implementation arrangements between MOET, PMU, PMU-USTH	Moderate	<ul style="list-style-type: none"> - Role, responsibility, authority will be clearly identified in the project administration manual

No	Risk	Level of Risk	Risk Mitigation Measures
4	Availability of various accounting procedures and systems	Moderate	- Accounting procedures and systems should be carefully selected and indicated at an early stage
5	Limited capacity of PMU in monitoring and reporting project implementation progress	Moderate	- Government's report templates should be accepted by ADB - Simple monitoring mechanism should be designed at an early stage
6	Unclear internal audit mechanism	High	- MOET integrated internal audit mechanism should be applied - Areas to be audited should be discussed and agreed during the project start up

IX. DISBURSEMENT ARRANGEMENTS

23. Direct payment will be applied to large scale contracts including civil works and consulting services. Commitment letter will be applied for procurement of laboratory equipments. ADB disbursement procedure (Procurement Handbook) will be strictly followed.

24. The Statement of Expenditures (SOE) procedures may be used to reimburse expenditures and liquidate the imprest account for all individual payments not exceeding US\$100,000.

25. Disbursement of counterpart funding should strictly follow the government's mechanism and requirements. It should be clearly recorded and updated to facilitate audits.

X. KEY RECOMMENDATIONS FOR EFFECTIVE FINANCIAL MANAGEMENT

26. It is recommended that MOET appoint a competent, full time, English speaking Chief Accountant with experience in the implementation of ADB and WB funded projects in the social sectors. Recruitment of qualified and experienced local accountants to manage day to day project implementation is required. To attract quality candidates, this position should be awarded a remuneration level in line with cost norms for consultants.

27. Financial Management Manual (FMM) should be developed. Training on the use of manual for relevant key staff should be organized before the loan becomes effective. Accounting system and software should be clearly identified in the RRP.

28. To minimize risk and expedite project implementation, a detailed implementation plan for civil works should be regularly updated. Monitoring and supervision should be a joint effort between MOET, the various project management units, and consultants to ensure that construction is done in accordance with the design and is of good quality.

XI. PROCUREMENT CAPACITY ASSESSMENT

Proposed Project Name: University of Science and Technology of Ha Noi Development (New Model University) Project	Proposed Amount: US\$190 million
Executing Agency Department of Higher Education Ministry of Education and Training (MOET)	Source of Funding: OCR + ADFHT
Assessor: Khamtanh Chanthy Sr. Project Implementation Officer	Date: 23 September 2010
Expected Procurement <p>The University of Science and Technology of Ha Noi Development (New Model University) Project (USTHDP) seeks to establish a new model university (NMU) as a center of excellence in teaching and research characterized by closer university-industry linkages 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.</p> <p>The project plans to procure large scale of civil works and equipment for USTH. These will be procured by International Competitive Bidding (ICB) because the estimated cost for each civil works package is above \$2.0 million and the cost of individual equipment packages is above \$1.5 million. ICB will be strictly managed in accordance with ADB's Procurement Guidelines (2010). QCBS and QBS will be applied for the recruitment of consulting services. National Competitive Bidding (NCB) is also applied for the procurement of office equipment for project management unit (PMU), while office supplies and goods less than \$100,000 will be procured through shopping.</p>	
Assessment of the National Environment <p>The Government of Viet Nam's instruction on procurement is that both ICB and NCB for civil works or goods must be conducted via public bidding, and the nature of bidding process will depend on the procurement mode selected. ICB for both civil works and goods must be implemented in accordance with lenders' requirements and procedures, while NCB must be managed under national procurement guidelines and procedures.</p> <p>Since it is public bidding, the Procurement Bidding Committee (PBC) must pay close attention to the bidding process to ensure that the evaluation process is fair and transparent. The PBC will be established based on the nature of activity and technical expertise. For example, the PBC for civil works will include qualified engineers, architects with certificates in procurement, and individuals with qualifications and experience in financial management.</p> <p>Procurement of works and goods under NCB will follow the government's laws: (i) 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 on 19 June 2009 that amended and supplemented a number of articles of the above mentioned two laws, and (iv) the processes described in Decree No. 85/2009/ND-CP on 15 October 2009 (which replaces Decree 58/2008/ND-CP) on Guiding Implementation of Procurement Law and Selection of Construction Contractors under the Construction Law. Collectively, the combination of the decree and these laws are called 'National Procurement Laws'. Whenever any procedure in the National Procurement Laws is inconsistent with the ADB's Procurement Guidelines and Guidelines on the Use of Consultants by Asian Development Bank and Its Borrowers, ADB guideline and requirements will prevail where there is any conflict between government's procurement procedures/policies and ADB.</p>	

General Agency Resource Assessment

PMU. The PMU is under direct administration and supervision of MOET and includes 8 permanent staff from different MOET departments: Department of Higher Education, Department of Planning and Finance, Department of Personnel and Department of International Cooperation. The 8 permanent staff have different education backgrounds and areas of expertise, including construction management, procurement for construction, finance, accounting, monitoring and evaluation, education and administration. For the most part, communication and coordination within the PMU must be in Vietnamese as only two staff members are fluent in English.

PMU-USTH. The PMU-USTH will be involved in two key areas: (i) Academic development as they are the most appropriate body to identify what areas need to be developed and what equipment should be procured for their laboratories; (ii) Human resource development to upgrade the qualifications and expertise of their teaching staff. The PMU-USTH team will work closely with international consultants and the French strategic partner to upgrade USTH's education standards and services.

Procurement Office (PO). The PO will work closely with the PMU to deliver on the procurement plan. The main task of the PO is to support other MOET departments, the PMU and the PMU-USTH in procurement for civil works and goods. Currently there are four officers in the PO holding a certificate of procurement and who have some background and experience in procurement in relevant areas. Two out of the four officers have good English skills.

The procurement manual was developed in the local language, and training on procurement has been organized for members of the PMU. However, there is a clear instruction that procurement should be managed by officers who have a procurement certificate.

MOET is familiar with ADB procurement guidelines and procedures as they have been working with various education projects financed by ADB, including two ongoing projects: L2583-Secondary Education Sector Development Project, and L2298-Upper Secondary and Professional Teacher Development Project. MOET is also familiar with World Bank procurement procedures through participating in a number of World Bank funded projects.

The PO workload is significant. It appears that the services of the four PO officers are stretched as they are supporting many ongoing education projects financed by external sources, as well as those supported by the government. In addition, some officers are assigned to support other projects being implemented outside the country (eg. in Lao PDR). Staffing limitations and the availability of procurement officers will have a critical impact on project progress and the quality of construction.

The construction of education facilities and campus infrastructure valued at more than \$150 million is the key activity under this project. The procurement of civil works will be done through ICB, rather than NCB. In order to address the insufficient number of procurement officers in the MOET and the lack of sufficient staff in the PMU, a qualified and experienced international procurement consultant will be engaged to support the PMU to deliver the procurement plan. The PMU intends to recruit more procurement specialists to carry out project procurement activities.

The bulk of procurement will be undertaken by the Main Contractor. The PMU will hire a firm to provide advance procurement advisory services to assist the PMU to establish its procurement procedures, procure firms for the financial management advisor and quantity surveyor and provide training for procurement staff. The quantity surveyor will advise the PMU on the development of the request for tender and contract documents for the procurement of the overall project manager; and assist the PMU in its role of construction monitoring and supervision, to manage the cost effectively, and to inspect works and verify invoices before payment. The PMU will also engage a procurement probity advisor to review the procurement documentation in advance, to monitor procurement actions and selection assessments and to report directly to the NEB on the probity of the procurement process.

Agency Procurement Processes Goods and Works

Procurement for the proposed project would be carried out in accordance with ADB Procurement Guidelines (2010). The procurement plan will be prepared in consultation with the EA. The plan will indicate estimated cost, procurement methods, prior or post review requirements, and time frame. The procurement plan will be updated annually or as required to reflect the actual project implementation needs and institutional capacity.

MOET is familiar with ADB procurement procedures as it has been working with ADB since the 1990s. MOET has strictly followed ADB procurement procedures and requirements set forth in loan agreements. Tendering process and time frame for ICB is strictly implemented in accordance with ADB processes.

MOET is fully aware that ADB and WB procurement processes and procedures, particular for ICB must be strictly followed. For NCB, it often follows the government's regulations, ADB's procedures and requirement will prevail if there is any discrepancy.

Agency Procurement Processes, Consulting Services

MOET has been working with ADB and WB for long, recruitment of consultants services have been done in accordance with ADB and WB procedure and process.

MOET will appoint a recruitment committee to manage the recruitment of consulting services. The level of staff to handle the selection of consultant firm based on the value of contract. Recruitment of individual consultants will be managed by relevant department.

Process Control and Oversight

The Procurement Office will appoint a member of its staff to be PMU team member. The appointed procurement officer will assist PMU to manage the project procurement, he or she will work closely with the recruited procurement advisor to ensure that the procurement is done in accordance with ADB guideline and requirement. The appointed procurement officer will work with procurement advisor in preparing the bid evaluation report and submit it to PMU for endorsement. The endorsed bid evaluation report will then be forwarded to MOET bidding committee for approval.

When reviewing the bid evaluation reports, the committee checks the extent to which the evaluated bids adhere to the requirements of the bid documents, reviewing grounds for rejection of any bid to establish if the deviation is major and to check that all the bids have been treated equally. Procurement review committees (PRCs) will be established based on the type of procurement, and contract size.

If any technical issues arise when reviewing bid evaluation reports, the PRC is given the prerogative to seek expert or professional advice from relevant department and experts from MOET or consultants in the items being procured for it to come up with an impartial and sound evaluation. None of these parties, however, is considered member of the PRC and will advise solely on the basis of their own areas of expertise.

When procuring services, each member of the PRC must evaluate the consultant's proposals individually and independently and the Chairman must ensure that at least three of the committee members are knowledgeable of the field in which the services are being procured. Otherwise, the Committee is reconstituted to ensure that this requirement is complied with. The Committee is responsible for preparing the evaluation report and negotiating the proposed contract following the funding agency's procedures.

Records Keeping and Audit

For MOET, original bid documents, original invitation documents, records of the bidding process, bid evaluation reports, communications related to the bidding process, original contracts, winning bids or proposals, and contract implementation papers are compiled, coded and stored in a steel cabinet with keys and placed inside a secure room with security cabinets and a main door that locks. Records can be easily retrieved if needed. Only the Procurement Officer has direct access to these documents. Bidding documents and files are kept for about 10 year in accordance with the law.

Summary Assessment and Recommendations

Although MOET is familiar with ADB procurement guidelines and requirements, project implementation would be delayed due to: (i) limitations on the number of qualified procurement officers; and (ii) large scale civil works contracts that will be implemented by ICB. Hence, it is strongly requested that MOET considers a number of measures to assist in the procurement for the USTHDP, including using an advanced procurement advisor and using a single Main Contractor to carry out the bulk of the procurement.

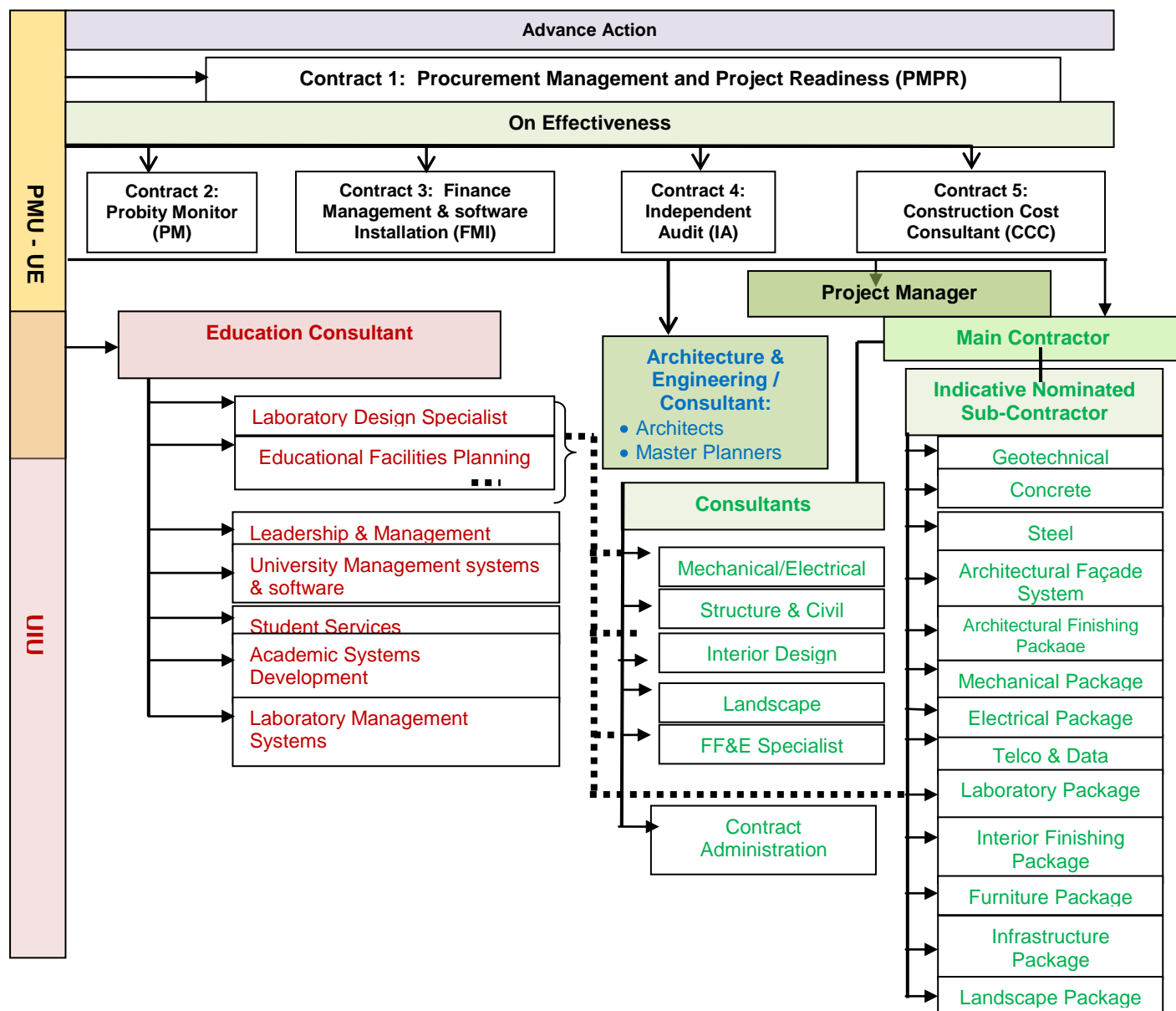
Risk Mitigation Recommendations		
Action	Responsibility	Timeframe
Recruit an international procurement advisor with extensive experience in international bidding procedures to assist PMU in implementing ICBs during project start up	MOET and PMU. Terms of reference for a Procurement and Project Readiness Consultant are included in Appendix 5.	Project readiness filter - Advanced recruitment of consultant during the negotiation
A segregate task schedule for MOET, PMU, and PMU-USTH should be developed; approval authority for procurement should be clearly instructed	MOET/PMU	Before loan effectiveness

Prior Review Thresholds

The following procurement shall be subject to ADB prior review as described in Appendix 1 of the *Procurement Guidelines* and Appendix 1 of the *Guidelines on the Use of Consultants*

Works Contracts		Goods Contracts	
All contracts above \$ 1,000,000		All contracts above \$500,000	
The first ICB contract		The first ICB tract irrespective of value	
The first NCB contract irrespective of value		The first NCB contract irrespective of value	
Consulting Services Contracts			
(i) Quality and Cost Based Selection (QCBS) with 80:20 for quality: cost weighting		(ii) Number of submissions (Para. 2.3 Guidelines refers): Four (4) submissions – shortlist and draft RFP, technical evaluation report, final ranking, and draft negotiated contract for QCBS	
(ii) Quality Based Selection (QBS)		(iii) Three (3) submissions – shortlist and draft RFP, technical evaluation report, and draft negotiated contract for QBS	
Approved by ADB		Designation	
Agreed by EA		Designation	

Contractual Relations Diagram



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
11. User's Guide (Small Civil Works - below 10 Mln USD)
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
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>