



Report and Recommendation of the President to the Board of Directors

Project Number: 42079
April 2011

Proposed Loans
Socialist Republic of Viet Nam: University of Science
and Technology of Hanoi Development (New Model
University) Project

Asian Development Bank

CURRENCY EQUIVALENTS

(as of 15 March 2011)

Currency Unit	–	dong (D)
D1.00	=	\$0.00005876
\$1.00	=	D20,870

ABBREVIATIONS

ADB	–	Asian Development Bank
ADFHT	–	hard terms facility of the Asian Development Fund
GAP	–	gender action plan
GDP	–	gross domestic product
HEI	–	higher education institution
HERA	–	Higher Education Reform Agenda
HHTP	–	Hoa Lac High Tech Park
LIBOR	–	London interbank offered rate
MOET	–	Ministry of Education and Training
NMU	–	new model university
OCR	–	ordinary capital resources
PMU	–	project management unit
PMU-UE	–	project management unit for universities of excellence
PMU-USTH	–	project management unit University of Science and Technology of Hanoi
R&D	–	research and development
UIU	–	university implementation unit
USTH	–	University of Science and Technology of Hanoi
VAST	–	Vietnam Academy of Science and Technology

NOTE

In this report, "\$" refers to US dollars

Vice-President	C. Lawrence Greenwood, Jr., Operations 2
Director General	K. Senga, Southeast Asia Department (SERD)
Director	I. Matsumoto, Human and Social Development Division, SERD
Team leader	N. LaRocque, Senior Education Specialist, SERD
Team members	R. Butler, Social Development Specialist (Resettlement), SERD
	K. Chanthy, Senior Project Implementation Officer, Lao Resident Mission, SERD
	U. Hoque, Gender Specialist, SERD
	R. Roque, Assistant Project Analyst, SERD
	Vo Truc Dien, Senior Programs Officer, Viet Nam Resident Mission, SERD
	S. Zaidansyah, Counsel, Office of the General Counsel
Peer reviewers	J. Sarvi, Practice Leader, Education, Regional and Sustainable Development Department
	E. Tajima, Education Specialist, East Asia Department

In preparing any country program or strategy, financing any project, or by making any designation of or reference to a particular territory or geographic area in this document, the Asian Development Bank does not intend to make any judgments as to the legal or other status of any territory or area.

CONTENTS

Page

PROJECT AT A GLANCE

I.	THE PROPOSAL	1
II.	THE PROJECT	1
	A. Rationale	1
	B. Impact and Outcome	3
	C. Outputs	3
	D. Investment and Financing Plans	5
	E. Implementation Arrangements	6
III.	DUE DILIGENCE	7
	A. Technical	7
	B. Economic and Financial	7
	C. Governance	8
	D. Poverty and Social	9
	E. Safeguards	9
	F. Risks and Mitigating Measures	9
IV.	ASSURANCES AND CONDITIONS	10
V.	RECOMMENDATIONS	10

APPENDIXES

1.	Design and Monitoring Framework	14
2.	List of Linked Documents	

Project AT A GLANCE

1. PROJECT NAME: University of Science and Technology of Hanoi Development (New Model University) Project				2. PROJECT NO: 42079-013	
3. COUNTRY: VIET NAM			4. DEPARTMENT/DIVISION: SERD/SEHS		
5. SECTOR CLASSIFICATION		SECTOR:		PRIMARY	SUBSECTORS:
		EDUCATION		√	TERTIARY AND HIGHER EDUCATION
6. THEMATIC CLASSIFICATION		THEMES:		PRIMARY	SUBTHEMES:
		ECONOMIC GROWTH		√	KNOWLEDGE, SCIENCE AND TECHNOLOGICAL CAPACITIES
		CAPACITY DEVELOPMENT			INSTITUTIONAL DEVELOPMENT
6A. CLIMATE CHANGE IMPACT:				6B. GENDER MAINSTREAMING:	
NO CLIMATE CHANGE INDICATOR AVAILABLE				EFFECTIVE GENDER MAINSTREAMING (EGM)	√
				GENDER EQUITY TEHME (GEN)	
				NO GENDER ELEMENTS (NGE)	
				SOME GENDER BENEFITS (SGB)	
7. TARGETING CLASSIFICATION				8. LOCATION IMPACT:	
TARGETED INTERVENTION				NATIONAL	HIGH
GENERAL INTERVENTION	√				
9. PROJECT RISK CATEGORIZATION:				COMPLEX	
10. SAFEGUARD CATEGORIZATION:				ENVIRONMENT	B
				INVOLUNTARY RESETTLEMENT	A
				INDIGENOUS PEOPLES	C
11. ADB FINANCING:					
SOVEREIGN/NONSOVEREIGN	MODALITY		SOURCE		AMOUNT (\$ MILLION)
SOVEREIGN	PROJECT LOAN		ADF (LOAN)		20.0
SOVEREIGN	PROJECT LOAN		OCR (LOAN)		170.0
TOTAL					190.0
12. COFINANCING: NO COFINANCING AVAILABLE					
13. COUNTERPART FINANCING:					
SOURCE					AMOUNT (\$ MILLION)
GOVERNMENT					23.0
TOTAL					23.0
14. AID EFFECTIVENESS:					
PARALLEL PROJECT IMPLEMENTATION UNIT		NO			
PROGRAM-BASED APPROACH		NO			

I. THE PROPOSAL

1. I submit for your approval the following report and recommendation on two proposed loans to the Socialist Republic of Viet Nam for the University of Science and Technology of Hanoi Development (New Model University) Project.

2. 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 Vietnam 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, once it is ready. The World Bank approved the development of an NMU—the Vietnamese–German University—in June 2010.¹

II. THE PROJECT

A. Rationale

3. **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, and 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.

4. **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.

5. **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 wide differences across HEI

¹ The design and monitoring framework is in Appendix 1. Project preparation was carried out through Asian Development Bank (ADB). 2010. *Technical Assistance to the Socialist Republic of Viet Nam for Preparing the Higher Education Sector Development Project*. Manila (TA 7105-VIE).

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

6. **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 enrollments 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.

7. **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 (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.

8. **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 Malaysia and Thailand 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.

9. **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. 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.

10. **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.

11. **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 that 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.

12. **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, Japan International Cooperation Agency, 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, increase accountability, and improve financial management in the higher education sector. The Asian Development Bank (ADB) 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 Viet Nam in 2001.

B. Impact and Outcome

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

14. 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.

² World Bank. 2007. *Viet Nam: Second Higher Education Project*. Washington, DC.

³ World Bank. 2009. *Viet Nam: Higher Education Development Policy Program*. Washington, DC.

1. Effective Management and Governance Systems for the University of Science and Technology of Hanoi Developed and Implemented

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

- (i) **Rigorous management and governance systems and capacity building programs for USTH senior managers and governors.** This will include developing operating procedures for USTH's council, academic board, and other committees. It will also focus on building leadership, management, and governance skills through 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.
- (ii) **University management and administrative systems.** This will include student administration, and management of finances, library collections, personnel, and information systems.
- (iii) **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 from, 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

16. 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 the University of Science and Technology of Hanoi Constructed and Outfitted

17. Output 3 will support the design, construction, and outfitting of the USTH physical facilities at the HHTP up to 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 and associated infrastructure (including parking facilities), and provision of furniture, fittings, and equipment. Construction will use a design-bid-build approach.

4. Effective Project Management and Implementation

18. Output 4 will provide support 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.

D. Investment and Financing Plans

19. 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.

20. 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 1: Project Investment Plan
(\$ million)

Item	Amount ^a
A. Base Cost^b	
1. Effective management and governance systems for USTH developed and implemented	4.90
2. Systems to promote high quality and relevance in academic programs developed and implemented	47.80
3. Physical facilities for USTH constructed and outfitted ^c	123.80
4. Effective project management and implementation	3.70
Subtotal (A)	180.20
B. Contingencies	21.40
C. Interest and Commitment Charges^d	11.40
Total (A+B+C)	213.00

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 5.3% 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 OCR and ADFHT loans and commitment charges on OCR loan.

Source: Asian Development Bank estimates.

21. 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 project and the ADFHT will fund 9.4%, with the government accounting for the remaining 10.8% (Table 2).

Table 2: Financing Plan
(\$ million)

Source	Amount	Share of Total (%)
Asian Development Bank		
OCR	170.00	79.80
ADFHT	20.00	9.40
Subtotal	190.00	89.20
Government ^a	23.00	10.80
Total	213.00	100.00

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.

E. Implementation Arrangements

22. The MOET will be the executing agency for the project and the implementing agency for outputs 3 and 4. The USTH will be the implementing agency for outputs 1 and 2. The MOET has established an overall PMU (the PMU for universities of excellence, PMU-UE) to (i) manage and oversee overall project activities, (ii) facilitate dialogue and coordinate across MOET departments and other relevant agencies, and (iii) oversee the implementation of the World Bank NMU project. The minister of education will head the PMU-UE. The MOET will establish a PMU for USTH (the PMU-USTH) to (i) implement output 3, (ii) process withdrawal applications, (iii) support the UIU in the implementation of outputs 1 and 2, (iv) monitor USTH activities, and (v) prepare project reports. The PMU-USTH will be headed by a full-time professional project manager and supported by a full-time standing deputy director, drawn from the MOET, and will have at least eight full-time staff.

Table 3: Implementation Arrangements

Aspects	Arrangements		
Implementation period	1 January 2012 – 31 December 2017		
Estimated completion date	31 December 2017		
Management			
(i) Executing agency	MOET		
(ii) Key implementing agencies	MOET, USTH		
(iii) Implementation unit	PMU-USTH: 8 full-time staff; UIU: 11 full-time-equivalent staff		
Procurement	ICB	9 contracts	\$190,800,000
	NCB	2	\$610,000
	Shopping	1 contracts	\$400,000
Consulting services and construction	QBS (education)	1	\$6,500,000
	QBS (construction)	5	\$2,100,000
	QCBS (construction)	3	\$182,900,000
Advance action and retroactive financing	Procurement for project readiness (firm) and procurement adviser. Retroactive financing can be used for up to 5% of the loan balance and for expenses up to 12 months before loan signing.		
Disbursement	The loan proceeds will be disbursed in accordance with ADB's <i>Loan Disbursement Handbook</i> (2010) and detailed arrangements agreed between the government and ADB.		

ADB = Asian Development Bank, ICB = international competitive bidding, MOET = Ministry of Education and Training, NCB = national competitive bidding, PMU = project management unit, QBS = quality-based selection, QCBS = quality- and cost-based selection, UIU = university implementation unit, USTH = University of Science and Technology of Hanoi.

Source: Asian Development Bank.

23. The USTH will establish the university implementation unit, which 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 support the design specifications of the buildings and laboratories, and (v) liaise with the project manager who will organize the procurement and installation of equipment. The UIU will be headed by a manager and will have at least 11 full-time-equivalent staff.

24. The government asked ADB to approve advance action and retroactive financing to expedite the recruitment of consultants. ADB advised the government that any approval of advance action and retroactive financing do not commit ADB to financing the project.

III. DUE DILIGENCE

25. The direct beneficiaries of the project will be the approximately 5,000 students who, in any given year, will be enrolled at the USTH once the new facilities have been constructed and who will therefore benefit from attendance at an international-standard university focused on science and technology. In particular, students will benefit from improved teaching, international standard curricula, and teaching facilities. Approximately 100 female students at any given time will benefit from scholarship assistance to attend the USTH. The new dormitory accommodation will benefit some 1,800 students at any given time, of which approximately 40% will be female. Academic staff and students at the USTH and researchers at VAST will benefit significantly from the provision of international-standard research laboratories and equipment, as well as extended networks with researchers from around the world. Academic staff and administrators will benefit from the extensive training and mentoring programs provided under the project.

26. Viet Nam industrial development will benefit indirectly from an injection of higher-skilled and more productive workers and the utilization of outputs of locally conducted science and technology research that is expected to boost capacity for innovation and expansion. The public will benefit indirectly through increases in socioeconomic development over time, as the NMU contributes higher skills that facilitate Vietnam's progress through medium-income status and underpins the country's move to more intensive industrialization. The higher education system will benefit from training and higher skill acquisition and new facilities for Vietnamese researchers who might otherwise work abroad. Future students will directly benefit from improved educational outcomes, better employment prospects, and a higher rate of return on skills.

A. Technical

27. The project funds the construction of a new greenfield campus for a science and technology university of international standard, including the building and equipping of leading-edge science laboratories for postgraduate research and teaching. The local construction industry has little experience in managing such projects. The project will use international firms to manage the design, construction, and fit out of the USTH. The French international partner will provide doctorate training in France for future USTH academic staff. The project will fund capacity building for laboratory maintenance and training of technicians, and will also support the government to develop more appropriate policies and approaches to (i) providing sustainable levels of recurrent financing for research activities, and (ii) depreciation to support a systematic maintenance and replacement plan.

B. Economic and Financial

28. The economic benefits of the project will flow from increased numbers of science and technology graduates, and from industry utilization of more, and more relevant, locally conducted science and technology research, which is expected to boost innovation. The output of graduates

from the USTH will be significant at postgraduate level, particularly as regards graduates of high quality in science and technology. The USTH will provide a quantum injection of science teaching and research capacity and, at initial design capacity of 5,000 students, will increase research outputs of doctorate students in Viet Nam and research publications. Development of this high-caliber science capacity will support the development of a more highly industrialized economy, and will take at least a generation to mature. Viet Nam needs to start its expanded investment now to ensure it keeps pace with its planned rate of industrialization. Costs per graduate will be high relative to current levels, but rates of return to higher education are increasing. No rate of return has been calculated given the novelty of this type of investment in Viet Nam and the paucity of relevant data.

29. **Financial sustainability.** The USTH is projected to absorb about 2% of higher education system resources (exclusive of loan repayments) by 2020. These estimates allow for some increase in unit costs at the USTH, as will be necessary to progress upwards through regional and global university rankings, and to sustain the university's asset base. In assessing long-term financial sustainability, the government will need to take into account the significant costs projected for both NMUs, not just the USTH. To ensure financial sustainability in the years immediately following establishment, the government will develop a special financing mechanism that will provide recurrent funding for the USTH at rates per student that are well above those provided to existing public universities. In addition, the USTH will benefit from substantial assistance from the Government of France in the form of management and academic staff and curriculum, at least until 2020. The USTH will also benefit increasingly from private sector revenue in the form of tuition fees, consulting, and research income. Tuition fees will be well above those charged by other public universities.

C. Governance

30. Financial management and procurement capacity assessments of the MOET and PMU-UE were conducted and found that they will face significant challenges in implementing the project unless mitigating measures are instituted. The key concern is that the MOET is responsible for implementing many projects, including from ADB, the World Bank, bilateral development partners, and government projects in neighboring countries. This heavy workload, coupled with limits on the number and capacity of staff, would tax the ability of the MOET and PMU-UE to carry out timely and effective procurement and disbursements. The financial management assessment highlighted the limited capacity, lack of finance and accounting staff, and the existence of two accounting systems operating within the MOET, which could create confusion during implementation.

31. The MOET will hire additional qualified finance and accounting officers to strengthen existing PMU-UE staff. The PMU-UE will address the accounting system issue and will urgently procure accounting software. The procurement office of MOET is familiar with ADB's Procurement Guidelines (2010, as amended from time to time) and requirements, as it has worked with ADB for many years. The limited number of qualified staff to support ongoing projects is a concern, as is the lack of technical expertise within the MOET and the PMU-UE in the procurement of science laboratories and equipment. PMU-UE staff indicated that they will recruit qualified and experienced procurement specialists to ensure that the availability of human resources is in line with the procurement requirements for the implementation of such a large civil works project. International experts will support PMU-USTH in the procurement and management of the complex construction contracts. The project also splits procurement between PMU-USTH and the UIU, with the latter responsible for the academic and university management outputs.

32. ADB's Anticorruption Policy (1998, as amended to date) was explained to and discussed with the government and the MOET. The specific policy requirements and supplementary measures are described in the project administration manual.⁴

⁴ Project Administration Manual (accessible from the list of linked documents in Appendix 2).

D. Poverty and Social

33. Key issues related to poverty and social equity in higher education relate to affordability. Students from poor and lower-income families have limited access to fee-paying HEIs. Further, the lack of high-quality primary and secondary education limits students' (especially those from ethnic groups and in remote areas) access to postsecondary education. The project addresses to some degree these constraints through the provision of scholarships to attend the USTH, allocation of dormitory spaces for poor and disadvantaged students including girls, secondary school outreach programs, and provision of student support services.⁵

34. **Gender and development.** The project is categorized as gender mainstreaming. It includes elements that address key constraints on female participation in higher education in science and technology fields, female perceptions of science and technology studies and careers, and gender imbalance among academic staff. The project includes a gender action plan (GAP) to facilitate and promote increased female participation and benefits from the project. The GAP addresses access and equity issues by setting targets and gender-responsive design features, including (i) development and implementation of equity strategies, such as scholarships, outreach programs, and mentoring; (ii) reservation of 40% of dormitory places for girls; (iii) a quota of 20% 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.⁶

35. **Ethnic groups.** No ethnic group development plan has been prepared as the USTH is unlikely to have a significant impact on ethnic groups given its selective nature and the underrepresentation of ethnic groups in higher education.

E. Safeguards

36. 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 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, and manage fill, excavated material, and solid waste in a way 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 materials. Water supply in the dormitories will meet national drinking water quality standards.

F. Risks and Mitigating Measures

37. Major risks and mitigating measures are summarized in Table 4 and described in detail in the risk assessment and risk management plan.⁷ The major risks are: (i) the government fails to provide the appropriate management and academic autonomy and levels of recurrent funding required for the USTH to meet international standards for teaching and research, (ii) the foreign strategic partner withdraws support for the USTH or cannot sustain support at a level required for capacity building, and (iii) campus construction is delayed due to slower-than-anticipated development of the HHTP or delays in government approval of the USTH site plan.

⁵ Summary Poverty Reduction and Social Strategy (accessible from the list of linked documents in Appendix 2).

⁶ Gender Action Plan (accessible from the list of linked docs in Appendix 2).

⁷ Risk Assessment and Risk Management Plan (accessible from the list of linked documents in Appendix 2).

Table 4: Summary of Risks and Mitigating Measures

Risks	Mitigating Measures
Outcome Government of Viet Nam abandons commitment to the concept of new model universities.	Policy framework underlying new model university concept is set out in USTH charter. Principles relating to funding and autonomy are included in loan agreement assurances..
Outputs Foreign strategic partner withdraws support for USTH or cannot sustain support at level required for capacity building. Delays in campus construction due to slower-than-anticipated development of HHTP or delays in government approval of USTH site plan	French strategic partner has signed an MOU with the government outlining its commitment to support USTH for at least 10 years. Government given 16 month time frame in which to provide ADB with legal right to cleared land for use as USTH campus.

ADB = Asian Development Bank, HHTP = Hoa Lac High Tech Park, MOU = memorandum of understanding, USTH = University of Science and Technology of Hanoi.

Source: Asian Development Bank.

IV. ASSURANCES AND CONDITIONS

38. The government has assured ADB that implementation of the project shall conform to all applicable ADB policies including those concerning anticorruption measures, safeguards, gender, procurement, consulting services, and disbursement as described in detail in the loan agreement. The assurances include commitments to implement governance and funding frameworks that ensure that the USTH can operate at an international standard.

39. **Conditions for loan disbursement.** Before the disbursement of the loans from OCR and ADFHT, the government will have established the PMU-USTH, and the UIU.

V. RECOMMENDATIONS

40. I am satisfied that the proposed loans would comply with the Articles of Agreement of the Asian Development Bank (ADB) and recommend that the Board approve

- (i) the loan of \$170,000,000 to the Socialist Republic of Viet Nam for the University of Science and Technology of Hanoi Development (New Model University) Project, from ADB's ordinary capital resources, with interest to be determined in accordance with ADB's London interbank offered rate (LIBOR)-based lending facility; for a term of 26 years, including a grace period of 6 years; and
- (ii) the loan in various currencies equivalent to SDR12,609,000 to the Socialist Republic of Viet Nam for the University of Science and Technology of Hanoi Development (New Model University) Project from ADB's Special Funds resources, with an interest charge at the rate of 2.02% per annum; for a term of 32 years, including a grace period of 8 years; and
- (iii) such other terms and conditions as are substantially in accordance with those set forth in the draft loan agreement presented to the Board.

DESIGN AND MONITORING FRAMEWORK

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

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks
3. Physical facilities at USTH constructed and outfitted	Design and quality of USTH academic facilities and accommodation meet international standards and are gender, ethnicity, and disability sensitive, by 2017. New campus accommodating 5,000 students available for USTH, from 2017. At least four dormitory buildings, of which 40% space is for females, are constructed, by 2017.	Independent evaluation of design and construction Civil works supervision report Civil works and equipment receipt minutes	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	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 systems for USTH developed and implemented		Financing (\$ million)	
1.1 New university council established, Vietnamese members receive induction, and operating effectively, by Q2 2012		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 2014; new financing regulation on recurrent funding implemented, by Q2 2013		Item	Amount
1.4 New university financial management system developed, tested, and operating, by Q1 2014		Equipment	39.60
1.5 Second rector appointed after international merit selection and recommendation by council; second rector oversees planning for move to new campus, by Q1 2017		Works	90.20
1.6 All university systems developed, tested, and ready for move to new campus for full operations, by Q1 2017		Design and construction management	8.50
1.7 All university management systems fully installed in new campus and operating at full capacity, assessed by independent review as operating at international standard, by Q1 2017		Subtotal	138.30
		Contingencies	21.30
		Interest and commitment charges	10.40
		Total	170.00
		ADF: \$20.0 million	Amount
		Item	
		Vehicles	0.10
		Capacity building	8.10
		Systems development and training	1.90
		Scholarships	1.00
		Design and construction management	5.50
		Project management	2.40
		Subtotal	18.90
		Contingencies	0.10
		Interest charges	1.00
		Total	20.00
		Government – \$23.0 million	Amount
		Item	
		Civil works	8.30
		Project management	0.30
		Resettlement	3.00
		Taxes and duties	11.40
		Total	23.00
2. Systems to promote high quality and relevance in academic programs at USTH developed and implemented			
2.1 CTLE established and operating to support development of quality programs and teaching skills; academic staff trained for sustainability, by Q1 2015; 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 Q1 2015; 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 Q1 2015; 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 Q1 2015; 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 Q1 2015; 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 Q4 2011</p> <p>3.2 Resettlements and site clearances completed, by Q3 2013</p> <p>3.3 Project management company engaged and ready to commence, by Q4 2013</p> <p>3.4 Architectural design phase completed, construction plans completed, and works ready to commence, by Q4 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 Q4 2011</p> <p>4.2 Project monitoring and evaluation system, including tracer studies, and baseline studies developed and implemented, by Q2 2012</p> <p>4.3 All procurement completed in accordance with the agreed procurement plan timelines</p>	

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

Source: Asian Development Bank.

LIST OF LINKED DOCUMENTS

<http://www.adb.org/Documents/RRPs/?id=42079-01-3>

1. Loan Agreement (ordinary capital resources)
2. Loan Agreement (special funds)
3. Sector Assessment (Summary): Viet Nam Higher Education
4. Project Administration Manual
5. Contribution to the ADB Results Framework
6. Development Coordination
7. Economic Analysis
8. Financial Analysis
9. Country Economic Indicators
10. Summary Poverty Reduction and Social Strategy
11. Gender Action Plan
12. Initial Environmental Examination
13. Resettlement Plan
14. Risk Assessment and Risk Management Plan