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PROJECT APPRAISAL DOCUMENT

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IN THE AMOUNT OF SDR 36.7 MILLION
(USD 55 MILLION EQUIVALENT)

TO

SOCIALIST REPUBLIC OF VIETNAM

FOR THE

INCLUSIVE INNOVATION PROJECT

April 12, 2013

Financial and Private Sector Development Department
East Asia and Pacific Region

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CURRENCY EQUIVALENTS

(Exchange Rate Effective as of March 31, 2013)

Currency Unit = Vietnamese Dong (VND)

VND 20,950 = USD 1

USD 1.498 = SDR 1

FISCAL YEAR

January 1 – December 31

ABBREVIATIONS AND ACRONYMS

ADB	Asian Development Bank	NAFOSTED	National Foundation for Science and Technology Development
BoP	Base of the Pyramid (also called the Economic Bottom of the Pyramid)	NDC	National Development Challenge
CAR	Capital Adequacy Ratio	NHTM	National Hospital of Traditional Medicine
CAS	Country Assessment Strategy	NIMM	National Institute of Medicine Materials
CGMP	Current Good Management Practice	NIS	National Innovation System
CPS	Country Partnership Strategy	NPL	Non-Performing Loan
DA	Designated Account	ODA	Overseas Development Agency
DANIDA	Danish Development Program	OECD	Organization for Economic Cooperation and Development
DFID	U.K. Department for International Development	PDO	Project Development Objective
DPL	Development Policy Loan	PFI	Participating Financial Intermediaries
DPM	Deputy Prime Minister	PIA	Project Implementation Agency
EDA	Enterprise Development Agency, MPI	PIU	Project Implementation Unit
EPC	Environmental Protection Commitment	PMU	Project Management Unit
ESMF	Environmental and Social Management Framework	POM	Project Operations Manual
FDI	Foreign Direct Investment	PSC	Project Steering Council
FERD	Foreign Economic Relations Department, MPI	R&D	Research and Development
FIL	Financial Intermediary Loan	RDI	Research and Development Institution
FM	Financial Management	RDTI	Research, Development & Technology Institution
FMM	Financial Management Manual	ROA	Return on Assets
GDP	Gross Domestic Product	ROE	Return on Equity
GKTP	Global Knowledge Transfer and Partnership	SBV	State Bank of Vietnam
GLP	Good Laboratory Practice	SEDS	Social and Economic Development Strategy (2011-2020)
GM	Grant Manual	SLA	Subsidiary Loan Agreement
GRA	Global Research Alliance	SNV	Netherlands Development Organization
HUST	Hanoi University of Science and Technology	SOE	Statement of Expenditures
ICB	International Competitive Bidding	STI	Science, Technology and Innovation
ICT	Information and Communications Technology	THM	Traditional Herbal Medicine
IFR	Interim Financial Report	TOR	Terms of Reference
IIC	Inclusive Innovation Center	UNDP	United Nations Development Program
InfoDev	Information for Development	VAST	Vietnam Academy of Science and Technology
IPR	Intellectual Property Rights	VCCI	Vietnam Chamber of Commerce & Industry
MARD	Ministry of Agriculture and Rural Development	VIIP	Vietnam Inclusive Innovation Project
MDGs	Millennium Development Goals	WA	Withdrawal Application
M&E	Monitoring and Evaluation	WB	World Bank
MIC	Middle-Income Country	WHO	World Health Organization
MoIT	Ministry of Information and Telecommunications		
MoST	Ministry of Science and Technology		
MPI	Ministry of Planning and Investment		

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Sector Director:	T. Tunc Uyanik
Sector Manager:	Hormoz Aghdaey
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**SOCIALIST REPUBLIC OF VIETNAM
INCLUSIVE INNOVATION PROJECT**

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MAP

PAD DATA SHEET*Vietnam**Inclusive Innovation Project (P121643)***PROJECT APPRAISAL DOCUMENT***EAST ASIA AND PACIFIC**EASFP*

Report No.: 74101-VN

Basic Information			
Project ID	Lending Instrument	EA Category	Team Leader
P121643	Investment Project Financing	B - Partial Assessment	Nancy Chen
Project Implementation Start Date		Project Implementation End Date	
January 1, 2013		July 31, 2018	
Expected Effectiveness Date		Expected Closing Date	
November 1, 2013		November 30, 2018	
Joint IFC: No			
Sector Manager	Sector Director	Country Director	Regional Vice President
Hormoz Aghdaey	T. Tunc Uyanik	Victoria Kwakwa	Axel van Trotsenburg
Borrower: Socialist Republic of Vietnam			
Responsible Agency: Enterprise Development agency (EDA) – Ministry of Planning and Investment			
Contact: Mr. Ho Sy Hung		Title: Director General	
Responsible Agency: National Foundation of Science and Technology Development (NAFOSTED)			
Contact: Mr. Đỗ Tiến Dzũng		Title: Director	
Project Financing Data (USD Million)			
<input type="checkbox"/> Loan	<input type="checkbox"/> Grant	<input type="checkbox"/> Other	
<input checked="" type="checkbox"/> Credit	<input type="checkbox"/> Guarantee		
For Loans/Credits/Others			
Total Project Cost (USD M):		55.625	
Total Bank Financing (USD M):		55.00	
Financing Source	Amount (USD Million)		
BORROWER/RECIPIENT	0.625		
International Development Association (IDA)	55.000		
Financing Gap	0.000		
Total	55.625		

Expected Disbursements (in USD Million)									
Fiscal Year	2014	2015	2016	2017	2018	2019	0000	0000	0000
Annual	1	5	10	10	14	15	0.00	0.00	0.00
Cumulative	1	6	16	26	40	55	0.00	0.00	0.00
Project Development Objective(s)									
The Project Development Objective (PDO) is to adopt, upgrade and develop inclusive innovations for the benefit of the Base of Pyramid population. This will be achieved by strengthening Vietnam's capacity to undertake inclusive innovation, including financing the development, adaptation, adoption, scaling up and commercialization of inclusive technologies, and improving RDIs' and SMEs' technological and innovation capabilities.									
Components									
Component Name							Cost (USD Million)		
Development of Inclusive Technologies							12.000		
Scale up and Commercialization of Inclusive Technologies							33.000		
Capacity Building and Global Knowledge Transfer							7.000		
Project Management, Monitoring and Evaluation							3.625		
Compliance									
Policy									
Does the project depart from the CAS in content or in other significant respects?							Yes []		No [X]
Does the project require any waivers of Bank policies?							Yes []		No [X]
Have these been approved by Bank management?							Yes []		No []
Is approval for any policy waiver sought from the Board?							Yes []		No [X]
Does the project meet the Regional criteria for readiness for implementation?							Yes [X]		No []
Safeguard Policies Triggered by the Project							Yes	No	
Environmental Assessment OP/BP 4.01							X		
Natural Habitats OP/BP 4.04								X	
Forests OP/BP 4.36								X	
Pest Management OP 4.09								X	
Physical Cultural Resources OP/BP 4.11								X	
Indigenous Peoples OP/BP 4.10								X	
Involuntary Resettlement OP/BP 4.12								X	
Safety of Dams OP/BP 4.37								X	
Projects on International Waterways OP/BP 7.50								X	
Projects in Disputed Areas OP/BP 7.60								X	

Legal Covenants			
Name/Description of Covenant	Recurrent	Due Date	Frequency
Sections I.A.1, 2, and I.C. of Schedule 2 to FA; Sections I.A.2 of the Schedule to PA	Yes		Throughout implementation
<i>Maintain appropriate project implementation arrangements throughout the duration of the Project.</i>			
Sections I.F of the Schedule to the PA	Yes	No later than (3) months after effectiveness	Throughout implementation
<i>NAFOSTED to develop and adopt a grievance redressal mechanism for the processing of any complaints related to the various sub-grants.</i>			
Team Composition			
Bank Staff			
Name	Title	Specialization	Unit
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Viet Quoc Trieu	Sr. Financial Sector Specialist	Financial Sector	EASFP
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Miguel-Santiago da Silva Oliveira	Senior Finance Officer	Loan Officer	CTRLN
Kien Trung Tran	Senior Procurement Specialist	Procurement	EASR2
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Locations					
Country	First Administrative Division	Location	Planned	Actual	Comments
Vietnam					
Institutional Data					
Sector Board					
FPD					
Sectors / Climate Change					
Sector (Maximum 5 and total % must equal 100)					
Major Sector	FPD	Sector	100%	Adaptation Co-benefits %	Mitigation Co-benefits %
Total			0		
<input checked="" type="checkbox"/> I certify that there is no Adaptation and Mitigation Climate Change Co-benefits information applicable to this project.					
Themes					
Theme (Maximum 5 and total % must equal 100)					
Major theme	Theme			%	
Financial and private sector development	Micro, Small and Medium Enterprise support			60	
Trade and integration	Technology diffusion			40	
Total			100		

I. STRATEGIC CONTEXT

A. Country Context

1. **Vietnam has experienced rapid and consistent economic growth since launching its transition towards market mechanisms in 1986.** Political and economic reforms (Đổi Mới) launched in 1986 have transformed Vietnam from one of the poorest countries in the world, with per capita income below US\$100, to a lower middle-income country within a quarter of a century. GDP grew at an average of 6.7 percent annually during the past 10 years (GDP per capita was approximately USD 1,540 in 2012¹). Vietnam's trade-led growth strategy, which has led to an increase in labor intensive manufacturing and some low technology based exports, has resulted in a steady increase in exports and imports which together were at 166 percent of GDP in 2011.² Vietnam reached Middle-Income Country (MIC) status in 2009, and has attained five of its ten original Millennium Development Goal (MDG) targets and likely to attain two more by 2015.

2. **The level of development and growth experienced by Vietnam has been accompanied with impressive poverty reduction** – the poverty rate declined from 58 percent in early 1990s to 14.5 percent by 2008, and by these standards is estimated to have fallen further by 2010.³ Yet the gap in the poverty headcount ratio between rural and urban areas is substantial, at 10.5 percent.⁴ This disparity is a clear indication that certain segments of the society are not benefiting fully from Vietnam's impressive economic growth. The disparity between rural and urban areas is stark, as seen through the lens of access to basic services. Some 76 percent of rural residents in Vietnam have access to safe drinking water compared to 94 percent for urban population; 48 percent rural have access to 'modern' sanitation facilities (87 percent for urban), and only 11 percent of rural residents have access to garbage collection (73 percent for urban). Limited access to services can in turn increase the share of expenditure on necessities like food and healthcare. For example, rural Vietnamese spend, on average, 6.5 percent more of their total expenditure on food than urban Vietnamese. These disparities, while significant in Vietnam, are typical of other developing countries as well.

3. **Inequities are likely to increase further as Vietnam progresses in advancing its economic growth.** The Vietnamese authorities are rightly concerned with the widening disparities, especially between urban and rural areas, as 72 percent of the population live in rural areas and some 60 percent are employed in the agricultural sector (accounting for 20.6 percent of GDP). In order to address the widening social disparities, Vietnam wishes to improve its human

¹ Source: <http://data.worldbank.org/country/vietnam>

² General Statistics Office (GSO)

³ A new poverty line was estimated for 2010 by the General Statistics Office (GSO) and World Bank (also referred to as the GSO-WB poverty line) that better reflects living conditions of the poor. The new poverty line is equal to VND 653,000 person/month (\$2.25 person/day, PPP 2005). Based on the new line and updated monitoring system, the national poverty rate in 2010 is 20.7 percent, which compares to an official poverty rate of only 14.2 percent in 2010 using official MOLISA urban and rural poverty lines (VND 500,000 person/month and VND 400,000 person/month, respectively).

⁴ Based on a 2010 World Bank household survey, the poverty headcount ratio for urban (6.9 percent) and rural (17.4 percent).

capital (education), technological and innovation capacity and infrastructure, which are key drivers to competing at a higher level. But more importantly, it will need to adopt national policies which will utilize technological advances to improve the quality of the lives of the Base of Pyramid (BoP)⁵ population and reduce disparities.

4. **“Inclusive Innovation” is identified by senior government officials as an appropriate measure for reducing growing disparities in society and for improving the competitiveness of Vietnam by lowering costs of products, and expanding markets and opportunities for businesses.** The *“Inclusive Innovation”* concept has been pursued by many emerging economies to address the development objectives of shared growth (e.g. Brazil, China, India, South Africa). The objective of inclusive innovation is to develop and deliver, through public and private sector initiatives, high-performance products and solutions at a low cost that are affordable to, and benefit, the resource-poor or BoP people. The Government decided to launch a pilot project on Inclusive Innovation with the objective of developing a sustainable ecosystem for inclusive innovation, which will involve strong collaboration among government agencies, private sector enterprises, entrepreneurs, research and development institutions and global partners.

B. Sectoral and Institutional Context

5. **The Socio-Economic Development Strategy 2011-2020 of Vietnam has clearly identified the need to harness science and technology development in improving peoples’ lives and supporting sustainable and shared economic growth.**⁶ It calls for major reform of the National Innovation System (NIS)⁷ to enhance the capacity of Research & Development Institutions (RDI), strengthen collaboration among RDIs and enterprises, establish national standards, measurement and assessment, enhance enterprises’ capacity to innovate and improve productivity and competitiveness, and develop appropriate public and private financing mechanisms to support innovation activities.

6. **Vietnam’s National Innovation System has undergone many reforms; however a number of major challenges still remain to make it efficient:** (i) innovation policies are developed on an *ad hoc* basis and are largely under the public sector domain (unlike most advanced economies), stifling the efficiency of the system; (ii) research and development (R&D)

⁵ The “Base of the Pyramid” (also called the economic “Bottom of the Pyramid” or just the “BoP”) is the world’s largest but poorest socio-economic group: the 2.6 billion people worldwide - a majority of whom live in Asia - subsisting on less than USD 2 a day (PPP). They are normally in the poverty zone and often lack access to basic necessities of life, such as water and sanitation services, housing, quality education, basic health care, electricity, telephones, roads, and financial services. Moreover, they lack access to reliable markets to buy and sell goods and services that are affordable and of good quality.

⁶ Government of Vietnam (2011), Action program for implementing the Socio-Economic Development Strategy 2011- 2020 and orientations and tasks for country development, 2011- 2015.

⁷ NIS consists of institutions, policies, laws, regulations and procedures that affect how knowledge is created, acquired, disseminated and applied in the economy. The most radical and comprehensive science and technology (S&T) reform program was introduced in 2004, focusing on key policy measures to improve state management of S&T. Vietnam’s NIS is discussed in more detail in the World Bank policy paper, “Vietnam: Innovation Policy for Competitiveness, Economic Growth, and Social Equity” (December 12, 2009); and Project Concept Note for the Vietnam- Fostering Innovation through Research, Science and Technology Project (FIRST, September 8, 2010).

expenditures, as a percent of GDP (0.6 percent),⁸ although increasing, remain low and are primarily funded and managed by the state (80 percent from the state budget), resulting in weak linkage with real sector needs; (iii) the private sector (mostly SMEs) and non-state institutions do not engage in much ‘enterprise innovation’⁹ due to a lack of financial resources and technical skills; (iv) there is a lack of collaboration among RDIs, global research partners, enterprises and innovators in technology development and transfer; and (v) limited financing channels for R&D projects and private enterprises to engage in innovation. In fact, the majority of enterprise innovation expenses are for importing equipment or technology rather than undertaking technology innovation projects.

7. In spite of a less-than-optimal innovation system, Vietnam has achieved some notable accomplishments in some sectors that demonstrate the country is poised to adopt an inclusive innovation agenda. Agricultural innovation and traditional medicine sector are two important areas in which Vietnam demonstrates a relatively strong tradition, capacity and strategic interest. Agricultural innovation in Vietnam has been positive, as government policies encouraged farmers to apply new knowledge in production activities and helped farmers generate better income, thus contributing to poverty reduction. However, contribution of technological innovation in agriculture has been at levels less than the country’s potential. In coming years, in the context of Vietnam’s integration into the global economy, the agricultural sector will have to deepen the use of technological innovation in order to further improve productivity and enhance competitiveness in international markets. The importance of innovation in agriculture is vital to the concept of *inclusive innovation* – it can potentially further improve the lives of the BoP by raising the incomes of rural society, who predominantly depend on agriculture for their livelihoods, and are a target of social development in Vietnam.

8. Vietnam also has a long history of using traditional herbal medicine (THM) in the national health care system. Vietnam not only has rich resources for traditional herbal medicine development, but also has developed a medical professional training system that includes traditional remedies education as a stream for specialization for undergraduate medical students. As a result, the medical graduates obtain real-time integrated knowledge of conventional and traditional medicines and their basic philosophy. In practice, traditional and allopathic medical systems are combined to bring THM into nationwide public health care, both in primary and secondary health care. Large hospitals in urban areas are allowed to practice both western medicine and traditional medicine at the same time. There are also capable research institutions and individual researchers in traditional herbal medicine in Vietnam who are dedicated and committed to developing new drugs and medical materials from herbal medicine and to provide low-cost medical treatments to the low-income population.

9. Over the last decade, the Government and donors have financed innovation-related projects in areas of promoting technology adaptation and transfer, developing and

⁸ Ministry of Science and Technology Reports, 2011

⁹ ‘Enterprise Innovation’ is the creation, acquisition, adoption and use of technology and innovation by businesses to improve productivity and competitiveness. Foreign firms and those that receive significant FDI do innovate and apply for utility patents; however, spillover is weak. In fact, 94 percent of patents issued in Vietnam were licensed to foreigners.

customizing technology applications for Vietnam (e.g., SNV and ADB biogas projects), technical assistance to R&D institutions (WHO, OECD and UNDP projects), strengthening national innovation system (Finland), establishing technology incubators (InfoDev), and supporting SME technology upgrading (DFID, Danida). The proposed Inclusive Innovation Project will be complementary to these efforts and will focus on developing an ecosystem for an inclusive innovation system based on strong collaboration among RDIs, enterprises, innovators and global research partners to develop, adapt, adopt, upgrade and commercialize inclusive technologies/solutions to the targeted BoP population in Vietnam.

10. **Recognizing that the World Bank has several decades of successful worldwide experience in providing support for STI system strengthening, the Government requested World Bank assistance in the pursuit of its STI reform and SME development agenda, including in the area of Inclusive Innovation.** The Bank is supporting the Government's request through a number of AAA and lending operations on innovation system development and SME development,¹⁰ including the policy paper, "Vietnam: Innovation Policy for Competitiveness, Economic Growth and Social Equity" (December 12, 2009), which was prepared in response to the Deputy Prime Minister's (DPM) request; and several projects in the education and STI fields. The projects include: (i) Education Development Policy Loans (DPLs), focusing on the reform of the education sector, including higher education; (ii) Fostering Innovation through Research, Science and Technology Project (FIRST), aimed at improving the national policy framework for S&T, and supporting restructuring of RDIs; (iii) Vietnam Inclusive Innovation Project (VIIP, this project), focusing on supporting inclusive innovation, including strengthening SMEs' technological and innovation capacity, with the twin objectives of helping to reduce social disparities and improving enterprise competitiveness; and (iv) the Regional Inclusive Innovation Workshop in Hanoi in May 2011, to share global experiences on successful development and commercialization of inclusive technologies.

11. **In discussions during several missions in 2009-2012, the Vietnamese authorities, including the Deputy Prime Minister and the Minister of Science and Technology (MoST), as well as other stakeholders (including RDIs, major universities and the private sector), indicated a strong desire and commitment to pursuing the STI reform agenda, especially with a view to promoting inclusive innovation.**¹¹ Subsequent discussions with the DPM and the Minister of MPI, the Minister of MoST and other officials of MPI during the project preparation missions between October 2010 and December 2012, further reinforced the Government's commitment to the proposed project.

¹⁰ World Bank Policy Paper, "Vietnam: Innovation Policy for Competitiveness, Economic Growth and Social Equity" (December 12, 2009), OECD Report on "Vietnam Science, Technology, and Innovation Review" and World Bank Institute "Rapid Innovation Assessment of Vietnam Innovation."

¹¹ In the discussions with Minister Hoang Van Phong (MoST), he emphasized four important areas of collaboration in Vietnam's development agenda which were discussed between the Vietnamese Prime Minister and Mr. Zoellick, President of the World Bank, during their April 2010 meeting in Washington, DC: poverty reduction; climate change; capacity building for STI; and developing a high-quality education system.

C. Higher-Level Objectives to which the Project Contributes

12. **The proposed project is strongly aligned with two of the three overall pillars of the Vietnam-World Bank Country Partnership Strategy (CPS, discussed at the Board on December 15, 2011).** The three pillars of the 2011 CPS are: Competitiveness, Sustainability and Opportunity. The project is well-aligned with two of the three pillars, namely: Pillar I - “Increased Capacity for Innovation and Value Addition” and Pillar III – “Improved Basic Public Service Delivery and Access”.

13. **The Government of Vietnam recognizes the important role of STI in sustaining economic growth and enhancing social development, and that of SMEs in economic growth and job creation.** In its development strategy, it accords a high priority to building a modern STI system that is comprehensive, of high quality, and responsive to the needs of its modernizing economy and society at large. The Government also believes that STI should be utilized in addressing the disparities in society and be used for improving the quality of life of the BoP. With the aim of continuing to encourage and support SMEs in meeting new requirements in integration and development, the Government issued Decree No. 56/2009/NĐ-CP on June 30, 2009, on financial and technical support to SMEs.

II. PROJECT DEVELOPMENT OBJECTIVES

A. Project Development Objective

14. **The Project Development Objective (PDO) is to adopt, upgrade and develop inclusive innovations for the benefit of the Base of Pyramid population (BoP).** This will be achieved by strengthening Vietnam’s capacity to undertake inclusive innovation, including financing the development, adaptation, adoption, scaling up and commercialization of inclusive technologies, and improving RDIs’ and SMEs’ technological and innovation capabilities.

B. Project Beneficiaries

15. **It is expected that affordable quality technological solutions developed through this project will be made available to improve the quality of life of the BoP (low-income) population.** The beneficiaries of the project include:

- i. **RDIs, enterprises and grassroots innovators:** strengthened capacity to develop, upgrade and adopt inclusive technologies.
- ii. **SMEs:** supported to adopt and absorb technology and innovations or to work closely with R&D institutions to upgrade their technological capabilities and enhance competitiveness.
- iii. **Agencies responsible for SME development policy and inclusive innovation policy:** strengthened capacity in program development, policy coordination, program implementation, monitoring and evaluation.
- iv. **The BoP population:** will benefit both directly and indirectly during and beyond the project life. Grassroots innovators will benefit during the life of the project. In the long-term, the BoP population will be the end-users of the inclusive technologies

developed under the project.

C. PDO Level Results Indicators

16. The following outcome indicators will be used to measure the development objective:

- i. Number of inclusive technologies developed/upgraded that are likely to benefit the BoP.
- ii. Number of inclusive technologies commercialized or scaled up by enterprises that are likely to benefit the BoP.

III. PROJECT DESCRIPTION

A. Project Components

17. The project, with an IDA Credit of SDR 36.7 million (USD 55 million equivalent), consists of the following four components.

18. Component I: Development of Inclusive Technologies (USD12 million). The project will support the development of inclusive technologies that will help address the problems/needs of the BoP population, through competitive grants, based on public calls for proposals and transparent selection criteria. This component will provide support for: (i) developing technological solutions to address a few National Development Challenges (NDCs) that are specific to Vietnam¹²; (ii) developing, acquiring, adapting and upgrading inclusive technologies by R&D institutions, enterprises and grassroots innovators. The project will focus on key priority themes which could have a quick and significant impact on the BoP population and in which Vietnam has a strong tradition, capacity and strategic interest, as reflected in Vietnam's 2011-2020 Social and Economic Development Strategy (SEDS). Under Component I (i), the priority themes to be supported under the project have been selected by a National Development Challenges Council in Vietnam as: (i) Traditional Herbal Medicine (THM); (ii) Information and Communications Technologies (ICT) Applications (as a tool for the delivery of services to the BoP); and (iii) Agriculture/Aquaculture applications. Other themes may be considered during project implementation by the Project Steering Committee (PSC). While developing actual solutions, the project will also provide ancillary benefits in the strengthening of the capacity (see Component III) of the key participating institutions.

¹² The National Development Challenges (NDCs) are identified by the Government as the priority development areas that may generate benefits for the BoP population in Vietnam and in which Vietnam has a relatively strong tradition, capacity, and strategic interest, as reflected in Vietnam's 2011 – 2020 Social and Economic Development Strategy (SEDC). During project preparation, EDA/MPI established a National Development Challenges Council composed of key stakeholders to deliberate on and prioritize key (NDCs and decided on the three themes to be supported by this project. This process was supported with strong capacity building and global partnership (thru Global Research Alliance) provided by the World Bank during project preparation.

19. **Component II: Scale up and Commercialization of Inclusive Technologies (USD33 million).** This component will provide loans and matching grants to private enterprises for upgrading, scaling up and commercialization of inclusive technologies. This will include: (i) support enterprises (SMEs and large enterprises) for scaling up, commercialization and sustainable production of inclusive technologies dealing with manufacturing of products and delivery of services for the BoP; and (ii) funding to private sector SMEs¹³ for the acquisition, adoption and use of technology and innovations in priority areas with significant potential for technological upgrading and growth.

20. **The general eligibility criteria for sub-project selection under Component I and II include:** a) existing or new technologies applicable to Vietnam; b) readiness for adoption/adaptation and cost reduction potential; c) providing solutions to address the needs of the BoP that are affordable, durable, and environmentally friendly; d) time-bound deliverables with 2-3 years to reach the prototype stage, or having the potential to commercialize in Vietnam within 2 years; e) multi-disciplinary applications of new ideas/technologies; and f) collaboration among RDIs, enterprises, local and international partners, researchers/innovators to ensure quality and commercialization potential. See Annex 2 for details on funding arrangements and sub-project selection criteria.

21. **Component III: Capacity Building and Global Knowledge Transfer (USD7 million).** The project will support capacity building of key Vietnamese national institutions¹⁴ such as the National Institute of Medicine Materials (NIMM), the National Hospital of Traditional Medicine (NHTM), NAFOSTED, Vietnam Academy of Sciences and Technology (VAST), Hanoi University of Science and Technology (HUST) for the sustainable development and delivery of inclusive technologies in the priority areas supported under the project: a) enhancing technology, quality and clinical trials of traditional herbal medicine products; b) enhancing innovation grant management capacity; and c) enhancing capacity in technology transfer and commercialization, and intellectual property rights protection.

22. **Component IV: Project Management, Monitoring and Evaluation (USD3 million).** The project will provide support to EDA PMU and PIUs in NAFOSTED and PFIs for project management, coordination, capacity building, oversight, monitoring and evaluation, reporting and audits to enable them to perform their responsibility for project coordination and management.

B. Project Financing

Lending Instrument

23. **The project's main instrument is a Specific Investment Loan (SIL) with an IDA Credit of SDR 36.7 million (USD 55 million equivalent),** of which about USD 20 million will

¹³ SMEs are those defined in Decree 56/2009/ND-CP dated 30 June 2009.

¹⁴ These institutions have the mandate, track record and commitment to developing inclusive technologies and solutions in Vietnam and received substantial capacity building during project preparation.

provide financial support to technology development through grant financing; USD 25 million will be channelled through a financial intermediary loan (“FIL”) to participating financial institution(s) (PFIs) for on-lending to eligible enterprises (mainly SMEs); and USD 10 million for capacity building, project implementation, monitoring and evaluation.

Project Cost and Financing

Table 1. Project Cost and Financing

Project Components	Project cost (USD million)	IDA Financing (in USD million)	% IDA Financing
I. Developing Inclusive Technologies	12.000	12.000	100
II. Scaling up and Commercialization of Inclusive Technologies	33.000	33.000 ¹⁵	100
III. Capacity Building and Global Knowledge Transfer	7.000	7.000	100
IV. Project Management, Monitoring and Evaluation	3.625	3.000	83
Total Project Costs	55.625	55.000	99

C. Lessons Learned and Reflected in the Project Design

24. **The Bank has designed and implemented many STI projects in all parts of the world.** Some of these projects were quite simple, while others included a number of components in order to capture synergies in various tools and mechanisms to have a wider development impact. Some of the lessons from these projects include: (i) science, technology and innovation projects by nature are more complex than typical investment projects, as they involve multiple sectors and require coordination among multiple stakeholders; (ii) they need to have a strong champion and the commitment of governments and participating agencies; (iii) project implementation should be decentralized to autonomous professional institutions who have the proper mandate and capabilities; (iv) the roles and responsibilities of each institution should be clearly defined; (v) the project should include a strong M&E framework with independent and periodic impact evaluation; (vi) sub-projects to be supported should be sound, both technologically as well as commercially; (vii) capacity building of participating institutions should start at an early stage; and (viii) collaboration between relevant stakeholders, as well as with global partners is crucial to the sustainability of project.

25. **Project design incorporates the above lessons:** (i) the Deputy Prime Minister in charge of Science and Technology has been a strong champion of the project. Further, several ministries such as MPI, MoST, Ministry of Finance (MoF), Ministry of Health (MoH), and other agencies have repeatedly expressed their strong interest and support for the project; (ii) A Project Steering Council (PSC) for policy coordination will be chaired by the Deputy Prime Minister and joined by key ministries; (iii) The project will focus on a few priority themes which could have a quick impact on the BoP population and in which Vietnam has a strong tradition, capacity and

¹⁵ USD 33 million is comprised of USD 25 million for sub-loans and USD 8 million for sub-grants.

strategic interest, as reflected in Vietnam's 2011-2020 SEDS; (iv) As explained earlier, the project will use a pilot approach to reduce risk, focus on achieving a few early wins and scaling up a few pilot technologies, while building long-term capacity in selected national institutions to carry out inclusive innovation in Vietnam; and (v) In order to expedite the development of high-performance and cost-effective solutions, collaboration with appropriate global R&D organizations has been built into the early stage of project preparation and implementation arrangement.

26. Project implementation will adopt a decentralized approach to involve the professional science and technology program management institutions such as the National Foundation for Science and Technology Development (NAFOSTED) to manage the selection of sub-projects with the support of an independent Technical Review Panel. Selection of sub-projects will follow the detailed eligible criteria developed in line with the project development objectives. At the same time, procurement, supervision, monitoring and evaluation for other project components is centralized at EDA to ensure that fund management meets the fiduciary requirements of the World Bank.

IV. IMPLEMENTATION

A. Institutional and Implementation Arrangements

27. Based on the detailed assessment of Vietnamese institutions' mandates and capacities and expected role under the project, the implementation arrangements will be as follows (Detailed Project Implementation Arrangement can be found in Annex 3):

- (a) The Ministry of Planning and Investment (MPI) is the line ministry designated by the Government to be the primary executing agency for the project.
- (b) The Enterprise Development Agency (EDA) of MPI has the overall responsibility for project preparation, coordination, monitoring and evaluation, and implementation oversight of the project.
- (c) A Project Steering Council (PSC) has been set up by the MPI (official letter No. 1762/BKHDT-PTDN) to provide overall advice and guidance to the Project Implementing Agencies (PIAs) and to facilitate inter-agency coordination and engage at a high policy level. Official establishment of the PSC is subject to ratification by the Prime Minister no later than one month after effectiveness. The PSC is chaired by the Deputy Prime Minister and joined by senior government officials from relevant ministries and relevant agencies. The Director General of EDA will be the Secretary of the Council. The Council is expected to meet semi-annually to review project progress and provide advice on related policy and coordination issues, but will not be involved in day-to-day operations or decision making for the project.

- (d) A Project Management Unit (PMU) has been established in EDA to oversee the implementation of the project. The PMU will review the procurement plans of participating agencies and process disbursement for activities under Component III, and will implement Component IV of the project.
- (e) The National Foundation for Science and Technology Development (NAFOSTED) will be the implementation agency for Component I and the administrator of grants under Components I and II. A PIU has been set up in NAFOSTED for this purpose. A Grants Manual detailing the sub-project selection criteria, monitoring and evaluation framework has been developed by NAFOSTED for Components I and II. NAFOSTED will provide regular reporting to EDA PMU on the progress and issues concerning Components I and II.
- (f) Under Component II, sub-loans will be provided to qualified enterprises through participating financial intermediaries (PFIs). PFIs have been selected based on agreed eligibility criteria that comply with World Bank OP8.30. The selected PFIs will be responsible for developing sub-loan credit review procedures. They have set up PIUs and will coordinate with the NAFOSTED PIU (which will administer the matching grants) to share information during the sub-project review and implementation process. PFIs and NAFOSTED will make their decisions independently. Details of PFI selection and sub-loan criteria are provided in Annex 2.
- (g) A Technical Review Panel (TRP) will review the sub-project proposals for innovation grants under Components I and II and make recommendations to NAFOSTED on the selection of the sub-projects based on the agreed selection criteria.

B. Results Monitoring and Evaluation

28. **EDA PMU will be responsible for the monitoring and evaluation (M&E) of the Project.** EDA PMU will, with assistance from international and local experts, develop a comprehensive M&E framework to measure project outputs and outcomes/impact which will include regular reporting on project implementation progress and compliance with relevant regulations and guidelines in project financial management, procurement and environmental safeguards, as well as periodic surveys of final beneficiaries on project impacts. The detailed M&E arrangement is discussed in Annex 3.

C. Sustainability

29. **It is expected that relevant RDIs, enterprises and project implementing agencies will build up the appropriate institutional capacity to carry out the inclusive innovation program after the completion of this pilot program, with a strong capacity-building component and global partnership supported under the project, a strong commitment of the Government to promoting the inclusive innovation agenda as part of its national development strategy, and strong management commitment of the implementing agencies.** The Government has demonstrated its commitment by allocating increased funding to MoST and NAFOSTED for various STI programs. With enhanced capacity of the key national research and service institutions through the technical assistance and global knowledge transfer programs in the project, it is expected that these key institutions will continue to carry forward the inclusive

innovation agenda after the project. It is also expected that future public and private, as well as donor, funding may be attracted to provide funding to enterprises/SMEs for later stages of product development, once the inclusive innovation program starts to demonstrate commercial viability.

V. KEY RISKS AND MITIGATION MEASURES

A. Risk Ratings Summary

Stakeholder Risk	Moderate
Implementing Agency Risk	
- Capacity	High
- Governance	Substantial
Project Risk	
- Design	Substantial
- Environmental	Low
- Social	Low
- Program and Donor	Low
- Delivery Monitoring and Sustainability	Substantial
Overall Implementation Risk	Substantial

H: High; S: Substantial; M: Moderate, L: Low

B. Description

30. **The project overall risk is substantial due to the several factors:** (a) multiple stakeholders and complex inter-governmental agency coordination; (b) novelty of concept of “inclusive innovation” in Vietnam; and (c) lack of experience with Bank-funded projects by project implementation agencies.

31. **Appropriate measures have been put in place during preparation and implementation to strengthen continued information-sharing among stakeholders, improve institutional capacities, including facilitating knowledge transfer and global partnership for implementation agencies and key stakeholders in Vietnam.** See Annex 4 – ORAF for details.

VI. APPRAISAL SUMMARY

A. Economic and Financial Analyses

32. **Overall, given the importance of externalities in technology development efforts and our limited ability to measure these externalities (as the literature on innovation has analyzed substantially), it is not feasible to measure project-specific rates of return (such as net present value and financial rate of return) or accurate estimations of the benefits that might flow from the proposed investment.** Where evidence can be found in the existing empirical literature in this area, plausible ranges for rates of return are quite substantial.

33. **“Inclusive Innovation” is recognized by senior Government officials as an important tool to help reduce growing disparities in society and for improving the competitiveness of Vietnam by lowering costs of products, and expanding markets and opportunities for small businesses.** The proposed project supports the objectives of SEDP 2011-2015 and focuses on demonstrating to the Vietnamese Government, enterprises and R&D community how an inclusive innovation program can be effectively designed, implemented, monitored and evaluated through a pilot approach.

34. **A cornerstone of the justification for supporting inclusive technology development targeted for the benefit of the BoP population is the public goods nature of such technology development, upgrading and commercialization, due to the high risks and spillovers from such efforts, as well as its social equity-related benefits.**¹⁶ The economic benefits of the project can only be presented in a qualitative manner, as the sub-projects are not pre-identified.

35. **The expected immediate benefit of the project is that an ecosystem for inclusive innovation can start to take shape in Vietnam, and the capacities of the project-supported institutions are enhanced:**

- ***Benefits to the BoP population:*** The BoP population at large will benefit from the development and production of affordable quality products that address their needs. The ideas for inclusive innovation may well come from the grassroots innovators as well. Collaboration with researchers and enterprises will enhance the market potential of their new ideas and inventions. Participation of the BoP population in the inclusive innovation process is an important feature of the ecosystem of inclusive innovation.
- ***Benefits to project implementation agencies:*** Project-supported capacity building programs for EDA, NAFOSTED, and select national research institutions are expected to increase the effectiveness of these institutions and their capacity to support inclusive technology development and commercialization at the national level. Vietnamese R&D institutions will benefit from the global collaboration and partnerships with GRA and

¹⁶ World Bank Policy Paper, “Vietnam: Innovation Policy for Competitiveness, Economic Growth and Social Equity” (December 12, 2009), OECD Report on “Vietnam Science, Technology, and Innovation Review” and World Bank Institute “Rapid Innovation Assessment of Vietnam Innovation.”

other global research institutions.

- **Benefits to Enterprises:** Enterprises are the drivers of innovation. The private sector enterprises, through technological upgrading, innovation and collaboration with R&D institutions, will improve their profitability and competitiveness, and as a result, will be better positioned to lead or participate in inclusive technology development and commercialization.
- **Benefits to PFIs:** PFIs will benefit from enhanced capacity for risk analysis and product development to provide appropriate services to innovation-related projects.
- **Benefits to government:** Government plays an important role in nurturing the inclusive innovation ecosystem. The project provides a strong global knowledge transfer to share global experiences and assist Vietnam Government agencies involved to develop appropriate policy coordination mechanisms through the project implementation. Strong technical support and capacity building has been provided to NAFOSTED on grant management for innovation programs, including development of a crowd-sourcing platform for identifying the national development challenges and forming global collaboration.

36. This project, through the monitoring and impact evaluation system that it will implement, is expected to advance our knowledge base of the private and public benefits of inclusive innovation projects in Vietnam.

B. Technical

37. **Project design.** The project design followed the best practice of innovation projects and key lessons learned in implementing innovation projects in other countries, which include: (i) a detailed assessment of implementation capacity of potential implementation agencies (PIAs) to identify weaknesses and strengths of these agencies; (ii) an action plan for improving PIA's technical and fiduciary capacities incorporated into the Capacity Building components of the project; (iii) knowledge transfer and capacity building activities were carried out during project preparation and will be continued during implementation; (iv) a Project Steering Council chaired by DPM will facilitate inter-governmental policy coordination; (v) Project Operational Manual, Grants Manual and Credit Process Manual have been developed; (vi) a Technical Review Panel will support NAFOSTED in grants sub-project selection; (vii) communications with key stakeholders have been carried out during preparation and will be continued during implementation; and (viii) a pilot approach is adopted to allow "learning by doing," and the lessons learned will be documented during project implementation as part of the project's M&E framework.

38. **Sub-project selection.** Sub-project selection criteria are developed to ensure that project funds will be allocated to support inclusive technologies' development, adoption, transfer or upgrading in Vietnam that address the needs of the BoP population in Vietnam. The sub-project selection procedures are developed following international practices to ensure fair, transparent and competitive selection of sub-projects. A Technical Review Panel composed of technical and

financial experts (local and global) will be set up to support NAFOSTED for reviewing the innovation grant proposals. This Panel will be supported by a group of subject matter specialist peer reviewers.

39. **PFI selection.** PFI eligibility criteria was agreed with MPI and confirmed with SBV and MoF, and due diligence of the potential PFIs were completed during Appraisal in compliance with OP8.30 requirements. The PFIs' performance will be monitored during project implementation and PFIs should meet the minimum eligibility criteria during project implementation. Based on the assessment, VietinBank and VietcomBank were selected by the Government as the PFIs to implement the on-lending component of the project. A full due diligence of VietinBank has been completed by Negotiation. Full due diligence of VietcomBank will be completed during project implementation.

40. **The matching grant design in Component II is based on international best practices, local conditions in Vietnam where private funding for innovation is scarce, and relevant local regulations on promoting technology innovation.** The objective of the matching grants is to share the risks of innovation with the enterprises and PFIs, with the expectation that a limited amount of public funding could induce more private sector investment into inclusive technology development. That said, the matching grant scheme proposed in the project should be viewed as a short-term mechanism that partially finances excessively risky innovation activities that meet the selection criteria of the project. The matching grant scheme is therefore not seen as providing a sub-borrower with unnecessary advantages over its peers in the market, and no market distortion is expected. Moreover a matching grant is intended to help offset additional costs and expenses, so that a beneficiary may have more of a chance to undertake a sub-project that is required to be technologically sound and commercially viable for its own sustainable development.

C. Financial Management

41. **The FM assessment has concluded that the project meets the minimum Bank financial management requirements, as stipulated in BP/OP 10.02.** The key risks identified are: (i) low FM capacity of the beneficiaries of the Grants/Loans; (ii) weak financial reporting and monitoring capacity of the implementing entities; and (iii) no effective internal audit function at the implementing entities. The main actions required are: (i) appointment of acceptable FM staff responsible for the project at EDA PMU, NAFOSTED PIU and VietinBank PIU, and FM training provided to FM staff at EDA PMU, NAFOSTED PIU and Vietinbank PIU by Negotiation; (ii) development of an acceptable Financial Management Manual providing FM regulations and procedures for all implementing agencies by Negotiation; (iii) development of an acceptable accounting application/software at EDA within six months after signing of the Financing Agreement; and (iv) confirmation of the Internal Audit arrangement and acceptable Terms of Reference by Negotiation (see Annex 3 for the detailed assessment). The actions (i), (ii) and (iv) have been completed.

D. Procurement

42. **Procurement under Components 1 and 2 will be undertaken by the respective beneficiaries (SMEs, R&D institutions, enterprises and grassroots innovators) of the grants**

or loans to be awarded under these components. NAFOSTED PIU and the Participating Financial Intermediary Institutions (PFIs) are primarily responsible for administering and overseeing the implementation of Components 1 and 2, including the procurement performance of those beneficiaries. Procurement under Components 3 and 4 will be implemented by EDA PMU. A procurement risk assessment was conducted and the following key risks in procurement have been identified during project preparation: (i) the allocation of procurement accountabilities and responsibilities for NAFOSTED and PFIs was unclear and not yet mandated; (ii) the procurement function was not yet organized and procurement staff not appointed in all agencies; (iii) the agencies and their staff lacked experience and understanding of Bank procurement rules and procedures; (iv) a realistic procurement plan for the first 18 months was not available; and (v) there was no effective procurement oversight system in place. Risk mitigation measures have been agreed with the Government at Appraisal, and some have been implemented by Negotiation and others will be carried out during implementation as follows: i) to engage qualified procurement specialists and consultants in PMU and PIUs; ii) develop detailed procurement procedure guidelines in the Project Operational Manual by Negotiation, which specifies the responsibility of NAFOSTED and PFIs in procurement; iii) provide procurement training to PMU and PIU procurement specialists; and iv) engage an independent procurement consulting firm or individual consultant to carry out a procurement audit for Components I and II.¹⁷ The summary of the project procurement arrangements, applicable methods of procurement and review of procurement decisions by the Bank is described in Annex 3.

E. Social (including Safeguards)

43. No social safeguard review is triggered for this project.

44. **The overall social impact of the project should be positive due the nature of inclusive innovation, which should address the needs of the BoP population and should be affordable, durable, environmental friendly and bring socio-economic benefits to the BoP.** The selection criteria for sub-projects under Components 1 and 2 include a screening of potential socio-economic benefits of the proposals. The project is a national project, not focused on any region or area. Final target beneficiaries are the BoP population and not any specific ethnic group. The project deals with institutions such as research institutions of traditional herbal medicine, not individual growers, with respect to Traditional Herbal Medicine (THM).

45. **Gender.** The project is expected to have a positive impact on women due to the nature of inclusive innovation. The project design itself is based on the principle of transparent and competitive selection of sub-projects in line with the project development objectives; thus the screening process of sub-project selection will ensure that only those projects with positive socio-economic benefits (including benefits to women) will be funded. The PMU will develop a communications strategy to ensure that women are informed and invited to participate as well. It is unlikely to measure the potential impacts of the project on women at the appraisal stage; however, beneficiary surveys will be conducted as part of the M&E framework to capture

¹⁷ The sample size for the procurement audit is no more than 20% of the total number of sub-projects under Components I and II.

gender-related data.

F. Environment (including Safeguards)

46. **By design, the project will not trigger any Bank safeguard policies except for OP 4.01 – “Environmental Assessment” and will not finance technologies or activities which cause significantly adverse or irreversible environmental impacts.** Screening mechanisms have been specified in the Project Operational Manual to exclude ineligible sub-projects regarding social and environmental perspectives.

47. **The project triggers OP/BP 4.01 Environmental Assessment, due to the potential adverse environmental and social impacts associated with supported innovative sub-projects under Components 1 and 2, and upgrading activities of laboratories from two institutions under Component 3.** Given that the exact nature and location of innovative sub-projects under Components I and II are not identified prior to appraisal, the relevant impacts associated with these sub-projects are mostly unknown. The known impacts may include safety issues and disposal of waste from RDTIs and SMEs during sub-project implementation and operation. The laboratory upgrading activities under Component III may result in minor, short-term impacts during implementation, including generation of noise, dust, waste and safety concerns; and during operation the issue of waste management and laboratory safety.

48. **The project is not expected to have significant environmental impacts and has been categorized as B.** The sub-projects’ potential impacts, if any, are expected to be localized, minor and can be managed through good design and management practice during implementation and operation.

49. **To address potential impacts arising from project implementation, EDA, the implementing agency under MPI prepared an Environmental and Social Management Framework (ESMF).** The ESMF, acceptable to the Bank, has been approved by MPI and has been included in the Project Operation Manual. The ESMF will be used by project implementing agencies, i.e., NAFOSTED, EDA and PFIs, to ensure safeguard compliance with both government regulations and World Bank safeguard policies by the sub-projects supported under the proposed project.

50. **Public Consultation.** During the ESMF preparation, meaningful consultations with related stakeholders were conducted. Feedback from consultations has been incorporated into the final ESMF. On December 12, 2012, the final draft ESMF has been disclosed locally in Vietnamese on EDA, NAFOSTED offices/websites and the Vietnam Development Information Center (VDIC), and in English at the Infoshop in Washington, DC. Details of ESMF content, public consultation and disclosure are described in Annex 3.

Annex 1. Results Framework and Monitoring

Results Framework (Negotiation Stage)

Project Development Objective (PDO):												
PDO Level Results Indicators*	Core	Unit of Measure	Baseline	Cumulative Target Values**					Frequency	Data Source/ Methodology	Responsibility for Data Collection	Description (indicator definition, etc.)
				YR 1	YR 2	YR 3	YR 4	YR 5				
1. Number of pilot inclusive technologies developed/upgraded that are likely to benefit the BoP	<input type="checkbox"/>		0			5	10	25	Annual	Sub-project entities	NAFOSTED, PFIs/PMU-EDA	Inclusive technologies/products funded in Component 1 that have passed the review of Technical Panel in meeting their proposed technical criteria and validated by relevant authority. Gender-specific data at sub-project level will be captured in monitoring reports.
2. Number of pilot inclusive technologies Commercialized that are likely to benefit the BoP	<input type="checkbox"/>		0			5	8	8	Annual	Sub-project entities	NAFOSTED, PFIs/PMU-EDA	Inclusive technologies/products/ services introduced to the target BoP market. Gender-specific data at sub-project level will be captured in monitoring reports.
Intermediate Result (Component One): Developing Inclusive Technologies												
<i>Intermediate Result Indicator One:</i> Number of NDC Solutions funded	<input type="checkbox"/>		0		3	5	6	6	Annual	Sub-project entities	NAFOSTED PMU-EDA	Gender-specific data at sub-project level will be captured in monitoring reports.
<i>Intermediate Result Indicator Two:</i> Number of pilot inclusive technology solutions funded	<input type="checkbox"/>		0		5	10	15	25	Annual	Sub-project entities	NAFOSTED PMU-EDA	Gender-specific data at sub-project level will be captured in monitoring reports.

<i>Intermediate Result Indicator Three:</i> Number of grassroots innovations funded	<input type="checkbox"/>		0		5	15	25	30	Annual	Sub-project entities	NAFOSTED PMU-EDA	Gender-specific data at sub-project level will be captured in monitoring reports.
Intermediate Result (Component Two): Upgrading, Scaling up and Commercialization of Inclusive Technologies												
<i>Intermediate Result Indicator One:</i> Number of pilot inclusive technologies commercialization sub-projects funded	<input type="checkbox"/>		0			5	8	8	Annual	PFI, NAFOSTED	NAFOSTED, PFIs/PMU-EDA	Gender specific data at sub-project level will be captured in monitoring reports
<i>Intermediate Result Indicator Two:</i> Number of SMEs technology upgrading projects funded	<input type="checkbox"/>		0		5	15	25	30	Annual	PFI, NAFOSTED	PFIs, NAFOSTED, PMU-EDA	Gender specific data at sub-project level will be captured in monitoring reports
Intermediate Result (Component Three): Capacity Building and Global Knowledge Transfer												
<i>Intermediate Result Indicator One:</i> Number of laboratories/plants upgraded	<input type="checkbox"/>		0	0		1	2	2	Annual	EDA	EDA	Gender specific data at sub-project level will be captured monitoring reports
<i>Intermediate Result Indicator Two:</i> A network of domestic and /or global organizations formed	<input type="checkbox"/>		n.a.		1	2	3	3	Annual	EDA	EDA	
Intermediate Result (Component Four): Project Management, Monitoring and Evaluation												
<i>Intermediate Result Indicator One:</i> PMU and PIU maintained during the project implementation and staffed with required technical and professional experts according to agreed TORs	<input type="checkbox"/>	%	n.a.	100	100	100	100	100	Quarterly	EDA	EDA	
<i>Intermediate Result Indicator Two:</i> Financial management and procurement management systems established and maintained with FM and procurement professionals engaged throughout the project	<input type="checkbox"/>	%	n.a.	100	100	100	100	100	Semi Annual	EDA	EDA	
<i>Intermediate Result Indicator Three:</i> M&E system established and M&E reports delivered on time		%	n.a.	100	100	100	100	100	Quarterly	EDA	EDA	Impact indicators will be identified in the M&E framework, including impacts on gender.

- n.a. Not applicable

Annex 2. Detailed Project Description

1. The project IDA Credit of SDR 36.7 million (USD 55 million equivalent) will consist of the following four components:

Component I. Development of Inclusive Technologies (USD12 million)

2. This component will support the development of inclusive technologies that will help address the problems of the BoP population, through competitive grants, based on public calls for proposal and transparent selection criteria. While developing actual solutions, the project will also provide ancillary benefits in the strengthening of the overall capacities (see Component III) of the participating institutions. Specifically, this component will provide support to:

- (i) develop technological solutions to address a few National Development Challenges (NDC); and
- (ii) develop, acquire, adapt and upgrade inclusive technologies

3. For activity (i), the project will support R&D for developing solutions for a few NDCs that will address the problems of a significant segment of the BoP. The NDC themes have been identified by an NDC Council established by MPI/EDA during project preparation, with support from the GRA (CSIR–India, which has successful experience in discovery process technology) based on the following criteria: a) existing or new technologies applicable to Vietnam – relevance, readiness, adoption, cost reduction potential (not basic research); b) address the needs of BoP: solutions that are affordable, durable, and environmentally friendly; c) time-bound deliverables: 2-3 years to reach the prototype stage and have the potential to commercialize in Vietnam; d) multi-disciplinary application of new ideas/technologies; e) collaboration among RDIs, enterprises, local and international partners, researchers/innovators; and f) relevant to local conditions, with the potential to be globally competitive. The NDC Council identified the following NDC themes to be supported by the project: 1) Traditional Herbal Medicine; 2) ICT Applications (as a tool for delivery of services to the BoP); and 3) Agriculture/Aquaculture applications. The NDC sub-projects will be closely linked with the priority development challenges identified in Vietnam’s 10-year Social and Economic Development Strategy (SEDS), consistent with the Project Development Objectives. The NDC Council specifically defined the following NDCs under the three themes:

Themes	Specific NDCs to be addressed
<i>Traditional Herbal Medicine</i>	<ul style="list-style-type: none"> • Quality enhancement in the value chain of herbal medicine development including cultivation, production, manufacturing, distribution and marketing. • Technology upgrading for value chain of herbal medicine development including cultivation, production, manufacturing, distribution and marketing with Good Manufacturing Practice (GMP) standards.
<i>Information/Communication Technology (ICT)</i>	<ul style="list-style-type: none"> • Enhance the availability, relevance and access to information and content targeted at the BoP. • Develop/design affordable, durable and user-friendly ICT devices / applications for the benefit of BoP.
<i>Agriculture/Aquaculture Technologies</i>	<ul style="list-style-type: none"> • Develop technology solutions to reduce post-harvest losses in agriculture/ aquaculture products. • Develop clean energy/energy efficient solutions for use by villagers and farmers to improve life quality and productivity. • Improve quality and safety of agriculture/aquaculture products.

4. A public call will be made by NAFOSTED to invite consortia of Vietnamese R&D institutions (RDIs) and enterprises to develop technologies/solutions for the selected NDCs. The potential participants in activity (i) could include the RDIs such as the Vietnam Academy of Science and Technology (VAST), Hanoi University of Science and Technology (HUST), the National Institute of Medicine Materials (NIMM) and other similar R&D institutions and enterprises. The winning proposals from institutions/enterprises will need to commit to developing a pilot/prototype of the inclusive technology solution within a certain time frame (up to two years). The project funds will be provided to the winners in the form of inclusive innovation grants, using a progress-based phasing approach. The grant will also help finance sub-project related specialized lab equipment on a limited basis, but will not support creating or upgrading laboratories in general. The IDA credit will fund 100 per cent of sub-project cost up to a maximum of USD700,000.

5. For activity (ii), the project will provide funds to RDIs, enterprises and grassroots innovators to bring forward existing research and/or prototype technologies for development of (pilot) products up to a level ready for scaling-up and/or commercialization. This would focus on the adaption and upgrading of available research/technologies (both nationally and globally) for faster outcomes at lower cost, and would not include support for new greenfield research (which is funded by Government and other sources through various programs). Applicants will be encouraged to collaborate and utilize already developed domestic and foreign technologies, but would be responsible for securing appropriate licenses. The project funds will be passed on as inclusive innovation grants to take existing technology from the “research” phase to the “development/pilot” phase. The duration of such grants will be 12-18 months, depending upon the nature of the technology involved. Detailed grant criteria have been drafted by NAFOSTED in the Grants Manual for the selection of inclusive technology sub-projects to be funded under

this Component, and will be made available to the public at call for proposal. The IDA Credit will fund up to 75 percent of the total approved sub-project cost, and a maximum of USD 300,000 and USD 30,000 for RDIs/enterprises and grassroots innovation, respectively.

6. The estimated cost for Component I is USD 12 million, approximately USD 5 million and USD 7 million for activities (i) and (ii), respectively. These amounts are notional and will be available for reallocation between activities, depending on the size of sub-projects and demand for these activities. A Grants Manual for the management of grants outlining detailed selection criteria and procedures has been developed by NAFOSTED for each activity under this component (see Annex 3 for details).

Component II. Scale up and Commercialization of Inclusive Technologies (USD33 million)

7. The project will provide sub-loans and matching grants, based on transparent selection criteria to: (i) private enterprises (SMEs or large) for upgrading, scaling up and commercialization of inclusive technologies – to convert pilot inclusive technologies into commercially-viable sustainable production of affordable high-performance products targeted at the BoP market; and (ii) SMEs for upgrading their technological capabilities – acquisition, adoption and use of modern technology and innovation (available domestically or globally) in priority areas with significant potential for technological upgrading and growth.

8. For activity (i), the project will provide support to private sector enterprises to convert pilot inclusive technologies (coming out of initiatives under Component I) into commercially viable and affordable high-performance products for sustainable production. In order to ensure that pilot technologies developed are suitable for production (i.e. commercially viable), the R&D institutions supported under Component I will be required to interact with the relevant business/industry sector in the early stages of taking these products/services from development to pilot stage. The program would be open to private enterprises and would provide support in a broad range of areas such as equipment, quality assurance, testing and scientific validation, protection of intellectual property rights (IPR); global best practices on development and commercialization (such as the provision of a license, for scaling up production of a technology); training, global experts and technology extension services, etc.

9. For activity (ii), the project will provide funding to SMEs for the acquisition, adoption and use of technology and innovation available domestically as well as globally in priority areas with significant potential for technological upgrading and growth. The support will be channeled to the beneficiary enterprises for sub-projects which are technologically sound and commercially viable.

10. The maximum sub-loan size will be up to USD 500,000 with a maturity of 3-7 years and a grace period of 1-2 years. The sub-loan borrowers are expected to cover a minimum of 20 per cent of the total sub-project cost from their own resources. Matching grants will be decided by NAFOSTED based on the recommendation of a Technical Review Panel. Detailed implementation arrangements have been finalized by NAFOSTED and PFI before Negotiations. The matching grant will be 30 percent of the approved sub-project cost and up to a maximum of USD 250,000 for activity (i) and USD 125,000 for activity (ii). PFIs are expected to provide

working capital loans to sub-borrowers in accordance with their own operational policies using their own capital resources, but are also encouraged to co-finance eligible sub-projects.

Sub-loan Terms and Conditions are specified as follows:

Single borrower exposure	No more than USD 1 million on outstanding basis
Maximum sub-loan size	USD 0.5 million
Maturity	3-7 years
LTV	<80%
Grace period for principal repayment	1-2 years
Interest rate	Market based
Free limit	USD 350,000
Debt to Equity Ratio	3:1 maximum
Debt Coverage Service Ratio	1:2 minimum

11. *Eligible Expenditures:* The program will provide support to private enterprises (with majority private ownership) in a broad range of areas such as cost of goods, including equipment purchase or leasing, services, raw materials and operating expenses, technology licensing, technical assistance and incremental permanent working capital, quality assurance, testing and scientific validation, protection of intellectual property rights (IPR), global best practices on development and commercialization (such as the provision of a license, for scaling up production of a technology); training, global experts and technology extension services, etc. No land, civil works or housing will be funded.

12. The estimated cost for Component II is USD 33 million, of which USD 25 million is for the line of credit and USD 8 million for the matching grants. These amounts are notional and will be available for reallocation, depending on demand for sub-projects during project implementation. Detailed grant and sub-loan review and management procedures for this component are described in Annex 3.

Component III. Capacity Building and Global Knowledge Transfer (USD7 million)

13. This component will support capacity building of key Vietnamese national institutions critical for the sustainable development and delivery of inclusive technologies in the priority areas supported under the project. It is expected that the capacity enhancement supported by this component will also provide a stronger inclusive innovation infrastructure to provide better services to innovators, researchers, and enterprises to improve the quality of their inclusive technology, products and services designed and developed for the BoP, which will be supported under Component 1. To this end, funding will be provided for inclusive innovation related capacity upgrading of the project implementation agencies and key national institutions. This will include knowledge transfer, technical expertise, training, study tours, feasibility studies, collaboration and twinning arrangements with global institutions (such as the Global Research Alliance), program design and execution. The funds could be used for equipment, goods, services, consulting services and training, etc. In line with these objectives and based on the core competence available in Vietnam, the following institutions have been identified at this stage as primary participants in Component III: a) National Institute for Medicinal Materials (NIMM) and National Hospital for Traditional Medicine (NHTM) for enhancing technology, quality and

clinical trials of traditional herbal medicine products; b) NAFOSTED for enhancing innovation grant management capacity; and c) VAST and HUST for enhancing capacity in technology transfer and commercialization, and intellectual property rights protection.

14. More specifically, for NIMM and NHTM, assistance will include upgrading of selected laboratories, pilot plants, testing and certification facilities, pilot cultivation facilities, technical assistance, training, twinning, study tours, etc. For institutions such as VAST and HUST, support will include provision of TA, training, and knowledge exchange programs for developing, protection and commercialization of inclusive technologies. The project will also include TA and support for global knowledge transfer to PIAs (e.g. NAFOSTED and PFIs).

15. The NIMM and NHTM will focus their efforts on pilot/lab level THM raw materials farming, R&D and pilot THM production, while transferring knowledge and technologies to the private sector for the commercialization and scaling up of actual TM manufacturing and sale to final consumers. These proposals for modernization are designed with the ultimate goal of creating “National Centers of Excellence” in key selected areas, institutionalize close collaboration between institutions and private sector, and avoid duplication of efforts and facilities in order to create synergies, and maximize utilization of scarce human and financial resources. The specific activities agreed for these institutions are outlined in Box 1 and 2.

Box 1. National Institute for Medicinal Materials (NIMM)

1. Traditional Medicine Quality Control Laboratory

- Setting up a Quality Control (QC) and Quality Assurance (QA) Technical Center for Traditional Medicine (TRM) testing as per the international norms;
- Consolidating and add-on relevant infrastructure for QC and QA facility.
- Train and retrain selected scientific staff for optimum operation of QC and QA Lab for TRM and raw materials.
- Steps for international accreditation of QC/QA facility as a national referral center for all TRM in Vietnam.

2. Centre of Excellence in Traditional Medicine Research and Development

- Consolidate and setup a world class laboratory within the Institute for undertaking research on various aspects of TRM safety and efficacy.
- Prepare chemical and genetic fingerprints of the diverse raw herbs used in TRM in Vietnam.
- Prepare a library of chemical marker compounds specific to the herbs of Vietnam.
- Apply for and obtain new IP rights and or geographical advantage rights for herbs used in TRM of Vietnam.
- Prepare pharmacopeia standards of the TRM of Vietnam.
- Consolidate and add on in-vitro (cell and target based) and in-vivo (small animal based) study protocols for proof of safety, efficacy and novel activities.
- Upgrade small animal facility to good laboratory practice (GLP) compliant standards.
- Set up a green Phyto-Chemistry facility as a support to QC and R&D centres for TRM.
- Upgrade agro-technology facility for upstream/downstream processing of herbal materials used for TRM. Collaboration with relevant national and global institutions.

Box 2. National Hospital of Traditional Medicine (NHTM)

1. Pilot Scale Traditional Herbal Medicine Production Facility

- To gear up and revamp the existing pilot plant as a national current Good Manufacturing practices (cGMP) production facility for selected Traditional Medicine for use in the country more specifically for clinical validation.
- Modernize the in-process QC laboratory for process control purpose.
- Develop necessary mechanism to obtain third party QC certification of products of pilot facility from QC/QA lab set up at NIMM.
- Propagate and facilitate the adoption of GMP culture for TRM among the SMEs.
- Encourage R&D of Pharmaceuticals of Traditional herbs for novel use in healthcare system of the country.

2. Clinical Validation Centre for Traditional Medicine

- Carve out a suitable exclusive area in the National Hospital for clinical testing and validation of the claims of TRM products.
- Develop protocols for clinical trials of TRM for selected target diseases.
- Take steps to get facility approved as authorized centre by the national and international regulatory bodies.
- Adopt the cGCP culture through training of clinicians engaged at the clinical trial centre.
- Prepare phased clinical trial dossiers of international quality acceptable to Pharma regulatory bodies of the Asian and Western markets. Collaboration with relevant national and global institutions.

16. The project will include assistance for the overall capacity building of NAFOSTED to enable it to carry out its expanded role effectively. This will include governance, organization, staffing, skills, as well as policies and operational procedures development required to facilitate the efficient screening, implementing, monitoring and evaluation of its support operations, with special emphasis on the inclusive innovation sub-projects to be funded under the project. Specific activities will include (but are not limited to): developing and implementing the Grants Manual for inclusive innovation sub-projects; establishing and operating the Technical Review Panel, developing appropriate financial management procedures and training staff; developing monitoring and evaluation procedures and tools. NAFOSTED will make appropriate changes in its Board, organization, staffing and policies. It will also engage international experts to assist in carrying out its responsibilities.

17. Capacity building for VAST and HUST will focus on strengthening their technology transfer and commercialization capacity and improving intellectual property rights (IPR) protection procedures. Specific activities will include engaging international experts to assist in developing technology transfer and commercialization strategy, organizational restructuring and staff training; as well as to review the existing IPR procurement and implementation.

18. The cost for Component III is USD 7 million, of which an indicative estimated amount of USD 3.5 million and USD 2.5 million are estimated for the technical assistance to NIMM and NHTM, respectively, and about USD 0.5 million to support NAFOSTED, and another USD 0.5 million for VAST and HUST activities. EDA/MPI will coordinate with the relevant line ministries (e.g. MoST, MoH, etc.) to evaluate the proposals and finalize the allocation during implementation.

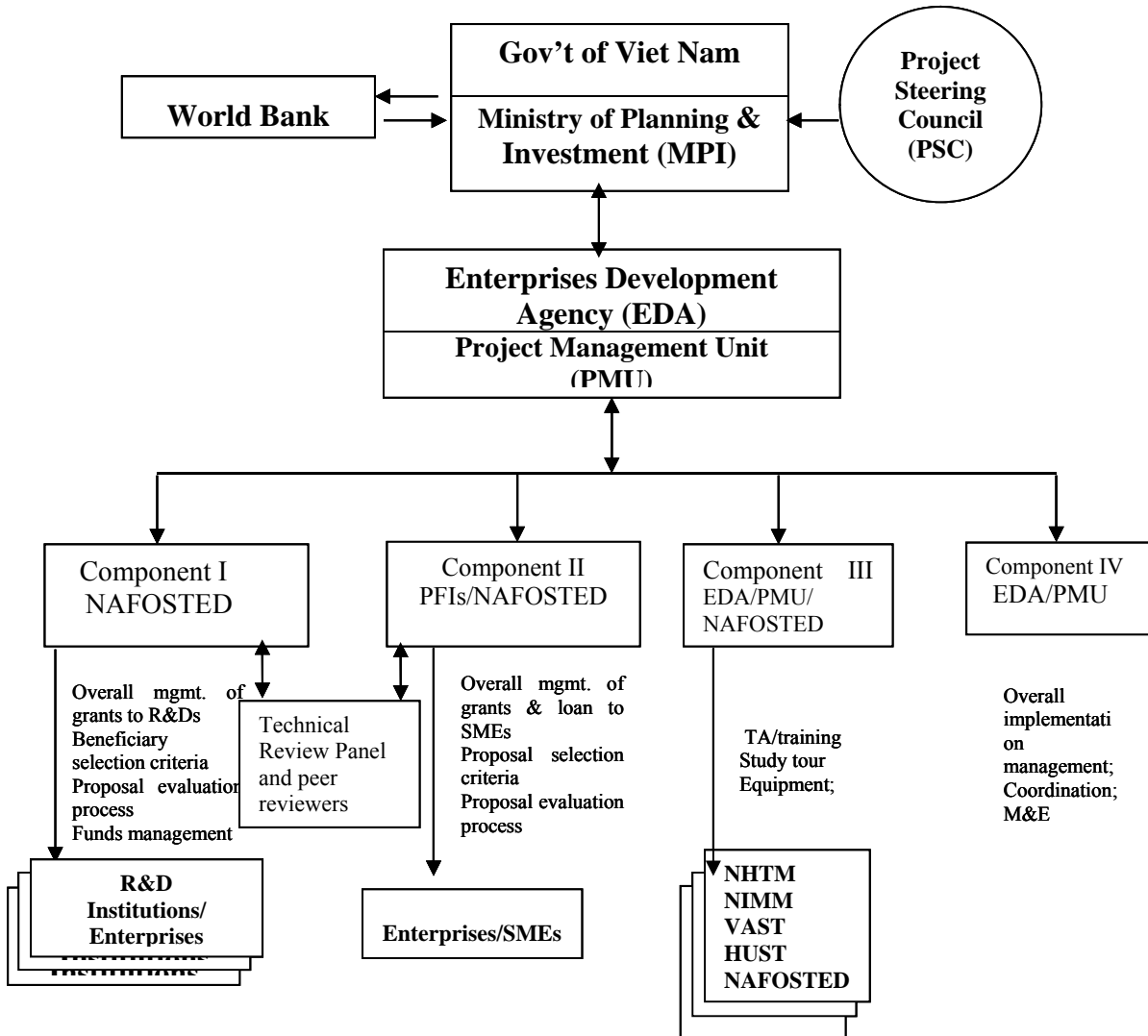
Component IV. Project Management, Monitoring and Evaluation (USD 3 million)

19. The project will provide support for project management, implementation coordination, oversight, monitoring and evaluation, reporting and audits, etc., to enable EDA PMU, NAFOSTED and PFI PIUs to perform their project-related responsibilities. This will include provision of equipment, expert assistance and other enabling support to EDA PMU and PIUs to ensure proper conduct of their responsibilities during project implementation. To this end, an appropriate mechanism will be devised including fiduciary reporting and financial audits. A comprehensive monitoring and evaluation framework will be designed in order to measure effective project progress and its impact. This will include periodic surveys of final beneficiaries of the project. As a significant part of the impact of such projects is realized several years after project completion, arrangements will be made to mainstream the impact assessment as a part of normal program design and implementation in the country through baseline survey and follow-up surveys during project implementation and at project completion. This approach will also provide very useful feedback to policymakers and support institutions in assessing the effectiveness of their policies and program interventions.

Annex 3. Implementation Arrangements and Project Administration Mechanisms

1. **Project Steering Council.** In order to facilitate inter-agency coordination and engage at a high policy level, a Project Steering Council (PSC) has been set up by the MPI (official letter No. 1762/BKHDT-PTDN) to provide overall advice and guidance to the Project Implementing Agencies. Official establishment of the PSC is subject to ratification by the Prime Minister no later than one month after effectiveness. The Council will be chaired by the Deputy Prime Minister, and membership will include Deputy Ministers of MPI and MoST, and representatives of relevant government agencies, the financial sector, the R&D community, the business community and people from the BoP. The Director General of EDA will be Secretary of the Council. The Council is expected to meet semi-annually to review project progress and provide advice on related policy and coordination issues, but will not be involved in day-to-day operations or decision making of the project.

2. **The project will be implemented in a decentralized manner by relevant agencies (based on the content of the programs) under the overall coordination and oversight of EDA/MPI.** Appropriate capacity building measures will be undertaken by respective PIAs during project preparation and implementation in order to enable them to effectively carry out their assigned responsibilities. This will include assignment and training of qualified professional staff, allocation of funding and knowledge sharing activities. To facilitate efficient project implementation, the World Bank will sign Project Agreements with NAFOSTED/MoST and PFIs and set up Designated Accounts for EDA, NAFOSTED and PFI(s). EDA/MPI will sign MOU with NAFOSTED/MoST, and enter into administrative agreements with national institutions/agencies for capacity building activities. The chart below shows the project implementation arrangements.



3. **A Project Management Unit (PMU) established in EDA will have the overall responsibility for project preparation, coordination, monitoring and evaluation, and implementation oversight.** EDA is the government agency responsible for the planning, coordination and monitoring of public support programs for SME development in Vietnam. The EDA PMU will conduct this role in coordination with FERD and other relevant MPI departments, sector ministries (e.g. MoST, MoH), specialized implementation/intermediary agencies (e.g. NAFOSTED, PFIs) and other relevant institutions. Designated project management professionals with relevant skills in financial management, procurement, monitoring and evaluation, and policy development have been assigned to the PMU by the government.

4. **EDA PMU will be responsible for implementation of Component III, including reviewing the procurement plans of participating agencies, financial management and processing of disbursement.** The beneficiary agencies under Component III – NIMM and NHTM and others (i.e. recipients of capacity building assistance) – will develop their technical proposals and procurement plans for their capacity building needs, and submit their plans and requests to EDA for review and processing. All capacity building proposals will require prior no-objection from the World Bank. Implementation of TA plans will be the responsibility of the beneficiary agencies. EDA will supervise, monitor and evaluate the progress of activities under Component III.

5. **EDA PMU will also be responsible for implementing Component IV.** It will develop a work plan for project management, monitoring and evaluation and capacity building for the PMU staff. A Project Operational Manual (POM) which includes financial management, procurement, environmental and safeguards guidelines for project implementation has been developed by EDA and agreed with the Bank and Government. External experts on procurement, financial management, environmental and social safeguards, and M&E will be recruited by PMU to provide technical know-how to the PMU. EDA PMU will develop all the required monitoring and reporting of the project and will provide training to all implementation agencies on the required reporting. In the meantime, EDA will identify capacity building needs in EDA and project implementation agencies to support project coordination and implementation, including coordination on relevant policy development if necessary. PMU's capacity building on M&E will be carried out at an early stage of project implementation to develop specific results indicators and measurement approach to ensure that public funding is channelled to the target enterprises and R&D institutions for the upgrading and development of inclusive technologies. EDA PMU will track the outcomes of the project in accordance with the Results Framework in Annex 1 with inputs from NAFOSTED, PFIs and project beneficiaries. EDA PMU will develop a Baseline Survey within the first year of project implementation. Quarterly Interim Financial Reports (IFRs), quarterly project implementation updates, and Annual Progress Reports of the project will be produced to measure progress against project objectives and results indicators by EDA PMU. EDA, NAFOSTED and PFIs will be responsible for preparing the quarterly IFRs within 45 days after the end of the quarter. A Mid-Term Review will be carried within 24 months after the project effectiveness.

6. **NAFOSTED will be responsible for implementing Component I and administration of grants under Component I and II.** NAFOSTED is a nationally chartered autonomous agency created by the Government to manage public funding in support of STI development,

both for the R&D sector and enterprise innovation. NAFOSTED has set up a Project Implementation Unit (PIU) and will engage an internationally experienced technical advisor to manage activities supported under the project. It will incorporate to its Board a representative of the private sector related to industries involved in the design and implementation of inclusive innovation solutions. It will design sub-project selection, review, supervision and monitoring, and financial management of the grant disbursement. A Grant Manual (GM) detailing the sub-project evaluation and selection criteria, monitoring and evaluation framework for the project has been developed by NAFOSTED (with help from GRA international experts) to guide the implementation of Component I and II. NAFOSTED will be responsible for providing quarterly and annual reporting to EDA on the progress and issues concerning Component I and II. The Bank will prior-review: (i) first two sub-projects under each category, (ii) all NDC sub-projects (activity i); and (iii) all sub-projects of USD 250,000 or higher under Component I.

7. **Under Component II, sub-loans will be provided to qualified enterprises through participating financial institutions.** The Joint-stock Commercial Bank for Foreign Trade of Vietnam (Vietcombank) and Vietnam Joint-stock Commercial Bank for Industry and Trade (VietinBank) have been selected as the PFIs for the project. The selection was based on agreed criteria that comply with World Bank OP 8.30. Other PFIs may be considered after project effectiveness using the same criteria. The PFIs will be responsible for developing credit review procedures for selecting the sub-borrowers and will work closely with NAFOSTED (which will administer the matching grants) to share information on the applicants. The PFIs will evaluate the sub-loan applications and make their own decision about the commercial viability of each sub-project.

8. **Participating Financial Intermediary (PFI) Eligibility Criteria:** The PFI eligibility criteria have been developed based on the best practices of World Bank credit line operations worldwide. The criteria set out minimum standards of financial performance benchmarks that PFIs are required to meet in order to participate in the project. These benchmarks cover the core areas of the financial institutions – management and corporate governance, portfolio focusing with special emphasis on SME business, asset quality, capital adequacy, liquidity, profitability and efficiency which reflect the real financial health and soundness of the eligible PFIs. These benchmarks would be a basic standard for other financial institutions to follow. The minimum PFI eligibility criteria include (but not limited to) at time of project appraisal:

- Has been in operation for more than 10 years;
- Has previous experience with WB/IFC-financed projects;
- Strong commitment and experience in lending to small and medium enterprises (SMEs), and have banking products specifically designed for SMEs;
- Sufficient experience in appraisal and lending in innovation area;
- Has complied with regulations on banking operation and prudential ratios (minimum capital level, CAR, risk management, etc.);
- Has a loan portfolio of good quality: NPL \leq 5%;
- Has established sufficient risk provisioning: provisioning/bad debt \geq 50%;
- Has liquidity ratio \geq 15%;
- With good efficiency and profitability (ROE \geq 10%, ROA \geq 0.5%).

9. The PFIs are expected to maintain their performance against all these minimum benchmark criteria during project implementation (any changes in the banking regulations affecting the criteria will be automatically applied) in order to be continuously eligible to participate in the project (based on Vietnamese Accounting Standards):

- NPL: $\leq 5\%$
- CAR: $\geq 9\%$
- Liquidity ratio: $\geq 25\%$
- ROA: $\geq 0.5\%$
- ROE: $\geq 10\%$

10. **Selection of PFI.** A review of eight commercial banks in Vietnam has been carried out during project preparation and appraisal. The commercial banks' business strategy, plan for the future and the rationale for participation in supporting inclusive innovation activities, as well as their financial soundness, were reviewed in compliance with OP 8.30 requirements and against the selection criteria of the project. EDA has also conducted its own review of PFIs selection as required by government procedures. Based on these reviews, VietinBank and Vietcombank have been selected as the PFIs by the government for intermediation of the project funds to eligible enterprises for technology upgrading, scaling up and commercialization of inclusive technology.

11. **On-lending arrangement with PFIs:** The IDA Credit proceeds will be made available to PFIs in the form of subsidiary loans by the Ministry of Finance (MoF) on a first-come, first-served basis. Terms and conditions will be spelled out in the Subsidiary Loan Agreement (SLA) with each PFI. Sub-loans will be on-lent to private sector enterprises at market rate, with maximum sub-loan size of USD0.5 million and maturity of 3-7 years. PFIs will receive an advance from MoF in the Designated Accounts (DA) set up for the project according to the SLA and PFIs are required to submit to MoF and IDA on regular basis the usage of fund under the DA. Pursuant to Decree 78/2010/ND-CP dated July 14, 2010, on the Government's on-lending mechanism for ODA money, the MoF can on-lend in either a foreign currency or Vietnamese dong subject to a PFI's request and ability to repay. The PFI is not entitled to change the borrowed currency once a subsidiary loan agreement has been signed. The PFIs will be subject to any additional fees and charges if the Bank applies to the original ODA amount during implementation.

12. **Exchange rate risk management:** In case the Vietnamese dong is used, a foreign risk premium will be applicable. Currently, the foreign exchange risk premium is six percent per annum. In both currency cases, the PFIs will underwrite sub-loans to end-borrowers at rates set at their own discretion based on their cost of funds, as well as their assessment of project-specific operational risks and profit margins. The MOF will bear the full exchange rate risk on the IDA lending and the potential credit risks of the PFIs. The PFIs will bear the full credit risk of the end-borrowers. The selected PFI will have its own choice for the currency to be applicable in the subsidiary loan agreement.

13. **Sub-loan and matching grant review procedure:** Sub-loan and matching grant review procedure: To ensure maximum outreach and reduce processing time, it has been agreed among EDA PMU, NAFOSTED and PFIs that a parallel review approach will be adopted for Component II. Specifically, the potential beneficiary enterprises will prepare one sub-project

application providing all information with the required documents. This can be submitted to PFIs, NAFOSTED, and EDA PMU at the same time. PFI and NAFOSTED will carry out credit review and technical reviews of the proposals respectively and independently according to the agreed sub-project selection criteria. Only sub-project applications that meet both the financial and technical review criteria will be eligible for the sub-loan and matching grant under Component II. EDA PMU will establish appropriate mechanism for overall management of the review process to ensure timely processing of the proposals. Detailed review procedures are spelled out in the Project Operational Manual and can be adjusted as found necessary by all parties during implementation. The Bank will prior-review the first two sub-projects from each PFI and sub-projects that involve sub-loans of USD 350,000 or more (not to exceed 15 percent of total number of sub-projects, as per the current norm in other LOC projects).

14. **Final decision of sub-project eligibility for sub-loan, and matching grant amounts will be subject to the PFI and NAFOSTED's final approval, respectively.** Sub-loans will be on-lent by the PFIs to private sector enterprises at market rate, with maximum sub-loan size of USD 500,000 equivalent, maturity of 3-7 years with grace period of 1-2 years, and as such part of the benefit of the longer tenor of IDA funds will be passed on to the end-borrowers. PFIs are expected to provide working capital loans to sub-borrowers in accordance with their own operational policies, but are also encouraged to co-finance eligible sub-projects. The PFIs will decide to whom to lend and terms and conditions of each sub-loan. Disbursement of grants and sub-loans will be made in tranches by NAFOSTED and PFI separately, based on an agreed schedule and conditions specified in each grant and sub-loan agreement with the recipient.

15. ***Agreed sub-project criteria:***

- Sub-borrowers are categorized into: (i) private enterprises (SMEs or large) for upgrading, scaling up and commercialization of inclusive technologies – to convert pilot inclusive technologies (coming out of initiatives under Component I) into commercially viable sustainable production of affordable high-performance products targeted at the BoP market; and (ii) SMEs for upgrading their technological capabilities – acquisition, adoption and use of modern technology and innovation (available domestically or globally) in priority areas with significant potential for technological upgrading and growth.
- Sub-borrowers should be privately-owned (private, limited liability, joint-stock, joint-venture enterprises with private Vietnamese shareholders owning more than 50 percent stake), established and operating under the Law on Enterprises.
- SMEs are the ones defined in Decree 56/2009/ND-CP dated June 30, 2009.
- Sub-borrowers should be eligible for a credit line limit granted by the PFIs and be financially sound in order to honor repayments during the agreed project life.
- Sub-borrowers should contribute at least 20 percent of sub-project eligible costs from their own sources and have sub-project applications in one of the three themes indicated in VIIP.
- Sub-borrowers should have adequate collateral/guarantees as per PFI requirements and be able, in a timely manner, to comply with reporting and monitoring requirements set forth by the PFIs, and be responsible for the correctness of the data/information provided to the PFIs. Sub-borrowers should allow the PFIs to share

data/information with the PMU and the Bank for M&E activities.

- Sub-borrowers should have no more than 80:20 debt equity ratio and no less than 1:2 debt service coverage ratio.

16. **Eligible expenses:** A broad range of expenditures will be covered under Component 1 and II, including costs for equipment purchase or leasing, services, raw materials and operating expenses, technology licensing, technical assistance, and incremental permanent working capital, quality assurance, testing and scientific validation, protection of intellectual property rights (IPR); global best practices on development and commercialization (such as the provision of a license, for scaling up production of a technology); training, global experts and technology extension services, etc. No land, civil works or housing will be funded.

A. Financial Management, Disbursements and Procurement

A.1. Financial Management

17. **A “Substantial” FM risk rating was assigned to the project at the appraisal stage.** The key risks identified are: (i) low FM capacity of the Beneficiaries of the Grants/Loans; (ii) weak financial reporting and monitoring capacity of the implementing entities (EDA and NAFOSTED); and (iii) no effective internal audit function at the implementing entities.

18. **The table below identifies the FM actions required:**

Table 2. Financial Management Actions Required

Action	Responsibility	Implementation status
<u>Staffing:</u> Appointment of acceptable FM staffs responsible for the project at EDA. FM training provided to FM staffs at EDA, NAFOSTED, Vietinbank.	EDA, NAFOSTED, Vietinbank	<i>Completed</i>
<u>FMM:</u> Development of the acceptable FMM which provides FM regulations and procedures for all implementing agencies.	EDA	<i>Completed</i>
<u>Accounting application:</u> At EDA, Development of an acceptable accounting application/ software.	EDA	<i>6 months after the signing of the Financing Agreement</i>
<u>Internal Audit:</u> Confirmation of Internal Audit arrangement and acceptable Terms of Reference of Internal Audit.	EDA, NAFOSTED, first PFI	<i>Completed</i>

19. **The following participation criteria shall be set for the beneficiaries of the project’s grants under Component I and II which should be set in the Project Operational Manual.**

- Staffing: Acceptable FM staff responsible for the sub-project at the Beneficiary shall be appointed. Training of the project FM (by the project team) shall be provided to the FM staff of the beneficiary by the signing of the Sub-grant Agreement.

- FM Manual/Grant Manual: The project FM Manual/Grant Manual shall be adopted by the Beneficiary.
- Accounting application: An acceptable accounting application/software shall be available for the reporting and recording at the Beneficiary, except for the grassroots innovators from whom receipts of eligible expenditures would be sufficient.

20. **The project financial statements will be audited by independent auditors acceptable to the Bank in accordance with TORs acceptable to the Bank.** The cost of the audit will be funded by the project. Furthermore the financial statements of Vietinbank shall also be audited by an auditor acceptable to the Bank in accordance with acceptable auditing standards. The audited financial statements and auditors' reports must be submitted to the Bank within six months of the year's end.

21. **The quarterly Interim Financial Reports (IFRs) will be prepared by EDA, NAFOSTED and Vietinbank using the Aligned Monitoring Tools under Decision 803 of MPI.** The IFRs shall be submitted to the Bank within 45 days of the quarter-end.

22. **Under the project, at EDA PMU, the MPI Inspectorate will act as the Internal Auditor for the project.** At NAFOSTED PIU, an acceptable IA has been appointed who will cover the IA of NAFOSTED and the grants provided under Component 1 and 2. The IA of Vietinbank will cover, under their regular TOR, the IA of the loans under Component 2. The IA audit reports from MPI Inspectorate and NAFOSTED should be sent to the Bank on an annual basis within three months after the end of reporting period.

23. **Retroactive Financing:** No payment will be made for expenditures incurred prior to the date of the Financing Agreement, except that withdrawals up to an aggregate amount not to exceed SDR 3.325 million equivalent may be made for payments made after January 1, 2013 for any Eligible Expenditure under Category 3 (i.e., MPI/EDA's Components 3 and 4) as set out in the table in Schedule 2-Section IV.A.2 of the Financing Agreement.

A.2. Disbursements

Eligible Expenditures

24. **Eligible expenditure means the reasonable cost of goods and services to beneficiaries required for the project to be financed out of the proceeds of the grant and sub-loan and procured, all in accordance with the legal agreements and during the grant/sub-loan disbursing period.** The Bank will account for the eligible expenditures (i.e., records that the eligible expenditures are documented) when the amounts are paid to the beneficiaries of the grants/sub-loan, as there are mechanism/procedures in place by the Project Implementing Entities, with the oversight of the Bank, to ensure the grants/sub-loans are being implemented as planned and the grants/sub-loans funds are being used for the purposes intended.

Designated Accounts and Ceiling

25. **The Advance, Reimbursement, Special Commitment, and Director Payment disbursement methods will be used.** Segregated Designated Accounts (DA) at commercial

banks acceptable to the Bank will be maintained for EDA, NAFOSTED, and the respective PFIs. The DAs will be denominated in United States Dollars (USD). The fixed ceiling of DAs is USD 2 million, USD 4 million and USD 3 million for EDA, NAFOSTED and the PFIs, respectively. Supporting documentation required for documenting eligible expenditures paid from the DA and for reimbursements will be the Statement of Expenditure (SOE) and a list of payments against the contracts that are subject to the Bank’s prior review, together with Records. The frequency for documenting expenditures paid from the DA will be quarterly. Direct Payments will be documented by Records. The Minimum Application Size for Reimbursements, Special Commitments and Direct Payments will be USD 200,000 equivalent.

26. **The project will have a Disbursement Deadline Date (final date by which the Bank will accept applications for withdrawal from the Recipient or documentation on the use of Credit proceeds already advanced by the Bank) four months after the Closing Date.** This “grace period” is granted in order to permit orderly project completion and closure of the Credit Account via the submission of applications and supporting documentation for expenditures incurred on or before the Closing Date. Expenditures incurred between the Closing Date and the Disbursement Deadline Date are not eligible for disbursement, except as otherwise agreed with the Bank.

Table 3. Allocation of the IDA Credit

Category	Amount of the Financing Allocated (expressed in USD million)	Amount of the Financing Allocated (expressed in SDR million)	Percentage of Expenditures to be Financed (inclusive of Taxes)
1.Grants for Components I and II of the Project (NDC Sub grants, Inclusive Innovation Sub-grants and Matching Grants)	20	13.35	100%
2.Sub-loans for Component II	25	16.70	100%
3.Goods, consulting services, non-consulting services, training, incremental operating costs for Components III and IV	10	6.65	100%
Total Cost	55	36.70	

A.3. Procurement

27. **Procurement Implementation Arrangements and Risk Assessment.** Procurement under Components 1 and 2 will be undertaken by the respective beneficiaries (SMEs, R&D institutions, enterprises and grassroots innovators) of the grants or loans to be awarded under these components. NAFOSTED and the Participating Financial Intermediary Institutions (PFIs) are primarily responsible for administering and overseeing the implementation of Components I and II, including the procurement performance of those beneficiaries. Procurement under Components 3 and 4 will be implemented by EDA. A procurement risk assessment was conducted during project preparation and identified the following major risks: (i) the allocation of procurement accountabilities and responsibilities for NAFOSTED and PFIs was unclear and not yet mandated; (ii) the procurement function was not yet organized and procurement staff not appointed in all agencies; (iii) the agencies and their staff lacked experience and understanding of Bank procurement rules and procedures; (iv) a realistic procurement plan for the first 18 months was not available; and (v) there is no effective procurement oversight system in place. The assessment rated the project procurement risk as “High.”

28. **Risk Mitigation Measures.** To mitigate the above risks and build up project procurement capacity, the following actions have been agreed upon with the Government and have been implemented by Negotiation, or will be implemented during implementation. It is expected that after these measures are implemented, the residual risk is expected to reduce to “Moderate.”

Table 4. Procurement Risk Mitigation Measures

	Risk Mitigation Measures/Capacity Building Actions	Responsible by	Implementation Status
1	<u>Organization and Staffing:</u> EDA officially establish a project implementation unit (PMU) with at least one procurement specialist with suitable qualifications.	EDA	Completed
2	<u>Procurement Planning:</u> EDA prepares and submits a Procurement Plan for IDA’s clearance	EDA	Completed
3	<u>Procurement Manuals</u> Prepare and enforce a Project Operational Manual including a hands-on procurement guidance chapter	EDA	Completed
4	<u>Procurement Training</u> Provide procurement training for project staff Hiring consultants for procurement support and contract management	Bank/EDA	Completed during project preparation and implementation
5	<u>Procurement Consultants</u> <ul style="list-style-type: none"> • Hire procurement consultant to support EDA’s procurement under Components 3 & 4 • Hire an independent procurement consulting firm/individual consultants to carry out the procurement audit and verification of price reasonableness under Components 1 and 2 	EDA	Within 3 months after the credit signing Within 12 months after effectiveness

29. **Applicable Procurement Rules.** Procurement for Components I, II, III and IV of the proposed project will be carried out in accordance with the Bank’s “*Guidelines: Procurement of Goods and Non-consulting Services under IBRD Loans and IDA Credits and Grants by World Bank Borrowers*” dated January 2011 (“Procurement Guidelines”), and “*Guidelines: Selection and Employment of Consultants under IBRD Loans and IDA Credits and Grants by World Bank Borrowers*” dated January 2011 (“Consultant Guidelines”), as well as the relevant provisions in the Financing Agreement.

30. **Procurement Methods and Thresholds.** Procurement under Components I and II will follow well-established private sector procurement methods or commercial practices that are acceptable to the Bank and elaborated in the Project Implementation Manual. Procurement under Component III and IV will follow various methods: ICB, NCB, Shopping, Direct Contract (for goods and non-consulting services); QCBS, LCS, CQS, SSS and Individual Consultants (for consulting services) depending on the value and nature of contracts. The specific procurement methods, their application thresholds, and the thresholds for the Bank’s prior review to be used for the proposed project are indicated in the table below:

Table 5. Summary of Procurement Arrangements

Category	Procurement Method Thresholds	Bank’s Prior Review Thresholds*
Goods and Non-Consulting Services		
• Components I and II	Commercial Practices	N/A
• Components III and IV	ICB: >=USD0.5 m/contract NCB*: <USD0.5 m/contract Shopping: <USD0.1 m /contract Direct Contracting (DC): exceptional circumstances	ICB: All NCB: >=USD0.4 m/contract Shopping: No. DC: All
Consulting Services***		
• Components I and II	Commercial Practices	N/A
• Components III and IV	QCBS: preferred method QBS: by nature & complexity LCS: by nature & complexity CQS: <USD0.3 m/contract SSS: exceptional circumstances Individual Consultant (IC): by nature & complexity	QCBS: >=USD0.2 m/contract QBS: >=USD0.2 m/contract LCS: >=USD0.2 m/contract CQS: >=USD0.2 m/contract SSS: All IC: exceptional circumstance

* Subject to change by the World Bank

* Contracts below these Prior Review thresholds shall be subject to Post Review. The Bank will carry out post reviews annually with a minimum coverage of 20 percent of these post-reviewed contracts in terms of number of contracts.

**The NCB procedures shall be those set forth in Vietnam’s procurement laws and regulations, but subject to modifications, waivers, and exceptions as set forth in the “NCB Annex” to the Financing Agreement

***Shortlists for contracts below USD0.3 million/contract may comprise entirely national consultants.

31. **Procurement Plan.** Because of the specialized natures of Components I and II (grants and sub-loans cannot be pre-identified but to be appraised and awarded during project implementation), the Bank’s prior review of the procurement plans for these

components is not required. NAFOSTED and PFIs will be responsible for reviewing and approving their respective grants and sub-loans under these components in accordance with the project procurement requirements stipulated in the Project Operational Manual. For Components III and IV, EDA shall prepare a detailed Procurement Plan for Components III and IV. This Procurement Plan has been reviewed and agreed with the Bank during the financing negotiations. EDA shall update this Procurement Plan throughout the duration of the project at least annually. The Bank shall arrange after project negotiations the publication on the Bank's external website of the agreed initial Procurement Plan and all subsequent updates.

B. Environmental and Social (including Safeguards)

32. **The project triggers OP/BP 4.01 Environmental Assessment, due to the potential adverse environmental and social impacts associated with supported innovative sub-projects under Components I and II, and upgrading activities of laboratories from two institutions under Component III.** Given that the exact nature and location of innovative sub-projects under Components I and II are not identified prior to appraisal, the relevant impacts associated with these sub-projects are mostly unknown. The known impacts may include safety issues and disposal of waste from RDTIs and SMEs during sub-project implementation and operation. The impacts relating to laboratory upgrading under Component III may include minor, short-term impact during construction relating to generation of noise, dust, waste and safety concerns; and during operation, the issue of waste management and laboratory safety.

33. **The project is assigned an Environmental Category B,** as its potential negative environmental and social impacts are expected to be site-specific, varying from low to moderate level, mitigable and manageable through good design and management practices.

34. **As part of project preparation, an ESMF has been prepared by EDA to cover environmental and social impacts arising from implementation and operation of activities under the project.** The ESMF is in accordance with the Bank's safeguard policies and national regulations on environmental assessment and management. The ESMF lays out procedures which include: i) a screening mechanism to exclude environmentally and socially ineligible sub-projects, ii) an impact assessment and development of the Environmental Codes of Practices (ECOPs) which include generic mitigation measures for impacts resulting from laboratory upgrading activities, iii) preparation and clearance of EA documents per government regulations and Bank safeguard policies and for those sub-projects for which EA reports are already available – an internal due diligence of EA reports followed by an EMP preparation as necessary; iv) safeguard implementation, monitoring and reporting; and v) institutional arrangements, capacity building program and costing for safeguard implementation.

35. **The EDA under MPI and NAFOSTED will be the key actors responsible for ensuring safeguard compliance during project implementation.** The capacity of EDA and NAFOSTED regarding safeguard implementation is currently limited. The project will require engagement of qualified environmental specialists in EDA PMU and NAFOSTED PIU to oversee environmental and social safeguard issues, and necessary training will be carried out to strengthen the capacity of EDA PMU and NAFOSTED PIU in implementing safeguards reviews.

36. **Public Consultation.** Meaningful consultations with project key stakeholders including NAFOSTED and EDA during project preparation. Feedback and concerns during consultations have been taken into account and reflected in the final ESMF. The ESMF also specifies when and how public consultation should be carried out for each sub-project corresponding to each innovative technology. The sub-project owners will conduct public consultation to ensure that potentially affected people understand the sub-project and their concerns will be adequately addressed via mitigation measures during sub-project design, implementation and operation.

37. **Disclosure.** A copy of the ESMF in Vietnamese has been disclosed locally at EDA and NAFOSTED offices and the EDA website. The ESMF has been disclosed in English at the InfoShop in Washington, DC and disclosed at the Vietnam Development Information Center (VDIC). The ESMF of the project specifies when and how various safeguard documents of sub-projects need to be disclosed during the sub-project cycle.

38. The implementation arrangement of the ESMF is summarized in the following table.

Table 6. ESMF Implementation Arrangements

No.	Organizations	Responsibilities
1	Ministry of Investment and Planning (MPI)/ Project Management Unit (PMU) under EDA	<ul style="list-style-type: none"> - Responsible for overall coordination of project implementation including ESMF implementation. - Provide training and technical assistance for strengthening capacity for environmental staffs under EDA and NAFOSTED as necessary. - Update the ESMF when required, taking into the lesson learnt during project implementation - Rely on NAFOSTED system to ensure the environmental and social compliance of activities under Component III
2	NAFOSTED's Project Implementing Unit (PIU)	<ul style="list-style-type: none"> - Allocate staff and/or consultants as appropriate to be responsible for ensuring project's environmental and social safeguard compliance of the project under Components I and II. The role of the allocated staffs and/or consultant include but not limited to the followings: <ul style="list-style-type: none"> • Screening, scoping, reviewing and appraisal of environmental documents and monitoring reports from sub-project owners' i.e. granted institutions and financed SME • Monitoring the implementation of mitigation measures by sub-project owners • Report on project implementation including environmental compliance to the PMU and WB • Operation of Peer Review and Technical Review Panel processes • Coordination with PFIs on Component III
3	Participating Financial	<ul style="list-style-type: none"> - Use NAFOSTED system to ensure the social and environmental

	Institution (PFIs)	compliance of sub-loans under Component II
4	Sub-project owners under Components I and II	- To carry out measures to mitigate impacts as specified in approved environmental documents - Self-monitoring and reporting the sub-project implementation, including environmental compliance to NAFOSTED for reviewing
5	Beneficiary institutions under Component III	- To carry out measures to mitigate impacts as specified in approved environmental documents - Self-monitoring and reporting the sub-project implementation, including environmental compliance to EDA for reviewing
6	Local authorities/ DONRE	- Approving Environmental Report (EIA/EPC) and carry out environmental monitoring as mandated by GoV regulations
7	World Bank	- Provide support to PMU, PIU and PFIs in project implementation including ESMF execution

C. Monitoring & Evaluation

39. **EDA will be responsible for the monitoring and evaluation (M&E) of the project. EDA will develop (with help of international and local experts) a comprehensive M&E framework to measure effective project progress and its impact and will include a baseline survey and periodic surveys of final beneficiaries of the project.** EDA will track the desired outcomes of the project in accordance with the Results Framework in Annex 1. Gender-specific data will be collected at the sub-project level during the project evaluation process and in regular monitoring reports. Quarterly Interim Financial Reports (IFRs) and an Annual Project Progress Report of the project will be produced to measure progress of the project against project objectives and results indicators. EDA, NAFOSTED and PFIs will be responsible for preparing the quarterly IFRs within 45 days after the end of the quarter.

40. **For Component I and II, NAFOSTED and PFIs are responsible to monitor the progress on the grant and sub-loan disbursement according to the project operational manual and submit reports to EDA quarterly.** An annual project implementation review will be developed by EDA PMU with inputs from NAFOSTED, PFI and project beneficiaries on project implementation status, compliance to financial management, procurement guidelines and identify potential risks that may cause project delay. As agreed with the Vice Minister of MPI, EDA will also review the grant management mechanism for Component I and II at the end of year one of project implementation and recommend necessary adjustments to be made (subject to no-objection by the World Bank). The Mid-Term Review will be carried out within 24 months into project implementation by EDA and the World Bank, and a project implementation completion review will be carried out by EDA and the World Bank.

41. **Besides annual reports, a baseline survey will be developed at the beginning of the project and follow-up surveys will be carried out during mid-term review and project completion evaluation to assess the outcomes of the projects.** An impact evaluation will be carried out by EDA within 24 months after completion of the project.

42. **Capacity-building on M&E for the Project Management Unit will be carried out at an early stage of project implementation to develop specific M&E measurements**, to ensure that public funding is channelled to the target enterprises and R&D institutions for the development of inclusive technologies and relevant technology upgrading. EDA will also recruit external M&E professionals to support the M&E activities.

D. Role of Partners

Global Knowledge Transfer and Partnerships

43. **The project includes a strong Global Knowledge Transfer and Partnership (GKTP) program with the aim of delivering real-time high quality knowledge transfer and making world class expertise available to Vietnam.** The key driver of delivering GKTP is the partnership with the Global Research Alliance.¹⁸ Under this program, the GRA, based on clear demand from Vietnamese institutions, is expected to: (i) provide technical experts, training, study tours and other knowledge exchange activities (such as round tables and workshops); (ii) offer access to inclusive technologies developed by its member R&D networks; and (iii) take part in a joint technology development program with Vietnamese institutions. As indicated earlier, the project will allocate funding in support of these activities. Specific activities to be supported (to be financed under the project) will be determined based on the clearly identified need of and demand from Vietnamese institutions.

44. **This collaboration with world-class global R&D institutions is critical for building up the capacity of Vietnamese national institutions for the sustainable development and delivery of inclusive technologies in key strategic areas.** This approach will allow Vietnam to kick-start the process, utilizing the experience (including successes and mistakes) of GRA member organizations. This will have the advantage of enabling the recipient institutions to develop pilot technologies, as well as engage in technology transfer and commercialization faster and at lower cost, with reduced risks. It will also have the added advantage of helping to sharpen project focus and demonstrate the value of the new, pioneering concept of inclusive innovation to the Vietnamese institutions, and reduce risks to implementation due to capacity and knowledge constraints.

45. **Under the GKTP program, at the request of the Vietnamese authorities (including the Deputy Prime Minister and the Minister of Science and Technology) several activities have already concluded during project preparation.** These include: (i) a paper provided by the GRA President at the Pharmaceutical Symposium held in May 2010, in Vietnam; (ii) a study tour to India in June 2010 on the herbal drug research process and commercialization; (iii) a

¹⁸ The Global Research Alliance (GRA <http://www.research-alliance.net>), a virtual alliance, represents the combined knowledge and experience of *nine* of the world's leading global R&D networks with 60,000 scientists and engineers. The GRA with the goal of "A Global Knowledge Pool for Global Good" includes organizations from the Northern and Southern hemisphere committed to working on global problems. It is able to draw on the capabilities of 60,000 professional knowledge workers to bring together geographic and intellectual diversity with scientific credibility. Its nine knowledge-intensive organizations provide regional knowledge and the ability to form multi-disciplinary teams with extensive experience (including in policy and program design and execution, R&D, IPR, technology transfer and commercialization, private sector development) that can work anywhere in the world to develop and deliver cost-effective sustainable solutions for the benefit of the BoP population.

Regional Workshop on Inclusive Innovation, held in Hanoi in May 2011 with high-level GRA participation; (iv) meetings with the Minister, MoST and senior management of key national R&D institutions such as VAST, HUST, NIMM, NHTM, NAFOSTED, to share GRA experiences and discuss potential future areas for cooperation; (v) a study tour of a high-level NIMM delegation to India in September 2011 on the traditional medicine research process and commercialization; (vi) assistance by GRA President to NAFOSTED on capacity building, including operating policies and procedures; (vii) technical assistance to NIMM and NHTM on the design of their THM modernization plan; (viii) training of NAFOSTED officials with CSIR-India (GRA member) in October 2011 on the NDC discovery process; (ix) a study tour of a high-level VAST delegation to USA in May 2012 visiting Battelle (GRA member) and universities; (x) a two-day brainstorming workshop with VAST and several GRA entities; (xi) visit of CISRO Australia (GRA member) delegation to Vietnam's Agricultural R&D organizations; (xii) a study tour/training of NAFOSTED, NHTM and EDA officials to India in September 2012 for training on inclusive innovation, and traditional medicine R&D and commercialization.

Annex 4. Operational Risk Assessment Framework (ORAF)

Vietnam: Vietnam Inclusive Innovation Project (P121643)

Stage: Board

Stakeholder Risk	Rating	Moderate					
<p>Description Key stakeholders (Government agencies, RDIs, enterprises, innovators and researchers) had been consulted on the project concept during project preparation, including Government/Borrower, enterprises, relevant ministries, R&D communities, and donors, which have expressed strong support to the project concept and provided inputs to project design.</p> <p>However, inclusive innovation is a new concept and proper information sharing and knowledge transfer among key stakeholders is needed during implementation to ensure sustainability of the project.</p> <p>Market survey on demand is built into the M&E framework. Consultations with R&D communities, SMEs and BoP representatives groups were carried out during project preparation stage.</p>	Risk Management:						
	Government/Borrower:						
	<ul style="list-style-type: none"> Continued communications with the Government agencies and key stakeholders, intensive TA and knowledge transfer during project implementation, and partnership with GRA as technical advisor during project implementation are arranged. A Project Steering Council (PSC) chaired by the Deputy Prime Minister has been set up to provide advice and guidance to the project implementing agencies. Major stakeholders of the project will be represented at the PSC. 						
	Resp.:	Bank	Stage:	Implementation	Due Date:	Frequency:	Status:
Risk Management:							
<ul style="list-style-type: none"> Continued consultation within Bank projects and with donors during implementation to seek synergy and avoid repetition. 							
Resp.:	Bank	Stage:	Implementation	Due Date:	Frequency:	Status:	In Progress
Capacity	Rating:	High					
Description: <u>Technical and implementation capacity:</u> It is	Risk Management:						
	<ul style="list-style-type: none"> Implementation support will be provided to EDA, NAFOSTED and PFI upon project effectiveness on relevant project management procedures and guidelines. 						

<p>the first time for MPI/EDA, NAFOSTED and other participating agencies to implement Bank investment operations. EDA has limited in-house capacity for project management and will rely on external consultants but will take the lead in policy coordination between relevant ministries, RDTIs and agencies. MPI has committed to provide sufficient counterpart funding for project management. NAFOSTED has experience in managing grant program for S&T development projects with well-established program management system and well-trained staff in project proposal review, monitoring and evaluation, and financial management. NIMM, NHTM, VAST and HUST have committed sufficient human resources and R&D capacity to the project and have experience with other international donor projects before.</p> <p>MPI has gained some experience in implementing other donor projects. The Bank team has provided assistance through South-South TF and TA to the EDA, NAFOSTED, NIMM, NHTM and other stakeholders in the project preparation activities.</p> <p>Financial institutions in Vietnam lack experience, technical know-how, system setup and human resources for providing financing to innovation projects (higher risk) and SMEs. There is lack of risk capital in Vietnam and the venture capital industry is yet to be developed</p> <p><u>Procurement</u>: (i) procurement accountabilities and responsibilities for component 1 and 2 subprojects by NAFOSTED & PFIs need to be allocated; (ii) procurement function not yet established and procurement staff not</p>								
	Resp.:	Bank	Stage:	Implementation	Due Date:	Frequency:	Status:	In Progress
	Risk Management:							
	<ul style="list-style-type: none"> • A strong capacity building component (Component III) is designed to strengthen the relevant implementation and management capacity of these agencies to ensure smooth delivery of desired results under the project. 							
<p>MPI has gained some experience in implementing other donor projects. The Bank team has provided assistance through South-South TF and TA to the EDA, NAFOSTED, NIMM, NHTM and other stakeholders in the project preparation activities.</p> <p>Financial institutions in Vietnam lack experience, technical know-how, system setup and human resources for providing financing to innovation projects (higher risk) and SMEs. There is lack of risk capital in Vietnam and the venture capital industry is yet to be developed</p> <p><u>Procurement</u>: (i) procurement accountabilities and responsibilities for component 1 and 2 subprojects by NAFOSTED & PFIs need to be allocated; (ii) procurement function not yet established and procurement staff not</p>	Resp.:	Client	Stage:	Implementation	Due Date:	Frequency:	Status:	In Progress
	Risk Management:							
	<ul style="list-style-type: none"> • Providing necessary technical assistance to financial institutions on assessing relevant financial and technical risks during project implementation. • Leverage existing World Bank projects with financial sector regulators and supervisors to strengthen commercial banks' risk management capacity. • Regular implementation support will be carried out during project implementation. 							
	Resp.:	Bank	Stage:	Implementation	Due Date:	Frequency:	Status:	In Progress
<p>MPI has gained some experience in implementing other donor projects. The Bank team has provided assistance through South-South TF and TA to the EDA, NAFOSTED, NIMM, NHTM and other stakeholders in the project preparation activities.</p> <p>Financial institutions in Vietnam lack experience, technical know-how, system setup and human resources for providing financing to innovation projects (higher risk) and SMEs. There is lack of risk capital in Vietnam and the venture capital industry is yet to be developed</p> <p><u>Procurement</u>: (i) procurement accountabilities and responsibilities for component 1 and 2 subprojects by NAFOSTED & PFIs need to be allocated; (ii) procurement function not yet established and procurement staff not</p>								
	Resp.:	Client	Stage:	Implementation	Due Date:	Frequency:	Status:	In Progress
	Risk Management:							
	<ul style="list-style-type: none"> • Clear and official assignment of procurement accountabilities and responsibilities for NAFOSTED & PFIs are spelled out in the Project Operational Manual; • Timely establishing PIUs; appointing qualified procurement staff and providing hands-on training for them; • Enforcing a clear and hands-on procurement manual as part of the POM; • Agreeing with the Bank a realistic procurement plan (the first 18-month procurement plan has been developed and agreed) • Hiring consultants to support procurement implementation, contract management and audit of sub-projects' procurement performance. 							
<p>MPI has gained some experience in implementing other donor projects. The Bank team has provided assistance through South-South TF and TA to the EDA, NAFOSTED, NIMM, NHTM and other stakeholders in the project preparation activities.</p> <p>Financial institutions in Vietnam lack experience, technical know-how, system setup and human resources for providing financing to innovation projects (higher risk) and SMEs. There is lack of risk capital in Vietnam and the venture capital industry is yet to be developed</p> <p><u>Procurement</u>: (i) procurement accountabilities and responsibilities for component 1 and 2 subprojects by NAFOSTED & PFIs need to be allocated; (ii) procurement function not yet established and procurement staff not</p>								
	Resp.:	Client	Stage:	Implementation	Due Date:	Frequency:	Status:	In Progress
	Risk Management:							
	<ul style="list-style-type: none"> • Appointment of acceptable FM staff responsible for the project at EDA, and FM training provided to FM staffs at EDA, NAFOSTED and Vietinbank. • Enforcing implementation the FMM, providing FM regulations and procedures for all implementing agencies. • Development of an acceptable accounting application/ software at EDA within 6 months after the signing of the Financing Agreement 							

<p>appointed in all agencies; (iii) lack of experience and understanding of Bank procurement rules and procedures by the agencies and their staff; and (v) lack of an effective procurement oversight system.</p> <p><u>Financial Management:</u> (i) low FM capacity of the sub-project beneficiaries of the Grants/ sub-loans; (ii) weak financial reporting and monitoring capacity of the implementing entities; and (iii) no effective internal audit function at the implementing entities.</p>	<ul style="list-style-type: none"> Confirmation of Internal Audit arrangement and acceptable Terms of Reference. 						
	Resp.: Both	Stage: Implementation	Due Date:	Frequency:	Status:	In Progress	
Governance	Rating	Substantial					
<p>Description:</p> <p>Project preparation procedures are quite cumbersome in Vietnam, especially when it comes to approvals from various ministries, including the PM office, MoF, MPI, SBV, plus potentially line ministries (MoST, MoA, MoH), which need to be involved in the approval processes for this project. This has had adverse impacts on the project preparation timeline already and will have an impact on project implementation.</p> <p>Commitment by relevant government agencies is critical to facilitate the needed inter-governmental coordination.</p> <p>Government agencies' intervention in the sub-project selection process may delay the implementation.</p> <p>The risk that the funds are misused by implementation agencies and final beneficiaries is moderate.</p>	<p>Risk Management:</p> <p>Ownership and Decision Making:</p> <ul style="list-style-type: none"> The commitment of DPM, MoF, MPI and MoST Ministers to this project, and desire for quick results, is an asset which will be selectively used to keep the activity on track. The DPM has confirmed to chair the Project Steering Council. 						
	Resp.: Both	Stage: Implementation	Due Date:	Frequency:	Status:	In Progress	
	<p>Risk Management:</p> <p>Accountability and Oversight:</p> <ul style="list-style-type: none"> The sub-project selection process is designed following international best practice to use professional and commercial services, with the overall oversight/supervision responsibilities by EDA PMU. Continued dialogue with the relevant government agencies and policy makers will be carried out through the project supervision and mid-term review. Good cooperation and coordination among related ministries (MPI, MoF, MoST, MoH, etc.) and agencies are required and regulated in project legal and operational documents (operational manual, financing agreement; etc.) 						
	Resp.: Bank	Stage: Implementation	Due Date:	Frequency:	Status:	In Progress	
	<p>Risk Management:</p> <ul style="list-style-type: none"> NAFOSTED and PFI are required to develop a detailed Grant Management Manual and Credit Process Manual before project effectiveness that specify the selection criteria of sub-projects to ensure that the funding is provided to the targeted inclusive technology development that will benefit the poor. The Bank sets prior review thresholds for grants and sub-loans to sample review the high risk sub-projects. A Technical Review Panel will be set up to provide independent review on the technical and financial merits of the 						

	<p>proposals according to the agreed sub-projects criteria.</p> <ul style="list-style-type: none"> • Internal auditing and external auditing of all project implementation agencies required on annual basis. • The procurement plan, the list of approved grant and sub-loans projects, the financial reports will be published to the public. 					
	Resp.: Bank	Stage: Implementation	Due Date:	Frequency:	Status:	In Progress
Design	Rating	Substantial				
Description:	Risk Management:					
<p>Science, technology and innovation projects by nature are more complex than typical investment projects as they involve multiple implementation agencies across different sectors. Therefore, in order to ensure timely and successful implementation of the project and achievement of its development objectives, implementation arrangements are designed using international best practices and experiences suitably adapted to the Vietnamese institutional strengths, capacities, mandates and aspirations.</p> <p>Appropriate measures have been put in place to strengthen institutional capacities, including facilitating partnership with the Global Research Alliance.</p>	<ul style="list-style-type: none"> • Implementation of different project components will be handled by the selected institutions with clear mandates and roles and based on their experience and resources. • The project design provides for significant institutional building assistance. • EDA and NAFOSTED have knowledge of the substantive issues being addressed under the project and can play an effective role in the delivery of the TA components. • The GRA, with its vast worldwide network of resources and successful experience, will bring invaluable conceptual and practical know-how in supporting Vietnamese institutions during the implementation of the project. 					
	Resp: Bank	Stage: Implementation	Due Date:	Frequency:	Status:	In Progress
Social and Environmental	Rating	Low				
Description:	Risk Management:					
The project intends to trigger the development of new technologies and promote them,	<ul style="list-style-type: none"> • The ESMF includes a simple screening mechanism to ensure that potential environmental and social impacts are considered as one of the criteria to determine whether or not a given technology or idea should be promoted. • It would be expected that any innovation that is also environmentally or socially problematic would not qualify for 					

<p>possibly at large scale.</p> <p>To manage potential social and environmental impact, one Environmental and Management Framework (ESMF) has been prepared.</p>	<p>support.</p> <ul style="list-style-type: none"> For those that might qualify but have minor environmental or social impacts, the ESMF also includes environmental management procedures to ensure that appropriate mitigation measures will be implemented at the sub-project level. 						
	Resp:	Client	Stage: Implementation	Due Date:	Frequency:	Status:	In Progress
Program and Donor	Rating	Low					
Description:	Risk Management:						
<p>The project is a “free-standing” pilot program and will be scaled up based on experiences.</p> <p>GRA will be the knowledge partner of the project to support knowledge transfer, global joint research, technology transfer and capacity building activities. GRA has provided technical assistance to Vietnam agencies during the project implementation stage and has committed to providing continued support during project implementation.</p> <p>The project complements the existing Government and donor projects on promoting innovation in relevant sectors. The project can benefit from the outputs of some of the completed projects or provide useful inputs to other ongoing projects.</p>	<ul style="list-style-type: none"> Collaboration with global partners are encouraged during implementation. Project information will be shared with GRA members during project implementation. 						
	Resp.:	Client	Stage: Implementation	Due Date:	Frequency:		
Delivery Monitoring and Sustainability	Rating	Substantial					
Description:	Risk Management:						
<p>The delivery quality of the project depends on the readiness of implementation agencies to</p>	<p>In order to facilitate inter-agency coordination and engage at a high policy level, a Project Steering Committee has been established to provide overall advice and guidance to the implementing agencies and facilitate policy coordination. The Chairman of this Committee would be a high-level official with membership of heads of implementing agencies and high-</p>						

<p>apply new concepts and operational management procedures so as to effectively use the funds made available to reach the target population.</p> <p>"Inclusive Innovation" is a new concept and sustainability of this project will depend on ongoing commitment of the Government to develop an enabling policy environment, infrastructure and incentive for R&DI and enterprises and the BoP population to participate and collaborate. M&E of project and impact evaluation needs to be well-developed for future project and policy development.</p>	<p>level officials from relevant ministries such as MPI, MoST, and MoH, etc.</p> <p>M&E experts will be recruited to develop M&E framework, baseline survey and carry out project monitoring and impact evaluation after project completion.</p>							
	Resp.:	Client	Stage:	Implementation	Due Date:	Frequency:	Status:	In Progress
	Risk Management:							
	<p>Strong capacity building for implementing agencies has been built into the project design in order to enable them to effectively carry out their assigned responsibilities. In addition, partnership with GRA will provide further technical assistance for capacity building.</p>							
Resp.:	Bank	Stage:	Implementation	Due Date:	Frequency:	Status:	In Progress	
Implementation Risk Rating: Substantial								
<p>Comments:</p> <p>The project overall risk is substantial due to factors including: (a) multiple stakeholders and complex inter-governmental agency coordination; (b) the new concept of "Inclusive Innovation" in Vietnam; and (c) lack of experience with Bank-funded projects on the part of the project implementation agencies.</p> <p>However, risks can be mitigated by putting into place appropriate measures during preparation and implementation to strengthen continued information-sharing among stakeholders, improve institutional capacities, including facilitating knowledge transfer and global partnership with the Global Research Alliance (GRA) for implementation agencies and key stakeholders in Vietnam.</p>								

Annex 5. Implementation Support Plan

Strategy and Approach for Implementation Support

1. The implementation support plan (ISP) has been developed taking into account the risks identified and the agreed risk management measures listed in the ORAF (see Annex 4).

The key drivers of professional support on project implementation are: a) the lack of experience of the PMU and participating institutions in World Bank projects; and b) complex coordination needed in project implementation. To enhance learning and ensure timely delivery of the project activities, international expertise and third party professional services in procurement, financial management, M&Es would be used at the same time to build up capacity of the PMU and PIUs.

Implementation Support Plan

2. The project has designed the following implementation support at different stages of the project:

Time	Focus	Skills Needed	Resource Estimate (per year)
First 12 months	Project Launch workshop with stakeholders	Project Supervision Team	3 SW
	Project Management Training and supervision: Project Operations Manual (POM) implemented by PMU, NAFOSTED and PIUs – for grant and LoC sub-projects reviews etc.	Innovation Specialist and Financial Sector Specialists	10 SW
	Procurement Training and supervision: Project procurement for the first 18 months implemented Procurement Advisor recruited	Procurement Specialist	3 SW
	Financial Management training and supervision: Financial Management Manual developed and implemented by EDA PMU, NAFOSTED PIU and PFI	Financial Management Specialist	3 SW
	Environmental safeguards training and supervision: Environmental and Social Management Framework (ESMF) implemented by EDA PMU,	Environmental Specialist	3 SW

	NAFOSTED PIU and PFI PIU in project screening		
	Monitoring and evaluation training and supervision: M&E framework for the project developed and first semi-annual review completed	M&E and Impact evaluation Specialist	2 SW
12-48 months	Mid-term review: Assessment of project progress completed	Financial Sector Specialists and Innovation Specialists	4 SW
	Project Supervision	Financial Sector Specialists and Innovation Specialists	10 SW
	Procurement: Reduce delay in procurement and revise procedures if necessary	Procurement Specialist	3 SW
	Financial Management: Annual Financial Statement review and auditing report review	Financial Management Specialist	3 SW
	Policy Development: Continued policy dialogue with main stakeholders to promote policy development on inclusive innovation	Financial Sector Specialists and Innovation Specialists	4 SW

Annex 6. Relationship between Fostering Innovation through Research, Science and Technology Project (FIRST) and Inclusive Innovation Project (VIIP)

This annex outlines the complementarities and synergies between the Vietnam Inclusive Innovation Project (VIIP) and the Vietnam Fostering Innovation through Research, Science and Technology Project (FIRST) which are coming into the Vietnam portfolio at the same time.

A. Vietnam's Innovation Challenges and Bank response

1. Vietnam has had a long history of government investment in S&T, with a scientific research system modeled on the Soviet Union and its Eastern European neighbors. This system has had a fair degree of success in some areas such as theoretical physics and mathematics and agricultural research. However, the overall level of investment in R&D in Vietnam has been very low by international (or even its peers) standards and enterprises generally have not perceived innovation as pathway to greater profitability or growth. At the same time, in recent years there has been increasing evidence that a key element of international competitiveness is a country's innovation ecosystem, which includes Government Research Institutes (GRIs), research universities and enterprises and the overall resource and policy environment. The ecosystem includes as well the network of linkages between the various elements and the consumers or citizens who benefit from innovative outputs in the form of better and cheaper products and a safer and more resilient natural environment.

2. In this context, Vietnam has set out to meet the pressing STI challenges on multiple fronts. *First*, Vietnam seeks to reform and modernize the education sector, starting from early childhood, through basic and higher education, helping to generate the human resources with the skills required for a modern innovation fueled economy. *Second*, Vietnam seeks to bring about a reform of the policy and institutional environment under which STI takes place, providing incentives and resources for GRIs to become market-oriented and to upgrade the level and quality of R&D and innovation done by enterprises. *Third*, Vietnam seeks to bring dynamism into the productive sectors of the economy, so that the investments in STI lead to innovative products and solutions that lead to new jobs and improved quality of life for all citizens, especially those who have are still financially vulnerable.

3. The Bank has a deep engagement with the education sector in Vietnam – to respond to the first set of challenges with the ongoing School Readiness Promotion Project, School Education Quality Assurance Program, Global Partnership for Education - Vietnam Escuela Nueva SRPP and Higher Education DPL series. The FIRST and VIIP projects together address the second and third set of challenges, with FIRST focused on the policy and institutional issues and VIIP addressing innovations focused on the “Base of the Pyramid” or BoP population.

B. Consideration of an alternative option of a single project

4. The Bank and Government teams have discussed and considered the option of combining the FIRST and VIIP projects with a view to reducing transactions costs and enhancing development effectiveness. However it was decided to maintain the two projects due to the

following considerations: (i) *Novelty of BoP innovation*: While government intervention in BoP innovation has been successfully attempted in other contexts such as Africa and South Asia, it is a new concept for Vietnam, where there is greater familiarity with frontier innovation – which is concerned with development of new products and processes through investment in scientific and technological capabilities overall. The relationship between STI and poverty that is uniquely treated in VIIP requires a dedicated policy engagement that would not have been possible if BoP innovation were merely a component of a larger innovation project; (ii) *Institutional Capacity*: While MOST does have a central role in managing the STI strategy for Vietnam, its capacity would be stretched too thinly if it were in charge of a combined potential BoP and frontier innovation project. The proposed implementation arrangement under these two projects allows the FIRST PMU based at MOST to focus on frontier innovation at the same time as the VIIP PMU based at the MPI-EDA focuses on BoP innovation. VIIP also benefits from the implementation of specific components by NAFOSTED with partner PFIs which have direct experience working with SMEs who service the BoP population under the oversight of EDA. Combining all these elements into implementation arrangements for a single project would generate tremendous complexity and coordination risks that are mitigated to some extent through the presence of two separate projects; (iii) *Simplicity of project design*: Even though innovation systems are inherently complex, there was an imperative to simplify the project design. Innovation can be considered to have two stages – early and late stages. The *early stage* relates to the generation and testing of new ideas and prototype products that in general is considered to be more risky and prone to failure – the actors involved and the mechanisms are part of the FIRST project. The *late stage* concerns the development of production lines beyond the proof of concept and deals with adoption, commercialization and marketing. The domains of knowledge and expertise are separate, although related, and a unified project would have become quite complicated for effective implementation by the Client as well for the Bank team to efficiently provide implementation support.

C. Delivering Results in Innovation

5. It is well-known among STI scholars, policy makers and practitioners that innovation systems by their very nature are subject to non-linear scaling effects. This means that the combined impact of the FIRST and VIIP projects will be more than the sum of the impacts of the two individual operations, or the impact of a single combined operation. The reason for this non-linearity is the presence of *network effects* that can be explained as follows: Results from an innovation system are derived from the complex network of two kinds of elements – the *nodes* (GRIs, research universities and enterprises, consumers and citizens) and the *links* between the nodes (flow of funds, flow of information, decision-making). FIRST focuses on one set of nodes and links – strengthening specific GRIs and above all on improving the quality and strength of the links. This set of nodes and links constitutes a *sub-network*. VIIP focuses on another set of nodes and links – small and medium enterprises and the BoP consumers and citizens and the links between them – this constitutes another *sub-network*. The two operations thus target different sub-networks. However, it is inherent in the very nature of networks, because of the multiple points of interaction, that when the two sub-networks are combined, there is a multiplier effect in terms of overall results and impact.

VIETNAM

- ⊙ PROVINCE CAPITALS
- ⊕ NATIONAL CAPITAL
- RIVERS
- MAIN ROADS
- RAILROADS
- PROVINCE BOUNDARIES
- INTERNATIONAL BOUNDARIES

PROVINCES:

- | | |
|-------------------|---------------------|
| 1 Lai Chau | 32 Da Nang |
| 2 Dien Bien | 33 Quang Nam |
| 3 Lao Cai | 34 Quang Ngai |
| 4 Ha Giang | 35 Kon Tum |
| 5 Cao Bang | 36 Gia Lai |
| 6 Son La | 37 Binh Dinh |
| 7 Yen Bai | 38 Phu Yen |
| 8 Tu Yen Quang | 39 Dac Lac |
| 9 Bac Can | 40 Dac Nong |
| 10 Lang Son | 41 Khanh Hoa |
| 11 Phu Tho | 42 Binh Phuoc |
| 12 Vinh Phuc | 43 Lam Dong |
| 13 Thai Nguyen | 44 Ninh Thuan |
| 14 Bac Giang | 45 Tay Ninh |
| 15 Quang Ninh | 46 Binh Duong |
| 16 Ha Noi | 47 Dong Nai |
| 17 Bac Ninh | 48 Binh Thuan |
| 18 Hung Yen | 49 T.P. Ho Chi Minh |
| 19 Hai Duong | 50 Ba Ria-Vung Tau |
| 20 Hai Phong | 51 Long An |
| 21 Hoa Binh | 52 Tien Giang |
| 22 Ha Nam | 53 Dong Thap |
| 23 Thai Binh | 54 Ben Tre |
| 24 Ninh Binh | 55 An Giang |
| 25 Nam Dinh | 56 Vinh Long |
| 26 Thanh Hoa | 57 Tra Vinh |
| 27 Nghe An | 58 Kien Giang |
| 28 Ha Tinh | 59 Can Tho |
| 29 Quang Binh | 60 Hau Giang |
| 30 Quang Tri | 61 Soc Trang |
| 31 Thua Thien Hue | 62 Bac Lieu |
| | 63 Ca Mau |



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