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Tracing Research Capacities in Viet Nam

– Perspectives from Vietnamese Researchers

Viet Nam – Sweden Bilateral Research Cooperation

Sida

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Acronyms

AFTA	Asean Free Trade Area
BA	Bachelor of Arts
BSc	Bachelor of Science
CPRGS	Comprehensive Poverty Reduction and Growth Strategy
CTU	Can Tho University, Viet Nam
DSS	Demographic Surveillance Site
EIA	Environmental Impact Assessment
GDP	Gross Domestic Product
HMU	Hanoi Medical University
HSR	Health Systems Research
HUAF	Hue University of Agriculture and Forestry, Viet Nam
KI	Karolinska Institutet, Sweden
MARD	Ministry of Agriculture and Rural Development
MEKARN	Research Cooperation for Livestock-Based Sustainable Farming Systems in the Lower Mekong Basin
MOET	Ministry of Education and Training
MOH	Ministry of Health
MOST	Ministry of Science and Technology
MPH	Master of Public Health
MSc	Master of Science
NIAH	National Institute of Animal Husbandry, Viet Nam
NISTPASS	National Institute for Science and Technology, Policy and Strategy Studies
NLU	Nong Lam University, Ho Chi Minh City
R&D	Research and Development
SEDP	Viet Nam Socio-Economic Development Plan
Sida	Swedish International Development Cooperation Agency

SLU	Swedish University of Agricultural Sciences
S&T	Science and Technology
VASS	Vietnamese Academy of Social Sciences
VAST	Vietnamese Academy of Science and Technology
WTO	World Trade Organisation

Executive Summary

Sweden was one of the first countries to establish research collaboration with Viet Nam, starting in 1976. The overall objectives of the research cooperation are: to strengthen research capacity by creating conducive research environments; to provide research education; and to assist with methods for planning, setting priorities and allocating funds for research. A further objective is to provide financial and scientific resources to produce new knowledge on topics of importance to Viet Nam.

Research cooperation can assist a country in building up a knowledge foundation, including analytical capacity, which is one of the enabling conditions for the alleviation of poverty. Sida firmly believes that research should not be done for and about people in a low-income country but by people in that country. The building of solid research capabilities requires the development of an environment that is conducive to research. This includes training of individual researchers, research supervisors and research coordinators in a holistic fashion, as well as investment in the facilities necessary for research.

One part of the cooperation involves supporting research training. This document reports on a study to trace the career path of Vietnamese researchers who obtained a PhD within the research programme, and to identify factors that have impacted on them as PhD holders, positively and/or negatively, including Sida support. Other objectives were to identify lessons learnt from the research cooperation, and to suggest how this support could have been improved and how Sida can monitor/trace the progress of PhD holders who have received Swedish research support. The study was initiated in September 2008.

Thirty-seven PhD holders (out of a total of 40 -45 who completed their PhDs during the period 1987-2007) were identified and traced. A web-based, self-administered questionnaire was developed, tested and sent by e-mail to these researchers. The questionnaire included personal data, educational background, views on the PhD training, career path after PhD completion, current position, usefulness of research results in terms of implementation, policy or innovations, and suggestions for the future.

Thirty-three individuals (23 men and 10 women) answered the survey. The disciplines represented were health sciences (10 men and 7 women), agricultural and forestry sciences (10 men and 3 women), geo-technology (1 man), and social sciences (2 men). In addition to the web-based questionnaire, 20 interviews were conducted in Viet Nam in November and December 2008 (in Hanoi, Hue, Ho Chi Minh City and Can Tho) with PhD holders representing the various disciplines and with representatives from line ministries involved. The interviews were designed to help interpret the quantitative data from the survey and to identify mechanisms that had impacted upon the results.

The majority of those surveyed had followed the "sandwich model" approach for PhD training, dividing their time between Sweden and their home institution. They had remained active at their home institution while being connected to a supervisor at a university in Sweden. Instead of four or five years of study abroad, which is common in scholarship programmes, the home-based research also brought research activities to the researcher's home institution, as well as equipment and sometimes library and information and communication technology (ICT) facilities, which could support continued research after the candidate's graduation.

All of the 33 PhD holders have continued to do research after PhD completion. Except for three people (who at the time of the study were conducting post-doctoral studies in Canada and Australia) those who answered the survey were carrying out research in Viet Nam, mainly at the research institute or university where they were based as PhD candidates.

Most PhD holders (97%) reported that their research had been of importance and useful for Viet Nam. There was even evidence of some research results having directly impacted upon poverty reduction. For example, within the agricultural sciences a number of new techniques and innovations to help poor farmers had been implemented directly by the researchers and also disseminated via the Ministry for Agriculture and Rural Development (MARD) through their extension system to large areas in Viet Nam. Within the field of health sciences, research results had led to policy recommendations, such as TB control programmes. In one case, the Ministry of Health (MOH) had issued a nationwide regulation for Good Pharmacy Practice based on research findings from one of the bilateral research projects. But research results are not confined to findings that can be applied immediately in the various sectors of society. Apart from producing new knowledge and innovation, research provides tools for dealing with knowledge in a systematic way. It builds analytic capacity, which is one of the enabling conditions for the alleviation of poverty.

The current positions of the PhD holders include department or division head at universities (40%) or professor/ associate professor (20%). Some PhD holders/researchers are also based at line ministries such as MOH and MARD, where they mainly have positions within the ministry's policy unit.

Most PhD holders were members of staff at various universities and research institutes before they were accepted as PhD candidates and continued as members of staff after obtaining their PhD degree. They were expected by the university leadership to continue with teaching and supervision as well as with research.

The long history of higher education and research in Viet Nam is most likely a contributing factor to the strong position of science and research in the country. The PhD holders were convinced of the importance of research and believed that research can and should contribute to reducing poverty and developing the country both economically and socially. These views are also expressed by the Vietnamese Government. In Viet Nam's Socio-Economic Development Plan (SEDP) 2006-2011 the government considers science and technology to be key to reaching the goal of becoming a middle-income country by 2010.

1. Introduction

Sida's Secretariat for Research Cooperation (until September 2008 called SAREC) has for many years supported bilateral research co-operation aimed at strengthening the research capacity of low-income countries and improving their access to knowledge as key factors in poverty reduction. A guiding principle of Sida's approach has always been that low-income countries need a proper basis for research. All too often, however, international development organisations target specific issues and problems on and for development, rather than strategic investments on which to build a basis for research in and by low-income countries. Research cooperation can assist a country in building up a knowledge foundation, including analytical capacity, which is one of the conditions for enabling the alleviation of poverty. Research not only produces new knowledge and innovation, it provides tools for dealing with knowledge in a systematic way. Decision makers can turn to the local research community for advice. Research should thus not only by done for and about people in a low-income country, but by people in that country. Sweden is one of the few donor countries to have acknowledged the need to strengthen research capacity at an institutional level, rather than limiting the support to particular research projects and training individuals. Sweden's support varies from country to country and in most cases only one or a few universities are supported. The rationale behind this is that each country should have at least one public research university that can cater for the needs of that country and eventually become a resource for the creation of a more extended university system and for the development of national innovation systems.[1]

The overall aims of the Viet Nam-Sweden bilateral research cooperation are: to strengthen research capacity by creating conducive research environments; to provide research education; and to assist with methods for planning, setting priorities and allocating funds for research. A further objective is to assist by providing financial and scientific resources to produce new knowledge on topics of importance to Viet Nam.

One aspect of the cooperation is the support given to research training. This document reports on a study designed to trace the career

1 Support to national research development. Sida Guidelines, Edition 2008

path of Vietnamese researchers who have obtained a PhD degree within the research programme and to identify what, how, and to what extent research capacities have contributed to development in Viet Nam. The study was initiated in September 2008.

The current status of research in Viet Nam cannot be fully understood without a brief presentation of the historical background. Compared to many other low-income countries, Viet Nam has a long history of higher education going back some 1000 years.

Even the, in comparison, relatively short history of Sida support for research capacities in Viet Nam has changed over the years and needs to be understood. The support was initiated in 1976 by SAREC, which was an independent agency under the Swedish Ministry of Foreign Affairs up to 1995 when it merged with three other development cooperation agencies to form the new Swedish International Development Cooperation Agency (Sida).

There are several purposes to the study and it is intended for audiences such as the Vietnamese and Swedish research community, Sida and other donors, as well as individuals with a concern for research and development.

The overall aims are to:

- identify factors that have impacted upon the PhD holder, positively and/or negatively, including the Sida support;
- identify lessons learnt from the Viet Nam-Sweden bilateral research cooperation and suggest how this support could have been improved;
- suggest how Sida, systematically, could monitor/trace the progress of PhD holders who have received Swedish research support.

The terms of reference of the study are found in annex 1.

Chapter 2 provides some basic facts about Viet Nam today and gives a brief historical overview of higher education and research in Viet Nam.

Chapter 3 describes the development of the Viet Nam-Sweden research cooperation over the years and how it has impacted on the PhD training.

Chapter 4 describes and discusses the methods used in the study.

The results of the study are presented in the chapters that follow. It is important to bear in mind that the results cannot be generalised as valid for the whole Vietnamese research community, as this study limits itself to the PhD holders and research areas within the Viet Nam-Sweden bilateral research cooperation.

Chapter 10 provides a summary of the most important findings and the conclusions, and chapter 11 describes some lessons learnt and gives recommendations.

Finally chapter 12 discusses recommendations to Sida for future tracer studies of research capacities.

Acknowledgement

Many people have contributed to this study. The author wishes to express her heartfelt gratitude to the many Vietnamese PhD holders, members of Vietnamese research institutions, and representatives from several ministries who generously contributed their time to complete the questionnaire, discuss research or assist in locating some of PhD holders. Without their valuable contributions, this study would not have been possible. The author also wishes to thank all Sida staff members who have contributed intellectually, discussing both the design of the study and giving feedback throughout the process of finalising the report.

2. Viet Nam – General Context

Some basic facts

The Socialist Republic of Viet Nam is a densely populated country with a population of 86 million (2008) in an area about three quarters the size of Sweden. About 73% of the population lives in rural areas. Agriculture accounts for 20% of GDP and nearly 60% of the national employment. More than a quarter of the population is under 15. The Doi Moi (renovation) policy initiated by the Vietnamese Government in 1986, led to the beginning of economic reforms and since then Viet Nam has made considerable progress in moving from a planned economy to a market economy. This has led to increasing foreign investment, rapid economic growth and one of the best records of any low-income country in reducing poverty. In a short period of time Viet Nam has become one of the world largest exporters of rice, coffee, rubber, tea, garments and footwear and in 2008 the country had a GDP per capita of 723 USD and impressive economic growth of 8% per annum.

The country has been successful in achieving a high level of social development with an adult literacy rate of 95% and life expectancy of 71 years. However, during the last decade the country has experienced growing inequalities, especially between rural and urban populations, between ethnic minorities and the majority Kinh group, between poor and wealthy regions and provinces, and within the growing cities.

Viet Nam's own poverty reduction strategy, the Comprehensive Poverty Reduction and Growth Strategy (CPRGS), reflects strong ownership and determination to address specific needs and priorities. The strategy emphasises economic growth as a primary vehicle for poverty reduction. However, the assumption that high growth in the modern sectors and in the growth zones will "trickle down" to poor areas and people, has proven not to be sufficient for achieving pro-poor and sustainable growth. The government has reaffirmed its commitment to economic liberalization and international integration. Vietnamese authorities have moved to implement structural reforms needed to modernize the economy and to produce more competitive, export-driven industries. Viet Nam's membership of the ASEAN Free Trade

Area (AFTA) has led to even more rapid changes in Viet Nam's trade and economic regime. Viet Nam joined the World Trade Organisation (WTO) in January 2007, following a period of adaptations to meet entry requirements for the global trade regime.

The position of science and research within the Viet Nam Socio-Economic Development Plan (SEDP) 2006–2011 is strong. The SEDP aims to change Viet Nam's status from a low-income country to a middle-income country by 2010 and make it an industrialised country by 2020. In this effort Science and Technology (S&T) development is seen as one of the most important premises to ensure the success of the economic growth process. The government is thus promoting and encouraging research and development, and considers it to be among the most important factors to reach the goal of becoming a middle-income country by 2010.

Brief historical overview of higher education and research in Viet Nam[2]

The Vietnamese system for research and higher education has a long and complex history. State-sponsored formal education in China and Viet Nam can be traced back to the year 622 AD. The Temple of Literature was built in Viet Nam in 1070 AD and shortly thereafter the first traditional university was opened (the Royal College at the Temple of Literature). The content of education at that time was primarily religion, ritual and philosophy.

The basis for scientific research was laid during the French era (1858–1954). The French colonial administration devoted much time and energy to building an educational system in Indochina. Many noted French scientists worked in Vietnam and cooperative efforts with Vietnamese scientists produced much of what today is the basis for research in Vietnam.

The French colonial administration founded the University of Indochina in Hanoi in 1906, with faculties in medicine, pharmacology, law and the humanities. Throughout the education system all training was in French.

Following the end of French colonial rule in Viet Nam in 1954, and a conference held in Geneva to end the ongoing conflict, the country was partitioned. It was more than 20 years (1975) before it was united again.

The division of the country led to two separate systems of higher education and research. In the north, the Democratic Republic of Viet Nam (DRV) under Ho Chi Minh developed a higher-education system based on a Soviet model, which meant that universities were in charge of higher education and research was carried out at research institutes. Many research institutes were mono-disciplinary and conducted research commissioned by line ministries with which they were affiliated.

2 This section is based on Zink, E: Science in Viet Nam. An assessment of IFS grants, young scientists and the research environment. International Foundation for Science, MESIA Impact Studies. Report No. 9, 2009, and Göhl, B; Nguyen, H T: Vietnam. Development of scientific research and SAREC's support 1976-1989. SAREC documentation, Research surveys 1990:2.

In line with the Soviet model, the education in the DRV was open to everyone, not just the elite, and had a technical focus in order to contribute to economic growth.

In the south, the Republic of Viet Nam developed a system of higher education that maintained close ties with the French system of education and research, and later with the American system. After the division of the country in 1954, the staff at the University of Indochina in Hanoi moved to the University of Saigon. Research at the University of Saigon focused on arts, basic sciences and professional disciplines rather than technical training.

After the reunification of the country in 1975, the government was faced with the task of reunifying the two systems of higher education and research, a task that to some extent is still ongoing. At first the faculty members of universities in the former Republic of Vietnam had to be re-educated and were sent to re-education camps to learn Marxist ideology. Between 1975 and 1986, Viet Nam mainly collaborated with the Soviet Union and Eastern European countries and many Vietnamese scientists were sent to those countries for higher education and research.

The Doi Moi (renovation) policy introduced by the Vietnamese Government in 1986 ushered in huge change as the country began to move from a planned economy to a market economy. The "Open Door" policy initiated in the late 1980s further opened the country to foreign investment. For Vietnamese scientists in the south the "Open Door" policy meant that they were allowed to study in western countries.

It has taken time to reunify the two systems of higher education and research but also to develop the education system in line with the Doi Moi and "Open Door" policy. Although training still dominates the activities of universities, research has become more common. Moreover, the strong element of detailed central planning in research has been abandoned. Research institutes are increasingly autonomous and are allowed to engage in commercial and contract-based relationships. There were 93 public universities, 137 colleges and some 3000 research institutes both governmental and non-governmental in 2005.[3]

The past 20 years of policy changes related to Research and Development (R&D) and innovation in Viet Nam have been considerable. The changes in R&D in terms of overall organization, methods for priority setting and budgeting of programmes, and general management are far-reaching. To implement these changes, Viet Nam has sought ideas, methods and procedures from many countries. As a recent study shows, Swedish support has had a notable impact; Sida has been instrumental in assisting the Vietnamese government to develop methods and mechanisms for strategic plans and related policies for research, science and technology.[4] In the new scientific strategy, linking scientific activities with industrial needs is a key factor in improving competitiveness.

VIETNAM

3 Ministry of Education and Training MOET, 2005
4 Annerstedt, J Liyanage, S: Challenges when Shaping Capabilities for Research. Swedish support to bilateral research cooperation with Sri Lanka and Vietnam 1976-2006, and a look ahead. Sida Evaluation 2008:14.

3. The Viet Nam – Sweden Bilateral Research Cooperation

Sweden was one of the first countries to establish research collaboration with Viet Nam and the cooperation dates back to 1976. During the 1980s, Swedish support was limited to cooperation with a few Vietnamese research institutes and contacts were made with the international research community. International exchange was considered very important since Vietnamese researchers had at that time limited exposure to scientific progress in countries other than those of the Soviet bloc and China.

During the 1990s, bilateral Viet Nam-Sweden research cooperation changed towards strengthening research capacity in national priority areas and creating conducive research environments. The building of solid research capabilities requires the development of an environment that is conducive to research. This includes training of individual researchers, supervisors and coordinators in a holistic fashion, as well as investing in the facilities necessary for performing research.

One part of the programme is support of research training, and since the beginning of the 1990s Sweden has chosen to contribute through the sandwich model, which shows a better alignment with research strategies than scholarship programmes, as the latter tend to detach the student from the home university/research institute for several years. In the sandwich-training model, research students are recruited to PhD training primarily in Sweden. Research students maintain their position at their home institution, define their research project in that context and spend periods at Swedish universities for coursework, analysis and write-up. A Swedish supervisor collaborates with a supervisor from the home university. Instead of four or five years of study abroad, which is common in scholarship programmes, the home-based research also brings research activities to the researcher's home institution, along with equipment and sometimes library and ICT facilities which can support continued research after the candidate's graduation.

For the reasons mentioned earlier: the fact that research is conducted at research institutes more than universities; the need for Vietnamese researchers to be in touch with the international research community; and the unification of the country, Sweden has not only had to

support one university in Viet Nam, but several research institutes and universities in the northern, central and southern parts of the country.

An example of this is the "Integrated Farming Systems Research Project" (1989–2002), designed to develop research capacity through improvement of facilities, research collaboration and research training at four research institutes/universities in Viet Nam with support from the Swedish University of Agricultural Sciences (SLU). The four institutions comprise one in the north of the country, one in the central region and two in the south.[5] At first the project focused on Master's programmes since there was no equivalent programme in Viet Nam. The students from the four Vietnamese institutions spent part of the time in Sweden at SLU attending graduate courses and part of their time in Viet Nam carrying out farm-based research. English was a problem during the first years of the collaboration and the students had to work very hard to learn English at the same time as they had to learn about sustainable tropical livestock systems. In 1996 some of the best MSc candidates were able to continue to PhD level. The training model for the PhD programme was also the sandwich model and to date 14 people have successfully defended their PhD thesis within this programme.

The researchers within this programme went on in 2001 to form a regional network with researchers from Cambodia, Laos, Thailand and Viet Nam called "The Research Cooperation for Livestock-Based Sustainable Farming Systems in the Lower Mekong Basin" (MEKARN) within which experiences are shared and new research projects supported.[6]

Within the bilateral research cooperation, the collaboration between SLU and agricultural universities in Viet Nam continued with a new programme initiated in 2004 called the "Sustainable Rural Development Programme", which has a broad interdisciplinary approach. The Vietnamese coordinating partner is the Hue University for Agriculture and Forestry (HUAF). A jointly developed Master's programme in Rural Development with a focus on Viet Nam has been implemented at HUAF with a SLU certification, and two local Master's programmes in Vietnamese have now been approved by MOET, one at HUAF and one at CTU. There are four Vietnamese PhD candidates within this programme. The Vietnamese coordinator of the programme is a former PhD student from the Farming Systems programme, now a PhD holder, Associate Professor and Vice Rector at the university.

Another large programme within the cooperative "Health Systems Research (HSR) Programme" was initiated in 1991 and is ongoing. In this programme Hanoi Medical University (HMU) is collaborating with Karolinska Institutet (KI) and Umeå University in Sweden. The main aim of the HSR programme is to strengthen research and teaching competences at Vietnamese institutions and through research promote

5 National Institute of Animal Husbandry (NIAH) in Hanoi, Hue University of Agriculture and Forestry (HUAF), The University of Agriculture and Forestry in Ho Chi Minh City (UAF-HCMC) and Can Tho University (CTU).

6 The MEKARN programme was evaluated in 2007. Eduards K, Tauson A-H, Fagerström M H. The Research Cooperation for Livestock Based Sustainable Farming Systems in the Lower Mekong Basin (MEKARN). Sida Evaluation 07/29. Department of Research Cooperation.

rational decision making for priority health problems at various levels of the Viet Nam health care system. The HSR programme also established a demographic surveillance system (DSS). The aim of the DSS is to follow health and social development in a district with implementation of focused research studies. The DSS is also providing a framework for research training and education in Viet Nam and for participating institutions in Sweden. So far, 11 Vietnamese PhD candidates have defended their thesis within this programme.

A second health programme "Pathogenesis, diagnosis, epidemiology and treatment of common diseases in Viet Nam" was initiated in 2000 as a collaboration between HMU and KI. The main objective of this programme is to improve the research capacity and competence among young academic staff, all medical doctors (MDs), at HMU through postgraduate education. Research subjects were selected at HMU to meet specific needs within Viet Nam and to match KI supervisors and interests. So far, within this programme six PhD candidates have defended their thesis programme.

Apart from these relatively large projects, there have also been smaller research projects in forestry, rare earth materials, marine environments and social sciences. There have been several social science projects over the years but they have not focused on PhD training and are therefore only partly included in this study.

Since 2004 the bilateral cooperation has adopted a programme approach that groups the various projects into three sub-programmes: health, biotechnology and rural development including environment. A total of 13 projects are supported to the final phase and research activities are carried out in 26 Vietnamese research institutes and universities across the country. Research projects within the field of biotechnology are a high priority for Viet Nam today and were therefore incorporated into the collaboration in 2004. During the earlier years the focus was on research in the fields of agriculture and forestry, and health. A list of projects supported within the research cooperation 1977–2007 is found in annex 2.

In August 2007 the Swedish Government decided to phase out the bilateral development cooperation with Viet Nam, paving the way for other types of selective and Partner Driven Cooperation (PDC). In brief, PDC implies that cooperation between actors in Viet Nam and Sweden shall build upon mutual interests, shared responsibilities and cost sharing, and enhance long-term relations that contribute to development in both countries in line with the Swedish Policy for Global Development (PGD). In view of the successful impact, Sida's Secretariat for Research (formerly SAREC) decided in 2003 to phase out the bilateral research cooperation between 2008 and 2011. During this phase-out period, research groups within the cooperation programme will prepare for PDC, in order to sustain the collaboration and the results achieved.

The total Swedish contribution from 1976–2011 to the Viet Nam-Sweden research cooperation, of which PhD training is one of the components, is around 370 million SEK.

4. Methods used in the Study

This study is an assessment, partly by self-assessment, of the PhD training and career paths of PhD holders trained within the Viet Nam-Sweden research cooperation. It is not an evaluation of the research cooperation as such.

Several data-collecting methods are used in the study, both quantitative and qualitative. The main method is a self-administered questionnaire sent to all identified PhD holders. The survey was supplemented with interviews of some of these PhD holders as well as other categories of people. The interviews were designed to help interpret the quantitative data from the survey and to identify mechanisms that had impacted on the results.

The first task was to identify and trace the Vietnamese PhD holders. This was done by reading relevant documentation about the bilateral research cooperation over the 30-year period, and by communicating via e-mails and telephone with representatives from both Swedish and Vietnamese universities and research institutes as well as from the Ministry of Science and Technology (MOST) in Hanoi, which has been coordinating the programme for many years.

According to an evaluation made of the research programme, 31 Vietnamese scientists had completed their PhD degrees by 2001.[7] Approximately another 10 to 15 Vietnamese scientists had completed their PhD degrees by 2007. The total number of Vietnamese PhD holders within the research programme during the period 1987–2007 would thus be around 40 to 45. Eventually 37 of these PhD holders within various scientific fields were identified and traced.

A web-based questionnaire[8] was developed that included both open-ended and closed (multiple choice) questions. One of the purposes of this study is to give suggestions to Sida on how to monitor/trace the progress of PhD holders in other countries that receive Swedish research support. The idea was therefore to develop a monitoring tool that would be easy to administrate on a regular basis in the future. It was also considered important not to have too many questions in the questionnaire, since this has been shown to be one reason why people do not respond.

7 Forss, K: Research Cooperation between Vietnam and Sweden, Sida evaluation 02/06.
8 The survey was developed in collaboration with a Stockholm based company called "Netigate" with wide experience of web-based surveys.

The survey questions covered personal data, educational background before PhD, views on the PhD training, career path after PhD completion, current position, usefulness of research results in terms of implementation, policy or innovations, and suggestions for improvements in the future. Apart from not developing too many questions around the above themes, the balance between open-ended and closed questions had to be decided upon. The closed questions mainly address issues that can be quantified, while the open-ended questions are designed to provide additional information about the researchers' views and perceptions. The closed questions are easier to analyse and can be turned into graphs and tables in a report, while the open-ended answers have to be analysed differently and reported in another form.

An introductory letter was sent out with the questionnaire, explaining the purpose of the survey and informing the respondents that their answers would be treated with confidentiality. (The complete survey form is found in annex 3).

The questionnaire survey was self-administered by the PhD holders and may be viewed as a form of self-assessment. According to the literature on research methods[9] one of the advantages of self-administered questionnaires is that respondents report critical and undesirable issues more willingly than they do in face-to-face interviews. They do not have to impress the interviewers and anonymity gives people a sense of security. Other advantages of self-administered questionnaires are that all respondents get the same questions and there is no worry about interview bias.

Among the disadvantages of a self-administered questionnaire is that there is no control over how people interpret questions. In order to minimise the risk that the PhD holders would misunderstand the questions in our study, the questionnaire was piloted on a few respondents. One question regarding current employment was misunderstood and was therefore rephrased before the questionnaire was finally sent to all PhD holders. However, it is impossible to know exactly how the respondents have interpreted the various questions.

The self-administered questionnaire was supplemented with semi-structured interviews with three groups of people 1) selected PhD holders, 2) representatives from Vietnamese research institutes and universities, and 3) line ministries. (Interview questions are found in annex 4).

The interviews took place in Viet Nam during a two-week period in November–December 2008, after most of the results from the survey had been received. A total of 16 PhD holders (all included in the survey) were interviewed to follow up on the questions in the questionnaire and give them the chance to expand on and explore more freely various topics. Those interviewed represented various scientific disciplines (health, agriculture, social sciences and geotechnology) and were based at various universities and research institutes in Hanoi, Hue, Ho Chi Minh City and Can Tho.

9 Bernard H R: Research Methods in Anthropology: Qualitative and quantitative approaches, Alta Mira Press 1995.

In Ho Chi Minh City and Can Tho it was decided to hold group discussions rather than individual interviews. The focus of the discussions was the same as in the individual interviews, with the added value that the PhD holders could compare answers and discuss them.

Apart from PhD holders, interviews were also conducted with representatives from the management and administration of some universities (in Hanoi and Hue) to gather their views on topics such as how the collaboration has worked, if it has had any impact on the university at large, and problems with supervision. Two interviews were carried out with representatives from the MOH and the MARD, as these two line ministries have been involved in various ways in the research cooperation.

In interviews there is always a risk that the informants tell you what they think you want to know (the deference effect), and the accuracy of data obtained from interviews can be questioned. The informants may have forgotten what happened or can for political or other reasons not tell "the whole story". Nevertheless, an interview gives the informant freedom to respond to questions and tell the story in their own way and their own words.

The interviews with representatives from the Vietnamese universities cannot claim to be representative of the views of these large organisations, since only a few individuals were involved. However, the added information on and perceptions of how the collaboration has worked over the years were found to be valuable in the analysis of the data and the interviews also gave some idea of the differences in the research environments in northern, central and southern Viet Nam.

Self-assessments can be important tools in monitoring progress within programmes and projects. The biases exist and there is a need to be aware of them, but combining quantitative and qualitative data-collection methods makes for a more comprehensive understanding of the issues being investigated. Self-assessments make participants reflect on issues and activities and may make them more aware, critical and analytical. Furthermore, it is of great importance that programme managers and other stakeholders understand the perceptions and views of participants in the programmes.

The following chapters present and discuss the results of the survey and the interviews.

5. Characteristics of the PhD Holders

The survey was sent to 37 identified and traced Vietnamese individuals (23 men and 14 women) who finalised their PhD degree during the period 1987–2007.

There were 33 (89%) responses to the survey. The response rate is high compared to what is considered normal for self-administered questionnaires.[10] The high response rate may be explained by the fact that all of the respondents are still conducting research (as will be discussed later); they are staff members at universities and research institutes; they are part of international research networks and many of them are still involved in the Viet Nam-Sweden research cooperation in various positions.

Most of the 33 respondents answered all questions in the survey.

Research areas and gender distribution

The largest group of PhD holders is found within the health sciences, where there is also an almost equal gender balance. The 18 PhD holders identified constitute, as far as we know, the total number of Vietnamese researchers who have completed their PhD degree within the research cooperation in their discipline. In this group, 17 (10 men and 7 women) answered the questionnaire.

The second largest group is within agricultural sciences, where 14 PhD holders were identified. They also constitute the total number of PhDs in their field within the research cooperation. In the beginning of the collaboration there were more men than women involved in the agricultural programmes but in later years the gender balance has become more equal. In this group, 12 PhD holders (9 men and 3 women) answered the questionnaire.

Within forestry we only identified one PhD holder but believe that there are some that we could not identify or trace.

The research cooperation in geotechnology was one of the first programmes; it was initiated in 1979 and concluded in 1996. As far as is known, only one or perhaps two people have finalised their PhD within this area.

10 According to Bernard (1995) a response rate of 20-30% is normal in mailed questionnaires.

The research cooperation in biotechnology is one of the later programmes, initiated in 2004, and so far only one individual has defended her thesis.

The research cooperation within the field of social sciences and policy research has not focused on PhD training and very few individuals have thus taken a PhD degree within this field. One PhD holder was identified within sociology and one in the field of policy research.

Table 1. Number of surveys sent and number of responses received according to discipline and gender.

Discipline/research area	Surveys sent Women	Surveys sent Men	Total surveys sent	Response Women	Response Men	Total responses
Health Sciences	8	10	18	7	10	17
Agricultural Sciences	5	9	14	3	9	12
Forestry		1	1		1	1
Geotechnology		1	1		1	1
Biotechnology	1		1	0		0
Social Sciences/Policy		2	2		2	2
Total	14	23	37	10	23	33

Geographic distribution

The PhD holders are spread throughout the country, but the majority live in Hanoi (23 individuals). This distribution reflects both the history of the research programme, as the focus from the beginning was on research institutions in Hanoi, and also the more general trend in Viet Nam of research institutes and universities being concentrated in the capital of Hanoi. It was not until the "Open Door Policy" in the late 1980s that universities in the south of Viet Nam (Ho Chi Minh City and Can Tho) were invited to be part of the research cooperation.

Age distribution

The women researchers were in general younger than the men. This can probably be explained by the fact that women became involved at later stages of the research training programme than men. Table 2 shows the respondents' year of birth divided into five-year periods.

Table 2. Respondents' year of birth divided into five-year periods.

Year of birth	Women	Men
1940–44		1
1945–49	1	
1950–54	1	6
1955–59		5
1960–64	2	6
1965–69	3	1
1970–74	3	4
total	10	23

Higher education before PhD training

Most of the PhD holders within the health sciences had a medical doctor (MD) degree from Viet Nam before they began their PhD studies. Some of them also had an MSc or a Master of Public Health (MPH). Some of the respondents had received their MPH at Umeå University or KI in Sweden.

The majority of the respondents within the agricultural sciences had an MSc from SLU in Uppsala before they began their PhD studies. The collaboration between SLU and various universities in Viet Nam focused already from start and all through the years on Master's programmes.

In some cases respondents had been trained in Cuba, the former Soviet Union, Germany, the Netherlands and Thailand before they were accepted as PhD candidates within the Viet Nam-Sweden research cooperation.

6. PhD Training – Context and Incentives

In this chapter the conditions and context of the PhD training will be presented and discussed. What were the incentives for beginning a long and maybe arduous PhD? How many years did the PhD training take and how did the sandwich model PhD training work out for the PhD students?

In order to explore what made the respondents continue with higher education and aim for a PhD, an open-ended question was asked in the survey. Several of the respondents answered that it was necessary to get a PhD degree in order to become a lecturer, and do research at a Vietnamese University. Among the incentives for continuing with PhD training was thus that the requirement for employment as a lecturer or researcher at a Vietnamese university is to have a PhD degree.

Many respondents referred to their interest in doing research and their wish to enrich or improve their knowledge. One person said: "I would like to improve my knowledge, which is very necessary for my work and my life".

Other types of responses referred to the opportunity of getting a degree from a university in the West and the importance of being in touch with the international research community. The respondents who had taken their Master's within the Viet Nam-Sweden research cooperation mentioned that they had been offered the chance to continue towards a PhD degree based on the quality of their Master's thesis and they wanted to take that opportunity. They had been impressed by the way research was conducted in Sweden, the many new research methods, educational methods and laboratory techniques they had learned there and felt fortunate to be given the chance to continue with the PhD studies as part of the Viet Nam-Sweden research programme.

The fact that Vietnamese universities require a PhD degree for positions as senior lecturers and researchers and that Swedish universities have a reputation for being advanced scientifically and at the forefront of new and innovate techniques, combined with a strong belief that science and research is important for the economic development of the country, were the most important factors behind the respondents' decision to aim for a PhD degree.

Number of years to finalise the PhD degree

Sixteen of the PhD students completed their PhD degree within four years. Nine students took only three years to finalise their studies. Four individuals took between five and six years. It is noteworthy that that all PhD candidates managed to finalise their studies within such a short time, especially given language problems, sandwich model training and the fact that the students very often had to teach and do other kinds of work during the periods they spent in Viet Nam. However, it should be mentioned that at least some of the research students began their PhD studies before they were officially registered at a Swedish university and accepted as PhD candidates. This may indicate that the actual number of years spent on PhD training was higher than that figures reported in the survey.[11]

There was no difference in length of studies between women and men and there was no difference across the various academic fields.

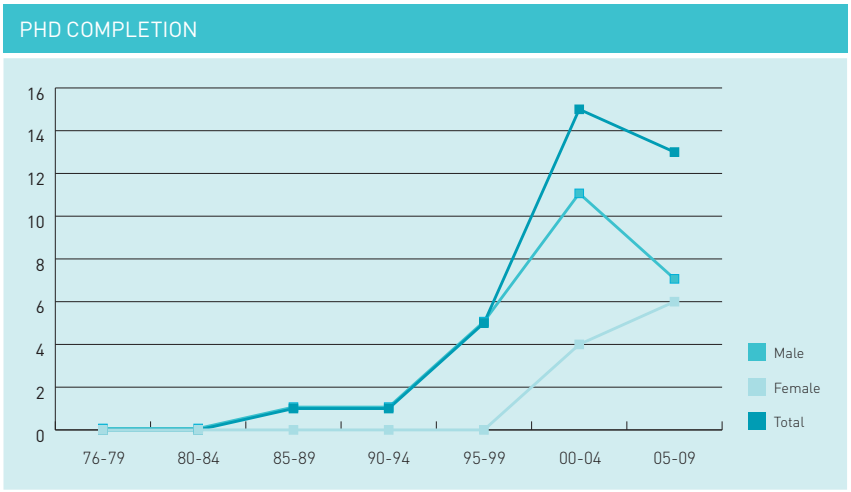
Most respondents began their PhD training between 1995 and 2004. Women became involved in the PhD training programme later than men. (Table 3)

Table 3. Year of being accepted to PhD training

Year of being accepted to PhD training	Women	Men
1985–1989		3
1990–1994		2
1995–1999	3	8
2000–2004	7	10
Total	10	23

Most women finalised their PhD degree between 2005 and 2008, while most men finalised their degree between 2000 and 2004 (Fig.1).

Figure 1. Year of PhD completion



11 The survey item was: Year of being accepted to PhD training

Ages when taking the PhD degree varied widely. Both the women and the men within the health sciences were younger than those within the agricultural sciences. (Table 4)

Table 4. Age when taking the PhD degree

Age	Health women	Health Men	Agriculture Women	Agriculture Men	Other disciplines women	Other disciplines Men
30–34	3	3				
35–39	1	3		1		2
40–44	2	2	2	4		2
45–49	1	1		2		
50–55		1	1	2		
total	7	10	3	9		4

Sandwich model PhD training

The majority of the PhD holders (84%) underwent sandwich model training. Only the PhDs from the early years of the cooperation initiative were not offered the possibility of studying according to this model.

As mentioned earlier, the rationale behind the sandwich training model is that research students should be able to maintain their position at their home institution; the research projects should be defined in the context of the home country, where data collection/field work should also be conducted; and periods should be spent at Swedish universities for course work, analysis and write up. The Swedish supervisor should collaborate with a supervisor from the home university and both should make exchange visits and follow up the student's work closely.

The sandwich model training was discussed both in the interviews with all groups involved in this study (the PhD holders, representatives from university management in Viet Nam and representatives from line ministries) and in the questionnaire where the respondents were asked to list the advantages and disadvantages of the sandwich model.

A representative from one of the ministries said in an interview that he especially appreciated the sandwich training model because it forced the students to focus on problems in Viet Nam but at the same time allowed them to get advanced technology and scientific skills from Sweden. PhD candidates also bring the latest scientific literature back to Viet Nam and help keeping the various Vietnamese institutions up-to-date with the newest scientific findings. These views were shared by most individuals interviewed.

Among the advantages of the sandwich training model mentioned by many PhD holders were that they were able to keep the position they had at a Vietnamese university or research institute before they began their PhD training. A strong motivation for doing research seemed to be the desire to conduct research that would be useful for Viet Nam and where research results would be directly applied by various groups of people.

Many mentioned that this type of training was much better for their families since they did not have to be away from them for long periods of time. As one female PhD holder said: "I could do three big activities together: study, work and look after my child". More women than men reported that one of the big advantages of the sandwich model was that they could take care of children and keep family relationships, but even men appreciated not being away from their families for too long.

The sandwich training model was also seen by several respondents as a way to get in contact with the international research community and to develop networks and other types of links with researchers in other countries including Sweden. One respondent said: "The advantages of the sandwich model are the possibility to share and improve knowledge on education, training and research activities in different countries".

Some respondents commented that a PhD degree from a prestigious and renowned Swedish University gave the researchers a high status in Viet Nam. The researchers saw themselves and were often seen by other researchers as role models. Belonging to different international and national research networks was viewed as important but not very common in Viet Nam. The sandwich model exposed the researchers to not only Swedish researchers but to the larger international research community.

The respondents also indicated there were some disadvantages with the sandwich model, such as too much office work/or teaching when they were at their home institution in Viet Nam and difficulties in concentrating on their PhD studies when they were at home.

Another issue brought up was that of getting continuous supervision. When the PhD candidates were in Viet Nam they were not so much in contact with their Swedish supervisor and the role of the Vietnamese supervisor was not always clear. Furthermore, the contact between the Swedish and the Vietnamese supervisors did not always work so well – one supervisor did not always know what the other one had said or done.

Another issue brought up in the interviews was the need for transparency and competition in the selection of PhD candidates.

To summarise, all PhD holders and the representatives of the Vietnamese universities included in this study appreciated the advantages of the sandwich model compared to PhD scholarship programmes, which require the students to spend several years away from the home university. However, some problems were identified, such as the need for more time for studying and conducting research when the PhD students were at their home institutions, and for the roles and responsibilities of the Swedish and the Vietnamese supervisors to be worked out and defined. Transparency and competition when selecting PhD candidates for collaborative research programmes also need to be improved.

7. Impact of PhD Training

Career path after PhD completion

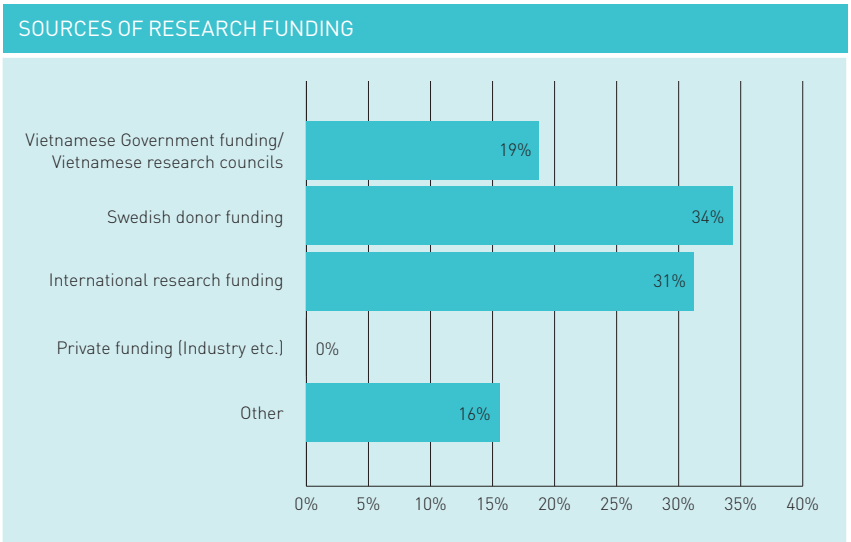
All 33 PhD holders reported that they continued to do research after their PhD completion.

Furthermore, all PhD holders (with the exception of three individuals who at the time of the study were doing post-doctoral work abroad) were carrying out research in Viet Nam. This result reflects the advantages of the sandwich training model and a purposive selection of PhD candidates. Most PhD holders were already employed as staff at a university or research institute before they began their PhD and they spent part of the time at their home institution during their training, thus never losing touch with their university. When they obtained a PhD degree from Sweden they were either offered their old position again or were given a better one at the university. A question in the survey about what made the PhD holders continue with research was therefore felt by the respondents to be superfluous and most of them simply answered: "Because it is my job and my career".

Research funding

The sources of funding for research after PhD completion were also examined in the survey. About 20% of the research was financed by the Vietnamese government, 35% by Sweden and another 30% by other international donors, according to responses.

Figure 2. Sources of research funding



Swedish donor funding refers mainly to a research fund established in 2004 by the Viet Nam-Sweden research cooperation. Several of the PhD holders had applied and received research grants from this fund.

No questions were asked regarding the difficulties in getting research funding, what types of projects would most likely get funding or if the funding which the PhD holders had received had been sufficient for conducting the planned research.

Use of research results and choice of research topics

Most (97%) of the PhD holders reported that in their view their research results had been of importance to and useful for Viet Nam. Many examples were given in the self-administered questionnaire. Within agricultural sciences a number of new agricultural techniques to help poor farmers have been implemented directly by the researchers and also disseminated via the Ministry for Agriculture and Rural Development (MARD) through their extension system across large areas of Viet Nam. Among the examples given were new knowledge on animal feed and husbandry practices, as well as new types of biogas converters, resulting in 80 000 farm households installing biogas systems.

Projects in forestry research have developed hybrid clones of acacia and eucalyptus, as well as pine species. This programme was motivated by the alarming decrease in forest coverage, due both to the America-Viet Nam war and uncontrolled exploitation and erosion. The Vietnamese Government has established a reforestation programme with the target of 5 million hectares of forest plantations and the researchers within the Viet Nam-Sweden research cooperation were asked to contribute towards this target by developing fast-growing trees. The practical nature of this research is very clear.

Within the field of health sciences, research results have led to policy recommendations, such as TB control programmes paying more

attention and giving stronger emphasis to women. In one case the MOH issued a nationwide regulation for Good Pharmacy Practice based on findings from one of the research projects. The National Institute of Hygiene and Epidemiology produces the oral cholera vaccine using Swedish technology. The scale of production has been gradually increased and the standard upgraded and sufficient vaccine is now available for the national Extended Programme of Immunization.

Many of the results reported can be verified by a variety of sources (policy documents, evaluations, governmental reports etc) but the fact that the PhD holders themselves consider that their research results have been useful for Viet Nam is also noteworthy. This can be seen as a finding in itself and shows the strong position of science and research in Viet Nam and reiterates the belief that research will and should contribute to the economic development of the country.

Furthermore, it is important to point out that research results are not confined only to findings that can be applied immediately in sectors of society. Apart from producing new knowledge and innovation, research provides tools for dealing with knowledge in a systematic way. It builds analytic capacity, which is one of the enabling conditions for the alleviation of poverty.[12]

The perceived usefulness of the research results is also connected to the choice of research topics. This issue was not specifically dealt with in this study but during interviews with researchers based at research institutes it became apparent that their research very often was commissioned by a ministry or other government body. The objectives of the Viet Nam-Sweden research cooperation have over the years been to strengthen research capacity in national priority areas i.e. prioritised areas for research as identified by Viet Nam. Agriculture, forestry and health research was identified almost from the very start, while biotechnology, rural development and environment were added as prioritised areas for research collaboration in 2004. However, these research areas are very broad and many types of research can be conducted within these fields.

In the choice of specific research topics it is possible to also see the influence of the Swedish research institutions. PhD training could only take place in fields where there is Swedish expertise and available supervisors. Swedish priorities for development cooperation are also reflected in the choice of research topics and above all in the way research is to be conducted. Gender considerations have to be met. All projects have to conduct an environment impact assessment (EIA) to assess what impact the specific project will have on the environment. Research projects should focus on human right issues and, of course, the mitigation of poverty. How much the individual PhD candidate has been able to influence the choice of research topic is hard to know, but what we know is that the PhD holders perceive that their research has

12 This has previously been shown in a study by Zink, E: Science in Viet Nam. An assessment of IFS grants, young scientists and the research environment. International Foundation for Science, MESIA Impact. Studies. Report No. 9, 2009. 71% of the respondents in this study believed that science is very important for economic development in Vietnam.

been useful for the development of Viet Nam and that this has been important to them.

Scientific publications

Scientific publications are a measure of the researcher's productivity and often a basis for determining promotion. Scientific publications are also important for sharing research results and contributing to the pool of scientific knowledge. There are many kinds of publications: peer-reviewed international journals with different impact factors, peer-reviewed national journals as well as reports, conference papers, posters, textbooks, books etc. In this study we did not ask in detail how many scientific publications the PhD holders had published after finalising their PhD degree; we asked only if the respondents had published any books or articles after the PhD degree and what kind.

A majority (72%) of the PhD holders had published in peer-reviewed international journals and 66% in peer-reviewed national Vietnamese journals. Reports and books or parts of books were also mentioned by many respondents. In interviews some of the PhD holders said that they had published extensively, explaining that they had to do so partly to get promotion.

8. Current Career

In this chapter the current career of the PhD holders, and the position and the nature of their work will be presented. Many PhD holders were at the time of the study employed by the same universities/research institutes or government agencies/ministries as they had just completed their PhD and so their answers to the questions in this chapter were either the same or similar to the answers provided in chapter 7 under Career path after PhD completion. In some cases, where the PhD holder completed his or her PhD many years ago, some changes have occurred and the person has advanced to a higher position in the university or government system.

All PhD holders who obtained their PhD degree between 1987 and 2007 were employed at the time of the study. The majority of them (97%) were employed by universities/research institutes or government agencies/ministries.[13] Only one individual worked at a hospital as a medical doctor and another individual worked for an international organisation (The World Bank). There were no unemployed PhD holders within this group of people. Three individuals had post-doctoral positions by universities abroad (Canada and Australia).

Divided according to gender 19 men and seven women are employed either by a university or research institute and three men and two women are employed by a government agency or ministry.

Within the agricultural sciences, most men and women are employed by the same university or research institute where they were based as staff before their PhD training. As mentioned earlier, the training was seen as staff development and all of them were required to return to their universities and continue to work there for some years. However, they were given higher positions when they returned to their universities with a PhD from Sweden.

Within health sciences the picture is somewhat different. All 17 (10 men and 7 women) PhD holders included in the survey were part of the collaboration between HMU and KI and/or Umeå University, but only eight individuals (6 women and 2 men) have remained in their positions

13 The PhDs trained within the MEKARN programme and who graduated from SLU have also been successful in their employment; they have returned to positions as researchers, lecturers, and directors of research centres. (MEKARN evaluation. Sida Evaluation 07/29).

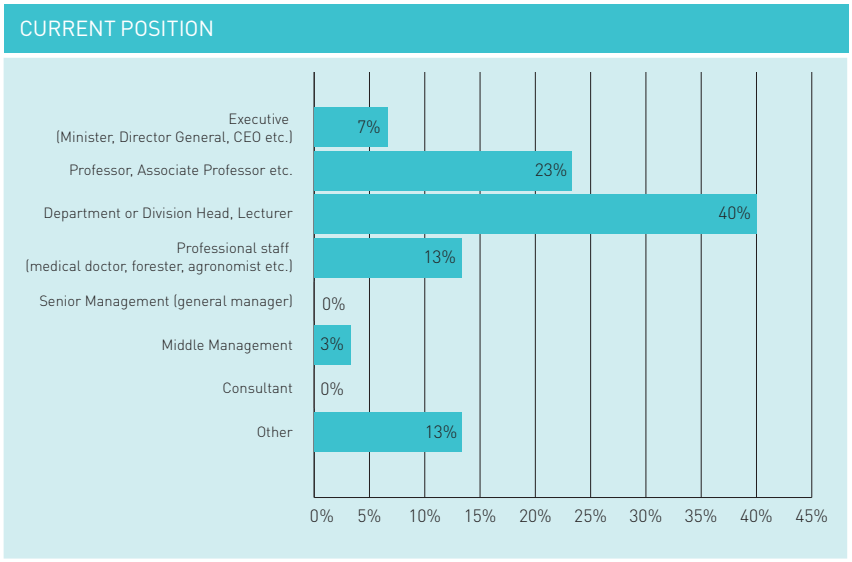
at HMU. Of the men who are not at HMU, two are employed at the MOH, two men at research institutes, three are employed in Canada and Australia and one works as an MD at a hospital.

The difference in employment between the PhD holders within agricultural and health sciences may depend on several factors. The PhD candidates within the health sciences were often younger and there were probably not as many career possibilities available at HMU after they had obtained their PhD degree from Sweden. The PhD holders within the health sciences appear to have had to take more initiative in looking for post-doctoral positions and applying for international research funding than researchers within agriculture.

Current position

The current position of the PhD holders is mainly department or division head at universities (40%, 8 men and 4 women) or professor/associate professor (20%, 4 man and 3 women). Some PhD holders/researchers are also based at line ministries such as the MOH, the MARD and the Ministry of Construction, where they mainly have positions within the ministry's policy unit.

Figure 3. Current position



One survey question related to the respondents' perception as to whether the PhD degree had contributed to their current position; 97% perceived that it had. One PhD holder responded that because of the knowledge and experience he had acquired during his studies he was promoted to head of department at his university after obtaining his PhD degree from Sweden. Other answers given were in line with the ones mentioned earlier, which indicated that to have a PhD degree was the most important criteria for becoming an associate professor or senior researcher and lecturer and to be able to supervise Master's and PhD students. According to information given, a person may apply to

be an associate professor three years after receiving the PhD degree, provided that the person has taught at the university, supervised a number of Master's students, has continued with research and has published articles in peer-reviewed international and/or national journals.

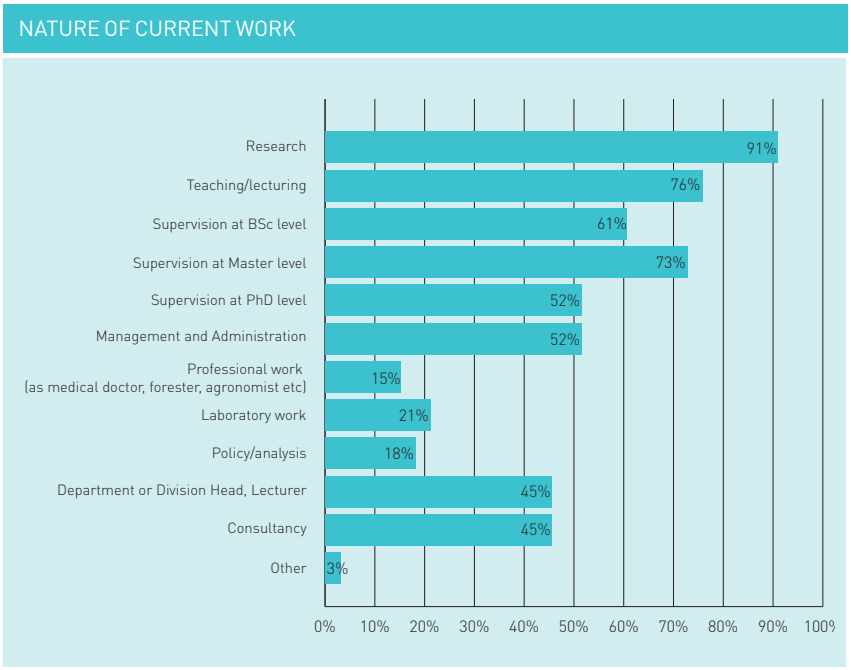
A question was also asked about whether the knowledge and experience gained through the PhD training were useful in the respondents' current work and position. All PhD holders answered yes to this question and gave many examples. For example, the knowledge the PhD holders had gained in Sweden regarding modern research methods, data analysis and how to write scientific publications made them feel that they had much better grasp of what to do and what methods to use in future research. Some of the researchers mentioned that they had learnt about new pedagogic methods during their PhD training, which were now useful for them as teachers at the university. Others explained that they had learnt more about research management, which was important now that they were deans or heads of department and some mentioned that their self confidence had improved through the PhD training in Sweden and that they were now able to conduct research independently.

In interviews with representatives from various departments at universities and research institutes it was pointed out that their department had become more nationally recognized in a strategic sense by having long-term Swedish support. They claimed they were viewed across the Vietnamese research community as nodes in the national network of research institutions. In many universities and research institutes that had received Swedish support for many years they were now also well connected to other international research thanks to the collaboration with Swedish universities.

Nature of current work

Most PhD holders were involved in many kinds of academic activities: conducting research, teaching and lecturing, supervision at various levels, management and administration. A total of 30 PhD holders (21 men and 9 women) conduct research; 25 (17 men and 8 women) teach and lecture; 5 men and 1 woman are doing policy/analysis work; 10 men and 5 women are working with project implementation or development work; and 12 men and 3 women do consultancy work. More men than women (14 men and 3 women) are currently working in management and administration. Women tend to supervise more at BSc and Master's level than at PhD level. However, the female PhD holders did not feel discriminated against in the academic hierarchy due to their gender.

Figure 4. Nature of current work (more than one option possible)



9. Expectations for the Future

Two questions were asked in the questionnaire regarding expectations for the future:
– What do you expect you will be doing five years from now?
– Do you think that your PhD will facilitate your future plans?

Many PhD holders expressed their wish to continue with research and to lecture. Some of them were aiming for an associate professorship or to become director of a research institute. Some were hoping for continued research collaborations with Swedish and other international research organisations.

Some PhD holders articulated a need for refresher courses. In particular, researchers within the agricultural sciences who had taken their PhD degree some years back felt they needed to update their skills and learn new techniques. They hoped for an opportunity to spend some months at a Swedish university to learn these new techniques and skills.

One PhD holder said that his PhD degree had helped him to cooperate easily with both international experts, and local researchers in preparing research proposals and formulating projects and he was of the opinion that this would facilitate his future plans. Another researcher stated that: "My PhD from Sweden is a sign and stamp of quality and knowledge". Some PhD holders worried about the lack of financial support in the future and the current global economic crisis was seen as a threat to future research.

10. Summary and Conclusions

Out of 37 PhD holders identified and traced, 33 answered the survey representing the disciplines included in the Viet Nam-Sweden research cooperation: agriculture, forestry, health, biotechnology, and social science. The sample is representative for the research cooperation but cannot be generalised to the whole Vietnamese research community. The majority of the PhD holders are based in Hanoi, but some are based in Hue, Ho Chi Minh City and Can Tho.

Most PhD candidates finalised their PhD studies in four years. The sandwich model for PhD training was considered to be a good and preferable model by all PhD holders and the possibility of studying at a renowned Swedish university scored high among the researchers. The sandwich model training approach will be discussed more in detail in the next chapter on lessons learnt and recommendations.

All PhD holders have continued to do research after PhD completion. All except 3 researchers (who were temporarily in other countries for post-doctoral studies) were at the time of the study based in Viet Nam and all were employed by either a university or a government agency. Some years after completing the PhD degree, most researchers had high positions as deans or heads of departments, associate professors, senior lecturers and directors. The female PhD holders did not feel discriminated against in the academic hierarchy due to their gender.

The majority of the researchers reported that their research results had been useful in the development of Viet Nam and that they see themselves continuing with research and teaching also in the future.

This study was designed mainly to identify what factors have impacted upon the PhD holders, positively and/or negatively, including the Sida support. Some of the answers can be found in the long history and tradition of higher education and research in Viet Nam. For more than 1000 years higher education and research have been central to Vietnamese values and visions of a better future. The PhD holders in our study were convinced of the importance of research and believed that research can and should contribute to diminishing poverty and developing the country both economically and socially. These views are also expressed by the Vietnamese Government. In a country where the government considers science and technology to be key factors in

reaching the goal of becoming a middle-income country by 2010, researchers have a reason to work hard to attain this goal.

However, in years to come there may be some obstacles to accomplishing this goal. According to several studies, qualified researchers at senior level are getting close to retirement and the conditions for conducting research within the public sector (at public universities and governmental research institutes) are getting less attractive. This is mainly due to low salaries but also because seniority is still favoured and kinship and social networks are more important than competence. Low salaries have a negative impact on research because scientists have to spend much of their time on other activities in order to support their families. Talented young scientists have already left universities and research institutes for better paid jobs in the more prosperous commercial sector and to some degree also to work for foreign agencies. While the contribution of well trained people with analytical capacity to the private sector has its merits, a dilemma remains, and this needs to be addressed if Viet Nam wants to produce cutting edge research.[14]

The effects of Sida support can be found throughout the research cooperation. For a start Sida has focused on building and strengthening institutional research capacities rather than giving out individual scholarships. The bilateral research cooperation is based on collaborations between university institutions in Viet Nam and Sweden. This means that individual PhD students were situated in an institutional context and were chosen as PhD candidates either by their superiors at their home institution and/or by the researchers at the collaborating Swedish university. Most PhD holders in our study were members of staff at various university departments and research institutes before they were selected as PhD candidates. When they obtained a PhD degree from Sweden they continued to work at their home institution. As mentioned earlier they were even required to continue to work at their home institution and in order to be promoted at work they needed a PhD degree.

Several of the Vietnamese research institutes and universities that received Sida support explained that they became more nationally recognized in Viet Nam and that their research capacity as well as their management skills were further enhanced by having long term support from Swedish universities. To have a PhD degree from a prestigious Swedish University has high status in Viet Nam. The researchers see themselves and are often seen by other researchers as role models to follow.

A study commissioned by Sida in 2007[15] to assess to what extent the Swedish support for research collaboration has been in line with the national efforts to strengthen the research system made the observation that Sida has, during the second part of the 1980s to date, remained a relatively small contributor to the overall funding of research and development in Viet Nam (2%) but the impact of the Swedish cooperation in some of the priority areas of research has been significant and much larger than the actual level of funding.

14 Bezanson et al: Vietnam at the Crossroads. The Role of Science and Technology, IDRC 1999. Roman, L: Research in Vietnam. A study prepared for Sida/SAREC 1999. Zink, E: Science in Vietnam. An assessment of IFS grants, young scientists and the research environment. October 2008.

15 Annerstedt J, Liyanage S: Challenges when Shaping Capabilities for Research. Swedish support to bilateral research cooperation with Sri Lanka and Vietnam 1976-2006, and look ahead. Sida Evaluation 2008:14.

11. Lessons Learnt and Recommendations

Local context of higher education and research

Sida supports research cooperation and research capacity building in a number of countries in Africa, Asia and Latin America and one of the lessons learnt from the cooperation with Viet Nam is that research cooperation between Sweden and a particular country will be affected by the history, the political system, the culture and the role of science and research in that country. The context of higher education and research needs therefore be understood in order for research cooperation to be successful. The Sida support should be tailor-made to build and strengthen research capacities in different countries.

Sandwich model PhD training

The sandwich model training is preferred to other models of PhD training. The following recommendations were made by the PhDs and directed to several actors.

Selection of PhD candidates

University leadership was recommended to make recruitment more transparent and competitive through a national recruitment board with clear criteria. The criteria should include academic background and language skills. The announcements regarding PhD training should be widely advertised all over the country. However, it was also recommended that the needs of the different universities should be taken into consideration when announcing a PhD training post.

Supervision

A recommendation directed to both Swedish and Vietnamese supervisors was that they should meet as soon as a PhD candidate is selected and together draw up a contract setting out their respective roles and responsibilities. It was felt that it was very important to involve the Vietnamese supervisors from the beginning and that they must know what is expected from them. The PhD candidate should also meet with supervisors to draw up a contract stating how often they should meet,

when the PhD candidate should report on progress and how much the PhD candidate has to work at his/her home institutions during periods spent in Viet Nam. Efforts should be made to reduce the workload in order that the candidates can concentrate on the PhD studies.

Career path after PhD

It was recommended that university leadership, ministries and other governmental agencies make sure that the researchers' knowledge and skills are used when they have obtained their PhD degree. There is a need to discuss staff development at higher university level and PhD holders should be promoted to good positions within the academic world.

Post-doctoral positions and research groups

Researchers and research projects need to be financed beyond PhD level in order to create and sustain good research environments where research groups can be formed and developed. It was recommended that more post-doctoral positions be financed. Post-docs are excellent for enabling young PhD holders to form research groups, study issues in greater depth and get experience that can assist them to become more independent as researchers in the future.

Dissemination of findings

In order for a research result to be used, it has to be known by actors who have the power and ability to use it. The actor can be a farmer who can learn a new agricultural technique or a ministry that can endorse a new policy based on research results. But for this to happen the findings and results have to be disseminated. Dissemination of research results has often been problematic. Important findings are often published in good scientific journals, but they are not always read by people who can make use of the results. There is therefore a need to develop ways to disseminate findings other than publications. The agricultural universities involved in the cooperation are engaged in outreach activities such as organising workshops in rural areas for farmers and fishermen. They also organise workshops for extension workers employed by MARD. Other universities should be encouraged to develop methods for better dissemination of findings. It was suggested that findings should be shared between universities to a larger extent than at present.

Networking

Scientific networks were not common in Viet Nam according to some of the PhD holders, but thanks to the Viet Nam-Sweden research cooperation several networks had been established both locally and with researchers in other countries. Since Viet Nam and Sweden have a very old and special relationship, some researchers suggested that this collaboration should be used as a hub for regional research collaboration in the future. Several PhD holders expressed a wish to organise an alumni group for Viet Nam-Sweden PhD holders.

Research has to involve long-term collaboration

Some researchers stressed the need for long-term collaboration. The lesson learnt from this is that it takes a long time to understand a country's or a university's research culture both in your own country and in the country you collaborate with. Furthermore, developing analytic capacity, and getting interesting and important research results may take many years.

12. Recommendations for future Tracer Studies of Research Capacities

One aim of this study is to give Sida suggestions on how to systematically trace and monitor the progress of PhD holders within Swedish supported research cooperation efforts.

The self-administered questionnaire survey used in this study has given a wealth of information. Carrying out surveys on a regular basis would provide Sida and the universities with important information about how the cooperation is functioning and what options and possibilities PhD holders have to continue with research. This information would provide Sida with knowledge and ideas on how to best contribute to strengthening research environments in order to create sustainable research systems.

A questionnaire survey is a form of self-assessment and the results have to be interpreted as such. The issue of methods is discussed in more detail in Chapter 4. A web-based survey is to be preferred to questionnaires sent by mail, since such questionnaires have to be manually coded and entered into a computer programme. A number of internet-based computer software programmes are available today that allow questionnaire answers to be easily analysed and turned into graphs and tables.

It is recommended to use more closed (multiple choice) questions than open (free text) ones, since the latter are harder to summarise and analyse. With thorough preparation in terms of formulating the questions and piloting the questionnaire before sending it to the target group, the answers are likely to be more informative. The number of questions should be limited as too many may discourage respondents from answering, and also not everyone has access to broadband internet yet and the researchers may not be able to be on-line for long periods of time.

It is recommended that tracer studies be conducted on a regular basis. PhD candidates within the research cooperation should be informed that they will have to fill in a questionnaire one or two years after they have completed their PhD. This should be a requirement, written into Sida's agreement with the cooperating country/university. It should be part of the responsibility of the cooperating university to

conduct tracer studies on a regular basis and make sure they do not lose contact with the PhD holders once they have defended their PhD thesis. In addition, records on PhD holders and also the use of research results should be integrated into the organisational structures of the partner organisation, for example at the ministry or university level. In the case of Viet Nam, a coordinating unit of the MOST has developed a monitoring system that now includes such data.

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Annex 1
Terms of Reference

Follow up of Viet Nam-Sweden bilateral research cooperation:

– Tracer study of Vietnamese PhD holders who have received support through Sida/SAREC during the period 1977–2007 and

– Participation in the 2008 Annual Planning Meeting in Hanoi

1. Background

Sweden was one of the first countries to establish research collaboration with Viet Nam, starting in 1976. During the 1980s, the Swedish support was limited to cooperation with a few Vietnamese research institutes and contacts were made with the international research community. International exchange was considered very important. During the 1990s, the Swedish-Vietnamese programme of cooperation changed towards strengthening research capacity in national priority areas and creating conducive research environments.

Sweden has supported capacity-building at a number of universities and research institutes in Viet Nam across the country, and over the years approximately 80 Vietnamese PhD candidates have through the "sandwich model" successfully defended their theses at various Swedish universities. The sandwich model means that the training is divided between time spent in the PhD candidate's home country and in Sweden. The PhD candidate remains a member of staff at the home institution and is kept in touch with problems and solutions in its institutional environment and geographical region.

The Swedish support of the research cooperation with Viet Nam has been evaluated several times (1994, 1995, 1996, 2002, mid-term review 2006) and a study was conducted in 2007 by Annerstedt and Liyanage with the aim of reviewing the development of the research system in Viet Nam during the period 1976–2006 and to assess to what extent the Swedish support for research collaboration has been in line with the national efforts to strengthen the research system.[16]

16 Forss, K: Research Cooperation between Vietnam and Sweden. Sida Evaluation 02/06 Mid-Term Review of Research Cooperation Vietnam-Sweden 2004–2007. Irene Nörlund, Han Manh Tien, Tran Minh Thi, 2007. Annerstedt J, Liyanage S: Challenges when Shaping Capabilities for Research. Swedish support to bilateral research cooperation with Sri Lanka and Vietnam 1976-2006, and look ahead. Sida Evaluation 2008:14.

Annerstedt and Liyanage (2007) note that Sida/SAREC has, from the mid-1980s to date, remained a relatively small contributor to the overall funding of R&D in Viet Nam but the impact of the Swedish cooperation in some of the priority areas of research – such as agriculture/husbandry, forestry and health – has been significant and much larger than the actual level of funding. Several of the research institutes that received early Sida/SAREC funds stated in the study that they had became more nationally-recognized and that their research capacity had been enhanced – in a strategic sense – by having continuous Swedish R&D support. Through such long-term support, they claimed, they were recognized across the R&D community as nodes in the national network of R&D institutions. Moreover, they were distinguished as well-connected to international research. The researchers saw themselves – and were often seen by other researchers – as role models. In several of the Sida/SAREC supported research projects the outcomes were extraordinary, according to the study.

However, as yet no study has been conducted to find out what has happened to all those Vietnamese PhD candidates after they had defended their theses. Such a study would document important lessons for Sida to consider when planning for future support.

Also, as the Swedish-Vietnamese research cooperation is entering its final phase it is important to follow the programme closely, to make sure that all current PhD candidates are on track, that they will be able to finalise their studies on time and that funds are used in the most efficient and correct way. A tracer study would give an idea of what opportunities these researchers could expect in terms of continuing research.

2. Purpose and Scope of the Assignment

The tracer study has been designed to contribute to the following overall objectives:

1. Identify factors that have impacted upon the PhD holders, positively and/or negatively, and discuss the impact of the Sida/SAREC support;
2. Contribute lessons learnt from the Sida/SAREC support and give general recommendations on how this support may be improved;
3. Suggest ways for Sida to systematically monitor/trace the progress of PhDs.

Accordingly, in addition to tracing the career paths of the Vietnamese PhD holders the study should generate general lessons learnt and monitoring tools of interest to Sida.

The assignment has two sub-objectives:

1. To identify as many as possible of the approximately 80 Vietnamese PhD holders who were supported through the bilateral research programme over the period 1977–2007 and find out what has happened to them and where they are in Vietnamese society today.

Some questions to be asked are whether the Vietnamese researchers are still conducting research, and whether they are leaders of research groups or work in other capacities within academia. An important part of the study will be to identify factors that have impacted upon the positions of the PhD holders, including Sida support. It is also of interest to consider if these PhD holders' research findings have been used or utilised in any way or form, and if they have moved to other professions.

While studies on the development of national research systems are important, it is equally important to find out more about the actors – the individuals – within these systems, about their ability to influence the system and also about the ways in which they are being influenced by the system.

The study should be made in relation to the overall goals of the bilateral research cooperation, which have been to strengthen research capacity in the form of creating conducive research environments, providing research education and assisting with methods for planning, setting priorities and allocating funds for research.

Gender aspects should be taken into account: the number of women and men who have defended their thesis and how gender aspects have influenced the career paths of the PhD holders.

2. For the consultant to participate at the Annual Planning Meeting within the bilateral research programme in Viet Nam in order to, due to previous long-term experience in working with Swedish-Vietnamese research cooperation, ensure continuity and smooth handing over of responsibilities to a new SAREC research advisor in charge of bilateral research cooperation with Viet Nam.

3. Methodology

In accordance with the aim of this assignment, the tracer study should answer to the following overall research questions:

1. What factors have impacted upon the PhD holders, positively and/or negatively, including the Sida/SAREC support?
2. What lessons may be learnt from the Sida/SAREC support? How may this support be improved?
3. In what ways could Sida systematically monitor/trace the progress of PhDs who have received Swedish research support?

The tracer study should build upon both qualitative and quantitative data. It should consist of three parts:

1. *Fact finding in Sweden and writing of inception report:*
   - Study the history of the 30 years of research cooperation and identify Swedish collaborating institutions over the years by reading all accessible Sida documents;
   - Contact Swedish universities concerned in order to get lists of Vietnamese PhD holders who over the years have been part of the bilateral research collaboration;
   - Contact concerned Vietnamese universities and research institutions or other relevant organisations to trace the PhD holders;
   - Contact the Vietnamese PhD holders and make arrangements for interviews;
   - Write an inception report, of no more than fifteen pages, with a more elaborated methodology for the tracer study and a detailed work plan to discuss with Sida.

2. *Fact-finding in Viet Nam:*
   - Interview Vietnamese PhD holders in several parts of Viet Nam (most likely Hanoi, Hue and Ho Chi Minh City).
   - Interview representatives at Vietnamese universities and research institutes concerned, as well as representatives at some line ministries (MOET, MOST, MARD, MOH).

3. *Report writing in Sweden:*

The consultant should make use of available documentation on the bilateral cooperation such as:

- Sida/SAREC assessment memos from 1977–2007;
- SAREC evaluations and other studies;
- Annual progress reports;
- Correspondence;
- Other scientific reporting.

The consultant should conduct interviews with any person considered appropriate, but should at least include the following:

- Vietnamese PhD holders who have received Sida/SAREC support and who work in a variety of disciplines;
- Relevant supervisors at Swedish universities;
- Key staff at PMU;
- Key people at MOST;
- Key people at relevant line ministries;
- Members of relevant research groups at universities and research institutes;
- The responsible officer at the Embassy of Sweden in Hanoi.

4. Consultant, Work Plan and Time Schedule

The consultant should have extensive knowledge of and long experience working with Sida research cooperation and with Swedish-Vietnamese research collaboration in particular.

Activity & Duration	Approximate date
Fact finding in Sweden & inception report	
2 weeks	September–October 2008
Fact finding in Viet Nam	
3 days in Hanoi	
3 days in Hue	
3 days in Ho Chi Minh City	November 2008
Participation at the Annual Planning Meeting in Hanoi	
2 days	27–28 November 2008
Report writing in Sweden	
2 weeks	December 2008

5. Reporting

During the first phase of data collection an inception report should be drafted and discussed with Sida. The inception report should not exceed fifteen pages and include a more elaborated methodology for the tracer study. It should suggest main methods to be used, the kinds of data needed to answer the relevant research questions and possible indicators. Focus should be on how to develop tools for tracer studies.

A draft report of the tracer study should be submitted to Sida not later than 20 December 2008. The draft should discuss methodological issues regarding opportunities and obstacles for Sida in monitoring/tracing the progress of PhDs having received Sida research support.

A final report of approximately, but no more than, 40 pages including methodological considerations should be submitted within 2 weeks after receiving comments from Sida.

The final report should include a short summary of the main lessons learnt and recommendations for Sida research support. Although the case of Viet Nam in many ways differs from other cooperation partner countries, the recommendations should focus on research support at a general level.

The report should be written in English. It should be presented at a relevant forum and discussed with Sida officers with a focus on main lessons learnt, tools for tracer studies and key recommendations for Swedish research support.

Annex 2

Projects supported within the bilateral Viet Nam-Sweden research cooperation 1977–2007

Year of project start	Project	Vietnamese Research Institute/ University	Completed PhD degrees
1977–83	Cooperation in Metrology	Viet Nam National Metrology Centre, Hanoi	0
1977–89	Research Programme in Bacteriology	National Institute of Hygiene and Epidemiology, Hanoi	0
1979–83	Training Programme in Rice Research	Food Crops Research Institute, Hai Hung	0
1982–87	Research Cooperation in Geotechnology	Institute for Building Science and Technology, Hanoi	0
1984–86	Research on Building Climatology	Hanoi Architectural Institute, Hanoi	0
1984–88	Research on Technology Transfer	Institute of Science Management, Hanoi	0
1984–96	Research Programme on Women	Research Centre of Women, Hanoi	1
1985–96	Research on Shigella Vaccine	National Institute of Hygiene and Epidemiology, Hanoi	2
1986–2004	Research on Reforestation	Forestry Research Institute, Hanoi	5
1986–99	Research on the Utilisation of Acid Soil	University of Can Tho	1
1987–90	Reinforcement Methods for Building Foundations	Institute for Building Science and Technology, Hanoi	2
1987–96	Research on Locally Produced Plant Drugs	Uong Bi Hospital, Uong Bi	0
1989–96	Research on Drug Resistance of Malaria	Institute of Malariology, Parasitology and Entomology, Hanoi	0

Year of project start	Project	Vietnamese Research Institute/ University	Completed PhD degrees
1989–2003	Farming Systems Research	University of Agriculture and Forestry, Ho Chi Minh City National Institute of Animal Husbandry, Hanoi Can Tho University Hue University of Agriculture and Forestry	12
1989–2001	Research on Rare Earth Minerals	National Research Centre, Hanoi	2
1989–91	Modern History	Department of History, Can Tho University	0
1991–2007	Health Systems Research	Hanoi Medical University	12
1993–2005	Study on Integrated Coastal Management	Institute of Oceanography, Nha Trang and Hai Phong	
1997–2004	Science and Technology Policies	National Institute for Science and Technology Policy and Strategy Studies, Hanoi	
2000–2007	Research on Common Diseases in Viet Nam	Hanoi Medical University	6
2000–2003	Study on Plant Disease Control	Institute of Agricultural Genetics, Hanoi	0
		Total number PhDs	43

Source: Bo Göhl and Nguyen Thanh Ha, Vietnam. Development of scientific research and SAREC's support 1976–89. SAREC Documentation. Research Surveys 1990:2. Data up to 1991. Kim Forss: Research Cooperation between Vietnam and Sweden, Sida Evaluation 02/06, Department for Research Cooperation, 2002.

Projects supported within the bilateral Viet Nam-Sweden research cooperation 2008–2011

Sub-programme	Projects	Vietnamese research institute/university	Completed PhD degrees by 2011
Health			
	Health Systems Research	Hanoi Medical University	15
	Research on Common Diseases in Viet Nam	Hanoi Medical University	11
Biotechnology			
	Forest Tree Improvement Research.	Forest Science Institute of Viet Nam, Hanoi	3
	Non-chemical Control of Coffee Production in Viet Nam	Institute of Agricultural Genetics, Hanoi	1
	Production of Recomb. Proteins for Agriculture	Institute of biotechnology, Hanoi	3
	Biotechnology in Oil Crops Research	Nong Lam University, Ho Chi Minh City	2
	Enzyme-feed for Poultry and Pigs	Hanoi National University	3
Rural Dev incl. Environment			
	Sustainable Rural Development	Hue University of Agriculture and Forestry	4
	Sustainable Management of Coastal Areas	Institute of Mechanics Hanoi,	2
	Rural Poor in Export-led Growth	Viet Nam Academy of Social Sciences Hanoi	1
	Rural Families in Transitional Viet Nam	Institute of Sociology, Institute of Anthropology Hanoi	0
	Technology Transfer to Small and Medium Enterprises	National Institute for Science and Technology (NISTPASS), Hanoi	0
		Total number PhDs	45

Annex 3

2008 Tracer Study Questionnaire:
Viet Nam-Sweden bilateral research cooperation

1. Personal data

Year of birth:
Sex:

2. Higher education (before PhD)

School/University:
Type of degree:
Year graduated:

3. Viet Nam-Sweden research cooperation – PhD training

What made you continue your higher education and aim for a PhD?

Name of Vietnamese collaborating institute/University
Name of Swedish collaborating institution/University

Type of PhD programme:
Sandwich model
Other model
If sandwich model, list the advantages:
List the disadvantages:
Year of being accepted to PhD training
Year of PhD completion
PhD topic
Discipline

4. Career path after PhD completion

Did you continue to do research after your PhD completion? Yes/no

If yes, in what capacity?
If yes, what made you continue with research?
If no, what did you do?
What made you not continue with research?

If you have done research after PhD completion, how has it been financed?

- Vietnamese government funding/Vietnamese research councils
- Swedish donor funding
- International research funding
- Private funding (industry etc)
- Other
- If other, please specify

To your knowledge, have your research results (both at PhD and post-doc level) been implemented or lead to policy, practice, innovations or in other ways been useful in Viet Nam?

- If yes, in what ways?

Have you published any books or articles after your PhD completion (more than one option is possible)

- Yes, in peer-reviewed international journals
- Yes, in peer-reviewed national Vietnamese journals
- Yes, as reports
- Yes, as books or parts of books
- No

5. Current career information

Who is your current employer?

Country of employment:

Type of organisation you work for:

- Government agency/ministry
- University/research institute
- Public service/utility providers (healthcare, education etc)
- International/regional organisation
- Non-government organisation (NGO)
- Financial institution (bank, insurance, micro-credit etc)
- Private sector
- Other
- If other, specify

Current position:

- Executive (minister, director general, CEO etc)
- Professor, associate professor etc
- Department or division head, lecturer
- Professional staff (medical doctor, forester, agronomist etc)
- Senior management (general manager)
- Middle management
- Consultant
- Other
- If other, specify

Nature of current work (more than one option is possible)
- Research
- Teaching/lecturing
- Supervision at BSc level
- Supervision at Master's level
- Supervision at PhD level
- Management and administration
- Professional work (as medical doctor, forester, agronomist etc)
- Laboratory work
- Policy/analysis
- Development work/project implementation
- Consultancy
- Other
- If other, specify

Has your PhD contributed to your current position?
- Yes
- No
- Partly
- If yes, in what way?

Do you find the knowledge and experience you have gained through your PhD training useful in your current position?
- Yes
- No
- Partly
- If yes, in what way?

6. Suggestions for the future

What do you expect you will be doing five years from now?

Do you think that your PhD degree will facilitate your future plans?
- Yes
- No
- Partly
- If yes, how?

Do you foresee any obstacles to realising your future plans?
- Yes
- No
- If yes, what obstacles do you expect?

Do you have any suggestions for how the Sida support could be improved in the future?

Thank you for your participation!

Annex 4

Interview questions

Semi-structured interviews were held with three groups of people 1) selected PhD holders; 2) representatives from Vietnamese research institutes and universities; and 3) line ministries.

The interviews took place in Viet Nam during a two-week period in November-December 2008. A total of 20 individuals in various capacities were interviewed: eight individuals in Hanoi, five in Hue, three in Ho Chi Minh City and four in Can Tho.

Interviews with PhD holders:

Examples of questions to follow up from the survey were:

How did you experience the collaboration with the Swedish University during the PhD studies?

Have you continued to collaborate after the PhD?

Do you and your department collaborate with other research institutions in the region or globally?

What is the experience of that collaboration compared with the Swedish collaboration?

What is your current position?

If you do carry out research, what type of research?

Who decides on the content of the research?

Who finances the research?

Do you have PhD candidates that you supervise?

Have research groups being formed?

What is the research environment like at your department/institute/university?

Do you feel that the research results have had any impact on the Vietnamese society?

All PhD holders interviewed were asked the same questions but were able to expand on and explain issues more freely than is possible in a survey.

Interviews with representatives from selected research institutes and universities

Questions asked at these institutes and universities focused on what the research collaboration has meant for the research environment at the institute or department, if anything.

Is the research training and cooperation "visible" at the institution?

Have research groups been formed?

If the institution is collaborating with other research partners in the region or globally, how are these collaboration initiatives functioning in comparison to the Swedish collaboration?

How could the support and research cooperation be improved?

Interviews with representatives from line ministries

The interviews with the representatives from the line ministries focused on how the cooperation has worked according to them, whether they consider that research conducted within the research cooperation has been of use to their ministries and to Viet Nam and if so in what way.

Group discussions were arranged in Ho Chi Minh City and Can Tho with small groups of PhD holders. The focus of the discussions was the same as in the individual interviews with the added value that the PhD holders could compare and discuss with each other.

Sida works according to directives of the Swedish Parliament and Government to reduce poverty in the world, a task that requires cooperation and persistence. Through development cooperation, Sweden assists countries in Africa, Asia, Europe and Latin America. Each country is responsible for its own development. Sida provides resources and develops knowledge, skills and expertise.
This increases the world's prosperity.

Tracing Research Capacities in Viet Nam

Research cooperation can assist a country in developing a knowledge foundation, including analytical capacity, which is one of the enabling conditions for the alleviation of poverty. Within Sida's research support, the sandwich model suggests that research capacities are strengthened and sustained through training both in Sweden and the partner countries.

This report traces research capacities and the use of research developed through sandwich training within the Viet Nam-Sweden research cooperation, that dates back to 1976. Based on the perspectives of Vietnamese researchers, the report assesses the sandwich training and provides recommendations as to how to improve research collaboration.

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