



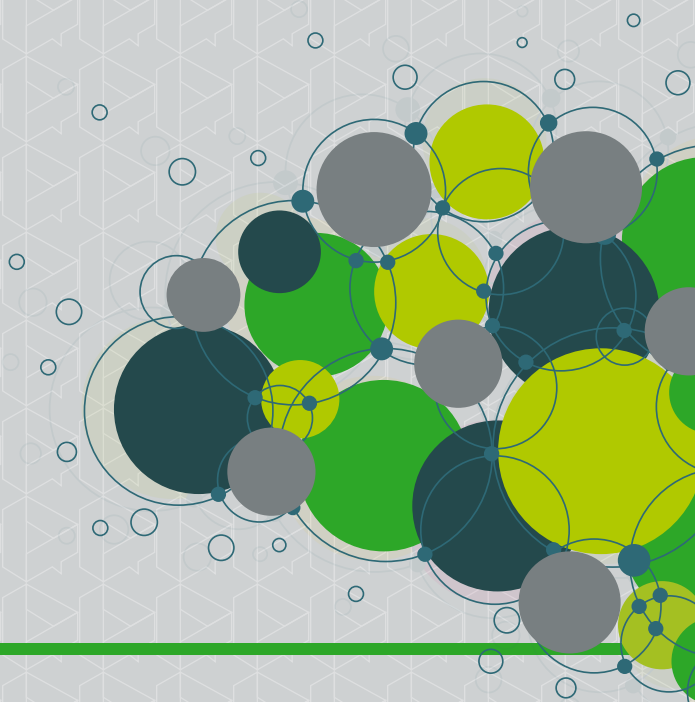
ENHANCE

STRENGTHENING NATIONAL RESEARCH AND INNOVATION CAPACITIES IN VIETNAM

Recommendations towards the improvement of R&I management and implementation in Vietnam

ENHANCE
White Paper

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ENHANCE: strEngthening National research And iNnovation Capacities in viEtnam (ENHANCE)– ENHANCE White Paper: Recommendations towards the improvement of R&I management and implementation in Vietnam

University of Alicante (Spain), Slovak University of Technology in Bratislava (Slovak Republic), Glasgow Caledonian University (Scotland), VNU Ha Noi – University of Social Sciences and Humanities (Vietnam), VNU Ho Chi Minh – University of Social Sciences and Humanities (Vietnam), Thai Nguyen University (Vietnam), Hue University of Agriculture and Forestry (Vietnam), An Giang University (Vietnam), Can Tho University (Vietnam), Ministry of Education and Training (Vietnam), Ministry of Science and Technology (Vietnam).

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Table of Contents

List of abbreviations	4
1. INTRODUCTION	5
1.1. ENHANCE Project	5
1.2. Objectives of the White Paper	6
2. R&I SYSTEM IN VIETNAM HIGHER EDUCATION	8
2.1. Current situation of Vietnam Higher Education in the Economic Development of Vietnam	8
2.2. Support for VIET HEIs in R&I	22
3. GOOD PRACTICES ON R&I MANAGEMENT AND IMPLEMENTATION IN VIETNAM	23
Thai Nguyen University	23
VNU Ha Noi - University of Social Sciences & Humanities	23
Hue University of Agriculture and Forestry	24
VNU HoChi Minh- University of Social Sciences and Humanities . .	24
An Giang University	25
Can Tho University	26
4. RECOMMENDATIONS TOWARDS THE IMPROVEMENT OF R&I MANAGEMENT AND IMPLEMENTATION IN VIETNAM ..	27
4.1. Recommendations to Higher Education for the Economic Development in Vietnam	27
4.2. Recommendations to Higher Education and Science and Technology authorities in Vietnam	28
5. REFERENCES	30
6. ACKNOWLEDGEMENTS	35



List of abbreviations

AGU	An Giang University
CTU	Can Tho University
E&T	Education & Training
EU	European Union
HCMUSSH	VNU Ho Chi Minh – University of Social Sciences and Humanities
HE	Higher Education
HE&RI	Higher Education & Research Institutes
HEI	Higher Education Institution
HEIs	Higher Education Institutions
HUAF	Hue University of Agriculture and Forestry
IP	Intellectual Property
MOET	Ministry of Education and Training
MOST	Ministry of Science and Technology
NAFOSTED	National Foundation for Science & Technology Development
NATIF	National Technology Innovation Fund
R&D	Research and Development
R&I	Research and Innovation
S&T	Science and Technology
SMEs	Small and Medium Enterprises
STUBA	Slovak University of Technology in Bratislava
TNU	Thai Nguyen University
HNUSSH	VNU Ha Noi – University of Social Sciences and Humanities
VNU	Vietnam National University
WP5	Work package 5



1. INTRODUCTION

1.1. ENHANCE Project

The ENHANCE Project “strengthening National research And iNnovation Capacities in ViEtnam” is a structural project that operates at a macro level targeting the Vietnamese HE system (R&I management and implementation). Thanks to a complementary consortium involving six of the most relevant Vietnamese HEIs with geographical balance, three EU HEIs with huge experience in R&I and international cooperation and two Vietnamese HE and S&T authorities, namely MOET and MOST. The project is in line with national priorities that give a predominant role to the mid/long-term R&I and its activities have been designed as a response to Vietnam real needs.

The main objective of the ENHANCE project is to strengthen capacities of the Vietnamese higher education system by promoting effective research and innovation management and implementation.

The specific objectives of the ENHANCE Project are:

- ▶ To build up the human capacities in Research and Innovation Management and Implementation by means of a targeted training programme.
- ▶ To strengthen the institutional capacity and enhance national networking by means of setting up a Network of Research and Innovation Offices in Vietnam.

The ENHANCE project is being implemented by the following consortium:

1. Universidad de Alicante (UA) (Coordinator), Alicante, Spain
2. Glasgow Caledonian University (GCU), Glasgow, UK
3. Slovenská Technická Univerzita v Bratislave (STUBA), Bratislava, Slovakia
4. Thai Nguyen University (TNU), Thai Nguyen City, Vietnam



5. VNU Ha Noi - University of Social Sciences and Humanities (HNUSSH), Ha Noi, Vietnam
6. Hue University of Agriculture and Forestry (HUAF), Hue City, Vietnam
7. VNU Ho Chi Minh-University of Social Sciences and Humanities (HCMUSSH), Ho Chi Minh City, Vietnam
8. An Giang University (AGU), Long Xuyen City, Vietnam
9. Can Tho University (CTU), Can Tho City, Vietnam
10. Ministry of Education and Training (MOET), Ha Noi, Vietnam
11. Ministry of Science and Technology - National Institute for Science and Technology Policy and Strategy Studies (MOST – NISTPASS), Ha Noi, Vietnam

The project has been divided into seven work packages. The main objectives of WP5 “Networking on R&I” were:

- ▶ To conduct networking activities of different nature.
- ▶ To hold three Round Tables targeted on HEIs authorities to foster a discussion on possible improvements and strategies for R&I management at national and institutional levels.
- ▶ To hold three National Workshops on the most relevant scientific disciplines targeted to the scientific community in order to foster a discussion on the improvement of R&I implementation at the levels of department and research group.
- ▶ To produce the ENHANCE White Paper: recommendations toward the improvement of R&I management and implementation in Vietnam.
- ▶ To create the ENHANCE Network on R&I Units.

1.2. Objectives of the White Paper

Economic prosperity pertains to the development of the knowledge economy in which R&I is crucial. Vietnam is currently one of the South East Asia’s fastest-growing economies, classified by the World Bank as lower middle-income. The country is making economic progress thanks to an efficient labour market, a strong innovation potential and a broad internal market. However, challenges in R&I management, lead-



ership and implementation are increasing. There is a context of limited resources, a non-mature environment for R&I activities and its management, serious barriers due to the weak HE system and inadequate institutional governance structures; this makes Vietnam's performance in R&I weaker, as compared to that of neighbouring countries such as Thailand and Malaysia.

ENHANCE has developed different activities in the last three years, some of which focused on building the human capacities in R&I management and implementation, strengthening the institutional capacity and enhancing R&I national networking.

This White Paper “Recommendations towards the improvement of R&I management and implementation in Vietnam” is written based on the conclusions withdrawn from the discussions during the first two Round Tables organised in the framework of the ENHANCE project:

- ▶ 1st Round Table - “The Importance of Higher Education for the Economic Development”, 5th October 2016, hosted by VNU Ha Noi - University of Social Sciences and Humanities.
- ▶ 2nd Round Table – “Promoting research applications via university spin-offs”, 27th October 2017, hosted by Can Tho University.

The objective of this White Paper is to provide recommendations in order to improve R&I management and implementation in Vietnam at national and institutional levels. The recommendations focus on fostering a more effective management of the resources available and the creation of a favourable context for the business sector.



2. R&I SYSTEM IN VIETNAM HIGHER EDUCATION

2.1. Current situation of Vietnam Higher Education in the Economic Development of Vietnam

In Vietnam, in recent years, although many educational institutions have started to facilitate scientists to do research and then publish their research findings, both nationally and internationally, results are still very limited, even tending to fall behind many countries in the region and the world.

a) National Framework:

Here are several regulations from the Vietnamese government concerning the scientific research at higher education institutions:

- ▶ **Circular No. 19/2012/TT-BGDDT (dated 01/06/2012) promulgating regulations on students' scientific activities in HEIs.** This document prescribes the scientific research activities of students in tertiary education institutions, and therefore it has positively supported the elaboration and implementation of plans on students' scientific research activities; to manage students' scientific research activities better. Moreover, the responsibilities and rights of students participating in scientific research and instructors are well-regulated. Since the implementation of the Circular, student scientific researches at HEIs have constructively contributed to the quality of education at HEIs and students' research capacity has improved, partially producing potential research applications by students.
- ▶ **Decree No.99/2014/ND-CP (dated 25/10/2014) regarding investment in the development of potentials and encouragement of scientific and technological activities in HEIs.** This is an important regulation that has significantly impacted on the elaboration and implementation of plans on scientific research activities at HEIs in Vietnam. Important provisions require Viet HEIs to ensure 20% of reciprocal capital for research project development and implemen-



tation. Additionally, each Viet HEI must annually spend at least 5% of the fund from lawful revenues of tertiary education institutions so as to invest in developing research potentials and encouraging scientific and technological activities. Thanks to this regulation, the research budget for HEIs has increased and there are more research opportunities for researchers at HEIs than before. Research management units at HEIs are also more active to make annual research project plans at HEIs and diversify the research and technology development. Every year, each HEI has to spend at least 3% of its revenue from the tuition fee so that students and learners can conduct scientific research.

- ▶ **Circular No. 47/2014/TT-BGDDT (dated 31/12/2014) regulating the working regime for lecturers in HEIs, including tasks related to scientific research and technology transfer.** This Circular prescribes the working regime for lecturers, including: tasks of lecturers; regulations on working time, standard teaching and scientific research hours. As a result of this regulation, each Viet HEI has issued its own regulation on these points, in which standard research hours per year per researcher have been introduced, and pushed researchers to work harder and more effectively. The responsibilities of lecturers on conducting research are well-described and managed.
- ▶ **Circular No. 24/2015/TT-BGDDT (dated 23/09/2015) of the Ministry of Education and Training providing national standards for higher education institutions, including standards related to scientific and technological activities as well as international relations.**

b) Strategy for supporting research, innovation and knowledge exchange at VIET HEIs

- Support from the government:
 - ▶ MOST's annual award for students conducting scientific research
 - ▶ MOET's annual "Vietnamese young scientific talent" award organised for students of universities (cash/ certificates/and opportunities for studying abroad)
 - ▶ Annual Eureka award for students conducting scientific research, organised by Ho Chi Minh City, Youth Union and Vietnam National University Ho Chi Minh City



- ▶ Vietnam Fund for Supporting Technological Creations (VIFOTEC) award for excellent students of all Vietnamese universities
- Every ENHANCE VIET partner HEI has its own way to support research, innovation and knowledge exchange:

Thai Nguyen University

Thai Nguyen University's strategic vision is to become a diverse and comprehensive community of Scientific Research focused on excellence in the northern mountainous region of Vietnam, by:

- ▶ Increasing the number of international publications in ISI/Scopus listed Journals; supporting on patents registration;
- ▶ Scientific capacity building for young scientists, considering that for quality output of every project at Ministry level, there should be at least one PhD member/candidate;
- ▶ Establishing a regulation on the use of at least 5% of University revenue for research and innovation;
- ▶ Organising Annual Conference on youth's science and creativity to be hosted by the Youth Union of Thai Nguyen University;
- ▶ Conducting a Monthly peer – reviewed Journal of Science and Technology; and
- ▶ Organising Annual Awards for students and young lecturers with outstanding achievements in all fields of scientific research and to grant recognition for excellence.

VNU Ha Noi -University of Social Sciences and Humanities

HN USSH's mission is to take the leadership in training high-quality human resources with high-level academic qualifications, researching, creating and disseminating knowledge of social sciences and humanities to serve the cause of country development and international integration. The university's vision is to become an advanced research-oriented, multi-disciplinary and inter-disciplinary university with a line-up of excellent teaching staff and researchers; to develop some new disciplines/majors; to be in the vanguard of training and research into fundamental disciplines of the country and to be within the top 100 Asian universities.



Activities

- ▶ Organising 30 international conferences annually in support of international publications for faculty staff.
- ▶ Organising two annual scientific conferences for undergraduate and graduate students, presenting awards to students with outstanding scientific works.
- ▶ Issuing a program on promoting international publication and supporting graduate training (offering tremendous financial support for books/articles published on high-impact journals).
- ▶ Publishing a peer-reviewed VNU Journal of Social Sciences and Humanities every two months.
- ▶ Establishing 17 research centres to support academic activities and conduct research projects.

Hue University of Agriculture and Forestry

Vision

Hue University of Agriculture and Forestry will be one of the leading universities in the field of agriculture and rural development.

Mission

Hue University of Agriculture and Forestry has the mission to train human resources in high quality of science and technology. In addition, it specialises in scientific research and technology transfer and meet the needs of agriculture and rural development for the central, high-land regions and for the whole country in accordance with regional and global integration.

Specific Objectives

- ▶ Stabilise the training scale of 10,000 students in which at least 30% of the graduate students and three training programs in the university have reached high quality.
- ▶ Ensure that over 50% of the lecturers hold PhD degrees and 100% of the managers and staff are trained in standardised and professional levels.



- ▶ 100% of the lecturers have participated in scientific research; 80% of the lecturers whose annual articles are published in the country and globally.
- ▶ 100% of the faculties have international cooperation programs; 40% of the teachers have participated in international collaboration activities.
- ▶ Improve the system of synchronic facilities, to meet the requirements of modern education, scientific research and technology transfer.
- ▶ Increase revenues from activities of science, technology and training; the university is moving towards autonomy and financial balance.

VNU Ho Chi Minh - University of Social Sciences and Humanities

Vision

VNU Ho Chi Minh - University of Social Sciences and Humanities aims to become one of the leading international research institutions in social sciences and humanities in Asia.

Mission

HCMUSSH's mission is to provide high-quality human resources, typical research works on social sciences and humanities, and strategic contributions to the socio-economic and cultural development of the country.

Strategy

In the 2016-2020 period, HCMUSSH makes great breakthroughs in resource development, training quality, scientific research and in the building of university culture.

Activities

- ▶ Awards for students with outstanding scientific works, annual conference on science for both undergraduate and graduate students.
- ▶ Research centres such as Centre for Vietnamese and Southeast Asian Studies, Centre for Theoretical and Applied Culturology, Centre for Ocean and Island Studies, etc.



- ▶ Seminars such as one seminar on 27 May 2017 regarding the necessity for students majoring in social sciences to know the law on intellectual property, organised by the Office for Inspection - Legislation - Intellectual Property and the Youth Union of HCMUSH.
- ▶ More than 10 international scientific conferences and projects per year.
- ▶ Journal of Science and Technology, published by VNU-HCM.
- ▶ Many lecturers have been sent abroad for attending international conferences or doing post-doc research.

An Giang University

Vision and strategy

Striving to 2030, An Giang University will become a centre of multi-disciplinary, undergraduate and graduate training, becoming one of the strongest universities in doing research and technology transfer to community service and internationally recognised.

- ▶ Promoting research groups in various fields such as agriculture, tourism, climate change and the establishment of start-ups and spin offs.
- ▶ Enforcing publication, especially in international journals.

Activities

- ▶ Facilitating and organising international scientific conferences and workshops to enhance research capacity, knowledge dissemination, and collaboration with partners.
- ▶ Enhancing research capacities of the academics and researchers by raising international funds and finding grants for research and development.
- ▶ Increasing the quality and quantity of scientific research activities through the scoring of the scientific works from the Journal of Science.
- ▶ Fostering the relationship with international universities and research institutes by making contracts to welcome and work with overseas students, volunteers and researchers in the interdisciplinary field.
- ▶ Formulating the regulations and guidelines in scientific research, technology transfer, and intellectual property.



- Organising training workshops for academics and researchers on technology transfer and commercialisation of the products from their research results.

Can Tho University

Vision

Can Tho University targets to be one of the leading higher education institutions in Vietnam and recognised as one of the top universities in Asia-Pacific in training and research in 2022.

Mission

Can Tho University operates its resources to be the leading national institution for education, research and technology transfer, making significant contributions to the development of high-quality human resources, fostering the talents and the advancement of science and technology to cater for the regional and national socio-economic development. Can Tho University is the crucial driving force for the development of the Mekong Delta region.

Core Values

Consensus - Devotion - Quality – Innovation

Quality Policy Statement

Recognising the significant needs for qualified human resources in the society as well as strong competition in training for high quality human resources upon the local and global innovation contexts, Can Tho University is committed to ensuring its quality through continual innovation and integration in education, creativity and dynamics in research and technology transfer; incorporating theory into practice to prepare graduates with sufficient knowledge and skills, enabling them to perform their work efficiently, formulate their leadership and adapt themselves to changes.

Can Tho University is committed to the full establishment and implementation of an efficient, creative, innovative, professional and responsible



governance system. All University activities will be systematically and effectively governed through computerised procedures, applying innovative approaches and undergoing regular monitoring and assessment.

2.1.1. Challenges in managing R&I

Higher Education Institutions in Vietnam have faced new challenges posed by the globalisation throughout the region and the world. Innovation has become a very new aspect in Vietnam, hence generating the needs for VIET HEIs to contribute to the country's progress since these HEIs can produce intelligent and talented students to supplement the existing workforce as well as research outputs for practical usages in Vietnam.

However, another issue, which is very important, concerns the budget allocated for research in Vietnam. To date, it is acknowledged that many Vietnamese researchers are publishing many research outputs with such a lower research budget, as compared to that in European countries. This also reflects a sad truth that the financial needs of academic/research groups have not been well accommodated, and this could be due to the fact that there is no concrete measurement for the value added by HEIs in terms of research to the country's economy.

The seemingly weak academic autonomy in VIET HEIs means that topics for research are still much under control by the government; therefore, academic/research communities in Vietnam are not really performing to their fullest. This fact may discourage VIET HEIs from maximising their actual capabilities for the general development of the country, including the economic development. In addition, Intellectual Property Management in Vietnam is not well performed. This term has appeared to be quite new in Vietnam in recent years; the academic/research community in VIET HEIs may be familiar with the term 'IP Management', but they are not really aware of how to adapt the IP issue in their work.

2.1.2. Opportunities for an effective R&I management

With the constant transformation of VIET HEIs, their role has become more crucial for the market-oriented society. IP Management has been



fostered at national and institutional levels, and more and more private enterprises are willing to invest in VIET HEIs for research collaboration. All these appear to be a good prospect for VIET HEIs as their contribution to the development of the country's economy is encouraged.

Every ENHANCE VIET partner HEI has its own office or unit to support research, innovation and knowledge exchange:

Thai Nguyen University

Thai Nguyen University's Research and Innovation Unit (<http://www.project-enhance.eu/thai-nguyen-university-ri-unit>) is established to promote research and technology transfer activities so as to practice and promote applicable scientific products, as well as create favourable conditions to boost the commercialisation of research findings from university's research units to enterprises. This unit's main tasks are:

- ▶ Setting up and implementing incubation strategies and technology transfer within TNU;
- ▶ Conducting research and carrying out technology transfer services to improve the quality of training;
- ▶ Providing consultancy on making and signing science and technology contracts;
- ▶ Providing training services to build up research capacity and research management skills;
- ▶ Assist in registering patents and intellectual property;
- ▶ Supporting spin-off activities;
- ▶ Conducting other legal activities.

VNU Ha Noi – University of Social Sciences and Humanities

Office of Research Affairs (<http://www.project-enhance.eu/vnu-ha-noi-university-social-sciences-and-humanities-ri-unit>) is one of the nine administrative offices under the VNU Ha Noi – University of Social Sciences and Humanities. The Research and Innovation (R&I) Unit is established as a part of the office, which itself is responsible for all matters related to scientific and research activities of HNUSSH. The Unit's mission is to support research activities, providing favourable conditions



for their academics to produce excellent research, as well as finding opportunities to transfer the research results to the industry in order to be applied and implemented.

As with the other HNUSSH divisions, the R&I Unit's working spirit will include respect for academic autonomy, commitment to international integration and reform, dedication to community service, and contributions to the goal of making HNUSSH one of the Top 100 Universities of Asia.

To fulfill its mission, the R&I Unit will offer the following services:

- ▶ Creating a favourable working environment for academics and researchers;
- ▶ Providing consultancy on writing grant proposals, calling for sponsorship and research proposals;
- ▶ Providing consultancy on research methods and project management;
- ▶ Connecting academics and researchers with the private sector, in particular businesses and the industry;
- ▶ Organising seminars, workshops, conferences, and training courses on research and innovation, technology and knowledge transfer and building strong research teams.

Hue University of Agriculture and Forestry

The Office of Science, Technology & International Cooperation (<http://www.project-enhance.eu/hue-university-agriculture-and-forestry-ri-unit>) is a unit of the Hue University of Agriculture and Forestry (HUAF). It is aimed at giving advice to the Board of Rectors about planning, implementation and management of Science and Technology to promote effective research activities in the field of agriculture, forestry, fisheries, rural development and environment toward a leading research-based university in the above-mentioned specialisation in the central region and throughout the country. Currently, the Office is operated by one Vice-Rector, one Head and one Deputy Head, five staff and researchers (three with Master's degrees and two with Bachelor's degrees) from many different backgrounds such as Agriculture, Environmental Man-



agement, Economics, International Relations. The Unit is providing the following services:

- ▶ Developing short-term, mid-term and long-term strategy for HUAF research and innovation;
- ▶ Promoting cooperation among researchers inside and outside the country to develop scientific programs in the field of agriculture, forestry, fisheries, rural development and environment in order to meet the social demands, aiming at the industrialisation and modernisation of the central region and Vietnam;
- ▶ Improving effectiveness of scientific research programs both basic and applied research;
- ▶ Developing policies to facilitate and attract leading professors from within the country and abroad to enhance the quality and quantity of research works;
- ▶ Searching funds from national and international sources in order to chair or participate in research projects with the aim of enhancing research and innovation capacities of HUAF's staff; to improve infrastructure, equipment and facilities for research activities;
- ▶ Promoting the publication of research works in scientific journals, especially international journals and enforcing policies to reward HUAF's staff who have had their articles published in international journals with high impact factor;
- ▶ Establishing cooperation among universities and institutions inside and outside the country to strengthen capacities of HUAF's staff and students through seminars, training courses, workshops, conferences or exchange programs.

VNU Ho Chi Minh – University of Social Sciences and Humanities

- ▶ **Office for Scientific Research and Project Management** (<http://www.project-enhance.eu/vnu-ho-chi-minh-university-social-sciences-and-humanities-ri-unit>; <http://qlkh.hcmush.edu.vn/>): providing advice to the University in planning and managing scientific and technological research (managing or cooperating with other offices/departments in managing scientific conferences, seminars and research projects of



all kinds/levels) in order to enhance the research capacity regarding social sciences.

- ▶ **Office for Inspection - Legislation - Intellectual Property** (<http://tpc.hcmussh.edu.vn/>): providing advice to HCMUSSH's President on IP-related issues so as to review, exploit and manage intellectual property in the University; participating in IP-related activities and activities concerning education, scientific research and technology transfer of HCMUSSH.
- ▶ **Office of International Cooperation and Project Development** (<http://htqt.hcmussh.edu.vn/Default.aspx?ArticleId=fa5a5222-2668-4ac6-b9a8-c04a0686410b>): facilitating the development of international cooperation programs between international partners and faculties/departments/offices of the University; promoting and formulating international cooperation plans; and managing and monitoring the implementation of international cooperation programs and activities, including international conferences, in collaboration with the Office for Scientific Research and Project Management.

Services provided are detailed below:

- ▶ Promoting research activities of the University, in terms of both quantity and quality, by raising the research capacity of leading professors, lecturers, undergraduate and graduate students, and linking research activities with teaching, promoting the role of research groups in the main fields of HCMUSSH and the operational capacity of research centres, etc.
- ▶ Designing and participating in scientific research programs in social sciences and humanities and related fields; major research topics of VNU-HCM and other institutions;
- ▶ Enhancing the application of scientific research both theoretically and practically;
- ▶ Associating with nationwide universities and research institutes to diversify scientific products and activities regarding publication of works in scientific journals;
- ▶ Offering proper policies to attract domestic and overseas researchers and searching for projects sponsored or commissioned by interna-



tional organisations; or projects in collaboration with international scientists.

An Giang University

Research Management and International Relations Office (RIRO) (<http://www.project-enhance.eu/giang-university-ri-unit>) is a unit of An Giang University (AGU) that gives advice and assistance to the Board of Rectors in performing the function of organising and managing scientific research, technology transfer, intellectual property, and Journal of Science in scientific research and training of the University. The list of services is provided as below:

- ▶ Promoting mono and interdisciplinary research groups in the fields of Social Sciences, Humanities and Education, Political Sciences, Economics and Law, Agricultural Sciences, and Biotechnology, Natural Sciences, Technology and Environment, and Interdisciplinary Sciences;
- ▶ Facilitating and organising international scientific conferences and workshops to enhance research capacity, knowledge dissemination and collaboration with other potential partners regionally and internationally;
- ▶ Enhancing research capacities of the academics and researchers by raising international funds and finding research and development grants;
- ▶ Fostering the relationship with international universities and research institutes by making contracts to welcome and work with overseas students, volunteers and researchers in the interdisciplinary field;
- ▶ Establishing research groups and registering research themes at the university and provincial level;
- ▶ Increasing the quality and quantity of scientific research activities through the scoring of the scientific works from the Journal of Science;
- ▶ Formulating the regulations and guidelines to assist the Rector Board in scientific research management, technology transfer, intellectual property;



- ▶ Organising the trainings for academics and researchers on technology transfer and commercialisation of the products from their research results.

Can Tho University

Department of Research Affairs (<http://www.project-enhance.eu/can-tho-university-ri-unit>; <https://dra.ctu.edu.vn/>): coordinating research activities and disseminating research-related information. In order to conduct effective research and innovation management, these knowledge and skills should be obtained by the people in charge:

- ▶ Knowledge of up-to-date research trends and granting policies in the world;
- ▶ Skills to attract talents and support them to achieve their research goals, making sure the research budget is allocated properly;
- ▶ Communication skills with relevant units;
- ▶ English skills.
- ▶ Annual conferences on scientific research for lecturers and students with excellent scientific works at faculty and university levels
- ▶ International conferences on various fields of study held by CTU and its faculties
- ▶ Quarterly magazines for science and technology in Vietnamese and English

Additionally, CTU Department of Research Affairs in collaboration with other research departments tends to improve services regarding R&I implementation and management such as:

- ▶ Training researchers, teaching staff, private sectors and other stakeholders in CTU to get used to the Unit equipment and other facilities for their R&I work;
- ▶ Improving researchers' data analysis ability;
- ▶ Conducting research and carrying out technology transfer services to improve the quality of training;
- ▶ Providing training services for capacity building of researchers and research management;



- ▶ Conducting training on both theories and practices in social sciences & humanities, natural sciences, education and other fields to produce online reports, papers, journals, etc;
- ▶ Facilitating other legal activities and paper work.

2.2. Support for VIET HEIs in R&I

In order to foster research and innovation within the academic/research community in VIET HEIs, the Vietnamese government has provided financial support in form of funds. The two most popular types of funds for research and innovation in Vietnam are NAFOSTED (National Foundation for Science and Technology Development) and NATIF (National Technology Innovation Fund). There are other 19 national programmes in Science and Technology available for academic/research communities in Vietnam. Moreover, each Ministry has a programme for R&D and regional governments also have their own programmes for R&D.

Additionally, the Vietnamese government's support for R&I in VIET HEIs is also reflected in laws, decisions, decrees, resolutions, circulars and other documents regarding the commercialisation and application of academic results, the intellectual property, the establishment of R&I centres in universities, etc. Typically, the establishment of VIFOTEC following the Decision No 1215/TC-LHH (dated 17/11/1992) has considerably contributed to the implementation of innovation as well as the improvement of research capabilities within VIET HEIs for providing creative talents with both physical and spiritual support.



3. GOOD PRACTICES ON R&I MANAGEMENT AND IMPLEMENTATION IN VIETNAM

In the framework of the ENHANCE project the following good practices on R&I Management and Implementation can be highlighted:

Thai Nguyen University

Research management and technology transfer have been managed by the Department of Science, Technology and Environment of Thai Nguyen University since the establishment of the University. In 2016, the subunit, called the Department for Research and Innovation, was founded to serve as a link between the University and Industry in order to effectively create mutual benefits. The unit manages the grants from national level to provincial level as it supports the applicants to prepare their research proposal as well as research budgets. Currently, the R&I department at TNU is managing 20 national research projects and one provincial research and technology transfer program. Management is done by means of monitoring progress and reporting activities.

VNU Ha Noi - University of Social Sciences & Humanities

HNUSSH has a mission to support research activities, providing favourable conditions for excellent research, contributing to the target of the University to be among the Top 100 Asian universities. The University Office of Research Affairs has been giving advice on the preparation and writing of research proposals, calling for funding and giving support as well as advice on how to conduct a research project. It has also been working as a bridge that connects the researchers and the industry. Some other activities such as organising seminars, workshops and conferences and promoting the building of strong research teams have also been carried out by the office.

Currently, HNUSSH is implementing numerous important research projects in collaboration with different domestic and foreign institutions. These research programs have practically and effectively contributed to



the socio-economic development of the country. 17 national, 3 ministerial, 42 VNU and one provincial research projects have been conducted and contributed by the University faculty staff since 2017. They are also participating in and undertaking various international research projects such as: Impact of Socio-economic Development on Sea Tourism: the Case of Ha Long Bay (partner/sponsor from the UK), Sustainable Tourism Development (partner/sponsor from Germany), Competence Centres for the Development of Sustainable Tourism and Innovative Financial Management Strategies to Increase the Positive Impact of Local Tourism in Thailand and Vietnam (partner/sponsor from the EU), Excavation and Research of Thach Lac Archaeological Site, Ha Tinh Province (partner/sponsor from Australia), Understanding the Asian Community (partner/sponsor from Japan), and Feasibility Study on Promoting Academic Exchange in Japanese Studies between Vietnam, Europe and the US (partner/sponsor from Japan).

Hue University of Agriculture and Forestry

HUAF has been financially supporting scientific ideas and thoughts, incubators for HUAF's staff, and annual entrepreneur competition for HUAF's students. HUAF has also funded HUAF's researchers to implement 6 pilot-run and commercialisation projects from their research results since its involvement in the ENHANCE project in 2016. As the first important step, these research products have been commercialised through the cooperation between researchers and private enterprises so as to bring research outputs into market to meet the social demands. From that, the researchers have paid more attention to the registration, in terms of intellectual property of these research products as trademarks, patents...HUAF's managers realise that this way will bring universities an income source from scientific and technological activities.

VNU HoChi Minh- University of Social Sciences and Humanities

There have been more and more effective research projects linked with community development and community service, including international projects with the budget shared by the partners under the



management of Office of Scientific Research and Project Management. As a result of proper marketing strategies and improved research portfolios, several research projects have been successfully updated, namely Research project with Ben Tre Province in water management and climate change; Research project with An Giang Province, Ha Tien Province, Dak Nong Province, Dong Thap Province, Tay Ninh Province, etc. on various topics in social sciences and humanities with the budget shared by the local authorities; there are also a lot of topics for student research on embedding service learning in the educational programs and activities... Specifically, HCMUSH has officially published the *Regulations on Intellectual Property Rights applying to all research projects*, theses and dissertations at all levels; this helps increase all staff's and students' awareness on intellectual property rights as well as ethical issues in doing research. Our institution has been able to multiply the awareness about these important issues as well as experience/competence in research management when we carried out the replication seminars during the time of implementing the ENHANCE project. In addition, we conducted the following international projects in the years of 2015 and 2016: Enhancing the Development of the Centre for Religion Studies at HCMUSH (funded by MWI, Germany until 2018), SWEEP (Social Work Education Enhancement Program) funded by USAID, and a lot of projects funded by Korean and Japanese organisations (Japan Foundation, ...).

An Giang University

An Giang University's mission is to provide high quality trained human resources; conduct scientific research and technology transfer; contribute to the socio-economic development of An Giang province and the Mekong Delta in the process of industrialisation, modernisation and international integration.

AGU has promoted scientific research and technology transfer in the province and region; created a research culture; formed scientific research teams throughout the country to carry out key research programs, directly meeting the social demands and the needs to develop higher education.



Since its participation in the ENHANCE project, AGU has improved management capacity for R&I Office and promoted its scientific research, technology transfer, and exploitation and commercialisation with various international organisations, universities, research institutes and private enterprises through meetings, workshops and training sessions. As a result, AGU has collaborated with Cooking Studio Vietnam, GRAIN Cooking Studio, Phan Nam Company in An Giang, Can Tho University, Dong Thap University, Tra Vinh University, Cuu Long Delta Rice Research Institute, and Dinh Thanh Agricultural Research Centre (Loc Troi Group).

Can Tho University

CTU's main mission is training, conducting scientific research and transferring technology to serve the regional and national socio-economic development. In addition to its training responsibilities, CTU has actively taken part in scientific research projects, applying the advances in scientific and technological knowledge to solving problems related to science, technology, economics, culture and society in the region. From its achievements in scientific research and international cooperation projects, the University has developed a wide variety of products and technological production processes that benefit people's lives and promote export as well. As an example, in 2017 CTU carried out 230 research projects of various fields of study at different levels: national level: one project; ministerial level: 36 projects, University level: 94 projects, student research: 66 projects, and local level (province/cities): 33 projects, with a total budget of about 1.3 million USD.

Since its involvement in the ENHANCE project, CTU has promoted scientific and technological cooperation with many international organisations/universities/research institutes through meetings, conferences, seminars and trainings. As a result of these cooperative projects, the staff's administrative capabilities and specialisations have been upgraded. The facilities, experimental equipment, and scientific materials have also been added via ENHANCE fund.



4. RECOMMENDATIONS TOWARDS THE IMPROVEMENT OF R&I MANAGEMENT AND IMPLEMENTATION IN VIETNAM

4.1. Recommendations to Higher Education for the Economic Development in Vietnam

There are still a lot of challenges in R&I management, leadership and implementation in VIET HEIs. Regarding the contribution of higher education to social and economic development, it is observed that currently there is little interaction between the higher education system and the private sector. Some Vietnamese HEIs face difficulties in commercialising their research outputs. Here are some recommendations that should be taken into consideration for a better management of R&I, hence, for promoting the application of academic research on economic development:

- ▶ Strengthening the network among VIET HEIs with the main focus on research and the bond between academia and enterprises simultaneously.
- ▶ As for the field of research and development (R&D), the scientist's income should come from the output of their study (not from the research funding).
- ▶ Collaborating with private sector to put scientific research into practice by making companies aware of the key role of Higher Education Institutions as a R&D partner.
- ▶ Working with private sector to identify the employment sector's real needs and allow students to work as interns in order to gain work experience.
- ▶ Promote the driving forces that create the relationship between academia and enterprises; orient expectations, and support the building of trust and commitment.
- ▶ Offering solutions and have innovative programs to have a multidisciplinary collaboration among the university, the business, and the designers.



- ▶ Changing and updating the lecturing methods: making students more active in studying and conducting research.
- ▶ Ensuring equality in job competition.
- ▶ Equipping students with more soft skills to meet the social demands.

4.2. Recommendations to Higher Education and Science and Technology authorities in Vietnam

International cooperation, research grants, and policies are the most important strategies for academic environment (HEIs and R&Is) supported by the Government. Therefore, towards the improvement of R&I management and implementation in Vietnam, the Higher Education and Science and Technology authorities should take into account the following recommendations:

- ▶ Completing the system of policies for orienting and adjusting collaborative activities between HEIs and enterprises. Particularly, the government should promulgate specific regulations concerning obligations and rights and cooperation conditions between HEIs and enterprises.
- ▶ The State and the universities need to proactively foster the relationship between academia and enterprises by establishing many official channels between HEIs and enterprises, such as forums and platforms. Based on the up-to-date demand and supply of the labour market, proper adjustments should be made regarding education and training.
- ▶ Launching a system that assists the co-establishment of development funds between HEIs and enterprises, to increase the responsibility of the stakeholders. Legislative support for fundraising on a link through ministry – university – private sector.
- ▶ Financial support from the government should be focused on studies in the field of basic science. For applied science, the research funding should come from the private companies as a loan and the government will pay this funding back to the company when the study is successful.
- ▶ More support from MOET and MOST for international oriented programs and projects.



- To strengthen the links between academia and industry fostering joint initiatives in the field of research and innovation, there should be some support from government such as proposing stable policies and suitable tax policy for enterprises and researchers (tax reduction of corporate income, personal income taxes etc.), funding for both enterprises and university on R&D.



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