



UNIVERSITIES AS KEY PARTNERS
FOR THE NEW CHALLENGES
REGARDING FOOD SAFETY & QUALITY
IN ASEAN



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1. PRESENTATION OF THE ASIFOOD PROJECT



AsiFood is a capacity building project in the field of higher education. It officially began on 15 October 2015 and will end on 14 October 2018. The Asifood Project involves thirteen partners from Cambodia, Thailand, Vietnam, Austria, Belgium, Italy and France. The Project is coordinated by Montpellier SupAgro in Montpellier, France.

A. PROJECT BACKGROUND INFORMATION

The Consortium is made up of a group of institutions that have been working together for several years in the field of training and research. These institutions have led several multilateral research projects on food safety, (ASD-INSALINS, a joint laboratory between Agreenium and HUST), national research programmes (ANR-REvalter) as well as European (MONIQA, ASIALINK, FOODSEG) and international (MONIQA, ASIALINK, FOODSEG) research programmes. In the field of training, the cooperation involved training professionals in Europe (BOKU, ULg, Agreenium and UNIPI (with the Chinese-Italian Centre for Food Safety) as well as creating bilateral Master's degree courses in Asia. One such Master's degree course is the Master's degree in "Food Technology" run by VNUA and ULg, in which ITC, HUST and RUA are also involved. This Master's degree course is an initial response to meet urgent training needs in this area. In 2014, following the remarkable interest and needs expressed by some Asian universities, Agreenium funded an exploratory mission in Asia to visit HEIs, national agencies and some food processing plants to define needs and to build a strategy that would meet this demand. Montpellier SupAgro played a crucial role in formulating the AsiFood Project.

B. THE CONTEXT OF THE PROJECT

The policy adopted by the Association of Southeast Asian Nations (ASEAN)

The consequences of food-related epidemics which are mainly linked to food safety, affect consumers' health, quality of life and national economies, especially in developing countries. In recent years, there have been many cases of outbreaks of disease in Asia (melanin in powde-

red milk, the Ebola-Reston virus in pigs, salmonellosis from fermented products, chloropropanols in soya sauce, etc.), and diarrhoea-related illnesses are still very present. The causes can be found at different levels in the food chain, from farming to food processing units, to retailers. Furthermore, demand for food is rapidly growing in Asia, with growth expected to go up by over 77% by 2050. The rapid transformation from an extensive agriculture towards an intensive one has led to a misuse of phytosanitary products (chemical fertilisers and pesticides). As the pace of growth has accelerated, practices have gradually become less regulated. For example, in Cambodia, around 90% of pesticides and fertilisers are imported illegally, and pesticide residues in vegetables are often above recommended limits.

In its integration programme, the ASEAN has placed food safety among its top twelve priorities. Food safety is currently being actively encouraged in Vietnam, where a National Food Safety Strategy has been approved for 2011-2020. This strategy is aimed at improving information provided to the population. Furthermore, several projects have been developed aimed at improving both the policies in force and the work of institutions working in the field of food safety, as well as the skills and working practice of professional stakeholders. The existence of national legislation on food safety is indeed at the top of the ASEAN's priorities but there are also other criteria including for example, training in production processes and marketing, the development of human resources, monitoring, etc. Although these actions have been identified as present in all the countries that are members of the ASEAN, the standard of monitoring and the effectiveness of regulation enforcement diverges within the ASEAN. It is therefore imperative that a common understanding of food safety issues emerges among the major Asian food export countries in order to prevent potential problems and introduce effective regulations.

The economic lever is an impetus for political action. While highlighting the relationship between economic growth, trade agreements and food safety, a study carried



out by the Cambodian government recommended the creation of a national agency. Eurocham, the European Chamber of Commerce, has made the same recommendation for Vietnam. Exports have fallen throughout the entire region due to the presence of raw materials and food unfit for human consumption, as well as inadequate quality management systems. Food processing companies, especially small and medium-sized companies face problems in adapting to food safety requirements and food quality management systems in order to export their products. The local market also suffers from the presence of products on the market that are unfit for human consumption, resulting in public health problems. Furthermore, the percentage of the population in Asian countries living off farming is high. This is over 49% in Vietnam, and despite development in this sector, the income of farmers remains low and unpredictable due to uncertainties regarding the quality and quantities of their produce.

As indicated above, most of these food safety and quality problems are due to qualitative and quantitative limitations with regards food safety management. The main problems that exist are due to a variable standard of staff expertise, with most staff failing to work in compliance with the rules defined by specialist training for their field, and who, in many cases, have not even had the opportunity to do professional training. It is common that a person understands the importance of his or her own responsible working practice, yet fail to have a global vision of the food supply chain as a whole. Furthermore, inspection authorities are few and far between and generally inadequate in Asian countries. This is apparent when we realize that Vietnam's objective for inspection authorities in 2010 was to have one food safety inspector for 10,000 inhabitants. In addition, the majority of training courses that are on offer in the professional world and in higher education are not adapted to meeting the needs and expectations of professional stakeholders.

A study of DG Sanco's educational programme entitled BTSF, "Better Training for Safer Food", has been particularly interesting and this programme has yielded some good results. However, it mainly targets food processing plants with very little involvement in the field of higher education. In Cambodia, A recent study by the Department for Higher Education in Cambodia has highlighted a clear lack of human resources in training needs identification and course design, especially in the fields of food processing, agriculture and food safety. In Vietnam, there is a lack of specialist training courses at a Master's degree level. The first Master's degree programme in this field, a Master's degree in "Food Technology", was created in 2013 at VNUA with a major part focussed on food safety and food quality management.

Within the ASEAN, food safety is therefore considered as a serious issue and one of worldwide importance. A major aim behind the AsiFood Project is to tackle this issue across the world by training target groups ranging from students (undergraduates and graduates alike) to professional stakeholders and their staff in both private enterprises and public bodies. The Asifood Project also highlights issues that have not yet been addressed, such as the need to manage food safety within the framework of a global strategy for the food supply chain. Also, in accordance with the objectives defined by the ASEAN in 2015, the Project is a direct response to the need to harmonise a regional, or even national, approach to food safety management, by recommending the adoption of international standards and by implementing training in HEIs and enterprises for international managers. To this end, the Asifood Project can be considered as an academic programme as well as a capacity building project to be promoted in HEIs, enterprises (especially SMEs) and ASEAN organisations and agencies in a network structure linked to enterprises and European agencies.

One of the major causes of the critically low level of food safety and poor food quality found in partner countries is the lack of qualified staff, due to the lack of specialist higher education training courses. The Asifood Project has revealed the lack of close relationships between Asian HEIs and professional stakeholders nationally. This means that training courses and curricula do not meet the needs and expectations of professional stakeholders. It also ultimately means that the graduates present on the job market do not have the required level of skills.

The aim of the AsiFood Project is to help HEIs in Vietnam, Thailand and Cambodia build their capacities and enhance their relationships with food safety and food quality professional stakeholders, and this within the wider-reaching context of integration into the ASEAN, a process that began in 2015.

With this in mind, the aims of the AsiFood Project are:

- To improve relationships between HEIs and professional stakeholders (producers and retailers, health authorities, customers, etc.). This is a preliminary and important step for integrating HEIs into the knowledge triangle. Stronger relationships with professional stakeholders will lead to the development of more useful and effective educational and research programmes, the involvement of professional stakeholders on HEI boards, the joint supervision of student work placements in food processing plants and enterprises, and the involvement of professional stakeholders in teaching the courses.
- To improve teaching staff's knowledge and skills with the introduction of new teaching tools, resources and methods and the creation, implementation and dissemination of three multidisciplinary training modules on food safety and food quality management "from farm to fork", and that carry between five and fifteen ECTS each. Thanks to the committed involvement of professional stakeholders, the course syllabuses are today, fully adapted to meet the needs and expectations of the sector. Master's degree programmes developed by each HEI based on common modules will now facilitate student and staff mobility between the HEIs in the partner countries.
- To use the training needs identification and course design methodology with partner HEIs to ensure that new and/or revised course syllabuses are adapted to the needs and expectations of the economic sector and those of professional stakeholders. The AsiFood Project was first used in faculties and then at an HEI level. The aim long term is that this methodology will be readily applied to create and revise all sorts of training courses.
- To strengthen the relationships between the HEIs of the ASEAN, as well as between Asian and European HEIs in the field of food safety and food quality management. Lecturer-researchers have therefore become one of the three pillars of the knowledge triangle and exchanges between Asian and European lecturer-researchers and their institutions have been of great benefit for all parties.

2. PRESENTATION OF THE PARTNERS OF THE CONSORTIUM



ASIFOOD PARTNERS



The National Institute of Further Education in Agricultural Science - Montpellier SupAgro (SupAgro), Montpellier, France

Montpellier SupAgro contributes to the development of agricultural research with its lecturers-researchers involved in 22 joint research units and three joint technology units. Montpellier SupAgro's scientific teams work closely with the major research organisations based in Montpellier (INRA, CIRAD, IRD, IRSTEA, etc.) and regional higher education institutions (University of Montpellier, Paul Valéry University in Montpellier, University via Domitia in Perpignan, CIHEAM-IAMM, etc.). It also manages two experimental agricultural fields/projects (specialised in viticulture, sheep breeding and olive growing) dedicated to R&D and exchanges with professional stakeholders. The transfer and exploitation of results is conducted through the Agro-Valo-Méditerranée business incubation site, a shared platform for setting up and supporting projects in partnership with INRA and INRA called "Transfert".

Montpellier SupAgro has a long tradition of international relations on its training courses and research programmes. It welcomes 27 % of foreign students to its campuses, 60% of whom come from non-French-speaking countries. Academic exchange agreements signed with numerous institutions located in more than 20 different countries open up significant opportunities for mobility for students and teaching staff/staff/lecturer-researchers. Framework agreements for cooperation and educational exchange have been signed with HEIs in more than 20 different countries to set up training support systems. The institution coordinates two international consortia which support Erasmus Mundus Joint Master's Degrees.

There are currently 1 650 students enrolled in courses for Bachelor's and Master's degree course/undergraduates and graduates, 27% of whom come from abroad. There are 247 PhD students and 37% of students at Montpellier SupAgro have been awarded means-tested grants. 80 academic mobility agreements have been signed.



The Agreenium Institute, France

The Agreenium Institute is a national cooperation institution of an administrative nature, under the dual supervision of the French Ministry of Agriculture and the Department of Higher Education. The French Agricultural, Veterinary and Forestry Institute (IAVFF) was created in October 2014. It groups together twelve higher education institutions specialised in agricultural science, two higher education institutions and four research institutions (INRA, IRSTEA, CIRAD and ANSES).

The aim of the institute is to create a close synergy between higher education and agricultural, veterinary, forestry and landscape research enterprises, in order to consolidate and develop its visibility and attractiveness at an international level.

The primary purpose of the institute is to organise cooperation projects between its members in response to the areas of cooperation laid down by law: cooperation on agricultural and veterinary training, the training of teaching and supervisory staff in agricultural technical education.

The institute must enable its members to implement training and research strategies together through joint projects at a national, European and international level, thus promoting the coordination of their policies and activities. In particular, it must organise the coordination of training needs identification and course design in the areas covered by the Ministry of Agriculture and the Department for Higher Education and the revision of the guidelines and syllabuses for veterinary studies.



BOKU, (Universität für Bodenkultur), Vienna, Austria

BOKU, Department of Food Science and Technology (DFST) is part of the University of Agricultural Sciences in Austria which comprises 15 departments. It is subdivided into two institutes, one specialised in Food Techno-

logy and the other in Food Science. The work conducted in the institutes is organised around different working groups: food technology, food biotechnology, process engineering, microbiology and food hygiene, food chemistry, food quality assurance, food physics, sensory food science and food authenticity.

The Department of Food Science and Technology is Austria's leading food technology research institute. It is an experienced and reliable partner of both HEIs and industrial enterprises. DFST's thematic scope includes product development, quality and safety management, (bio)chemical, physical, (micro)biological and sensory characterisation of food, as well as the nature and properties of enzymes.

www.dlwt.boku.ac.at



The University of Liège (ULg), Liège, Belgium

The University of Liège (ULg) is the only public, pluralist and comprehensive higher education institution in the French Community of Wallonia-Brussels. It is part of the Wallonia-Europe University Academy. It aims to maintain a fair balance between teaching, research and activities that serve society, across the broad field of action acknowledged by its status as a comprehensive higher education institution.

Fully integrated into the Bologna process aimed at establishing a wide-reaching harmonised higher education area throughout Europe, ULg welcomes nearly 20,000 students in nine faculties, one institute and one business school. The University of Liège offers a very wide range of training courses: 38 Bachelor's degrees, more than 200 Master's degrees (33% of which are unique in French-speaking Belgium) and 65 additional Master's degrees. Located at the crossroads of Germanic and Latin cultures and with an international outlook, the University of Liège devotes a significant part of its teaching to foreign language courses in order to make its students truly active citizens on the European scene. As a public higher education institution, it regards its educational mission for the benefit of society very highly. It encourages the integration of new teaching methods (problem solving, super-

vised training courses, role-playing, etc.) and the acquisition of transversal skills.

Gembloux AgroBioTech: www.ulg.ac.be/cms/c_281060/fr/gembloux-agro-bio-tech, Faculty of Veterinary Medicine, Department of Food Science: www.fmv.ulg.ac.be/cms/c_1384387/fr/accueil-dda



UNIVERSITÀ DI PISA

The University of Pisa (UNIPi), Pisa, Italy

The University of Pisa (UNIPi) was officially founded in 1343 when it was proclaimed a «Studium Generale» and accredited to train university professors. However, some people believe that its origins go back several centuries. Among its illustrious former students are Galileo, who was born in Pisa, studied in the same city and who became a professor of mathematics in 1589. There were also Nobel Prize winners such as Giosuè Carducci (literature), Enrico Fermi (physics), Carlo Rubbia (physics) and Enrico Bombieri who was awarded the Fields medal (mathematics).

Today the University of Pisa is a modern and prestigious centre for training and advanced research. It offers 60 undergraduate and 74 postgraduate degree programmes in all major fields of knowledge and advanced professional education. The University offers 28 PhD programmes, 68 postgraduate specialisations and 88 specific and short specialisation programmes in the framework of lifelong learning at undergraduate and graduate levels, as well as a Master's degree in Business Administration. Research and education have close ties in all fields and at all levels.

CAMBODIA



The Cambodian Institute of Technology (ITC), Phnom Penh, Cambodia

The Cambodian Institute of Technology (ITC) is a higher education institution in Cambodia founded in 1964 through cooperation with the Soviet Union. More than 10 000 students graduate from ITC every year and they are committed to their work as managers in the development of Cambodia's economic and social infrastructure. Faced with the current problem of globalisation and the rapid transformation of new technologies, ITC's main concern is to play an effective role in Cambodian society and to be at the forefront of development in order to improve the national education system. Its main aim is to provide students with good quality education in science, engineering and technology. Students are provided with technical and analytical skills to facilitate their integration and development on the job market. During the academic year 2015-2016, ITC welcomed approximately 3 800 students including 3 300 in engineering and 500 in technical fields of study.



The Royal University of Agriculture (RUA), Phnom Penh, Cambodia

The Royal University of Agriculture (RUA) is a leading public administrative institution in Cambodia. It plays a key role in building and providing training courses related to agriculture and associated sectors at all levels. RUA was founded in 1964 by King Norodom Sihanouk.

Its mission is to contribute to the development of agriculture and related sectors as well as the sustainable use of natural resources by providing graduate study, research and extension programmes in response to national and

international development challenges and the needs and expectations of the job market.

Its aim is to ensure that the quality and number of graduates trained by the RUA suit the needs and expectations of the job market; to offer courses whose levels are compatible with international standards; to encourage joint international research projects led by lecturer-researchers or research teams; to produce more relevant publications and to develop better dissemination through improved research with more research projects that are of a better quality.

THAILAND



The Asian Institute of Technology (AIT), Bangkok, Thailand

The Asian Institute of Technology (AIT) was founded in 1959 by eight Member States of the Southeast Asian Treaty Organization (SEATO) to initially serve as the engineering school of SEATO. This institute was founded to meet the growing needs of the Asian region in higher education, including engineering, science, technology and management, research and capacity building. Its mission is to train highly qualified and committed professionals who will play a leading role in the sustainable development of the region and its integration into the global economy. In 1967, AIT became independent and the Institute became known as the «Asian Institute of Technology» as an autonomous non-profit making higher education institution. AIT has its premises in Thailand but is not under the jurisdiction of Thailand and has the power to award its own degrees under the AIT Accreditation Authority. AIT is therefore a politically neutral institute.

AIT has an unparalleled international character, with 2 000 students from all over Asia and the rest of the world. 70% of its students come from outside Thailand. In 2015, AIT was recognised by the EU-funded U-Multirank institutional ranking as the «most internationally oriented» higher education institution in the world.



Kasetsart University (KU), Bangkok, Thailand

Kasetsart University is Thailand's No. 1 university specialising in agricultural science. The university was founded on 2 February 1943 for the promotion of subjects related to agricultural science.

With more than 70 000 students, Kasetsart University is the public university with the largest number of students in Thailand. Currently, it has four campuses: Bang Khen, Kamphaen Saen, Sri Racha and a campus in Chaloeprakiat Sakhon Nakhon province. Kasetsart University was ranked in 29th position in the QS World University Rankings by Subject ranking on 8 March 2017 and is ranked in 4th position in Asia for Agriculture and Forestry.

The university awards various degrees in agricultural science, science and technology and social sciences, and also offers tailor-made training courses. KU offers 547 national and international options on its Bachelor's degree and Master's degree courses and 41 PhD programmes.



The Prince of Songkla University (PSU), Hat Yai, Thailand

The Prince of Songkla University (PSU) is a publically funded university and was founded in 1967. It is the No. 1 university in southern Thailand and has five campuses offering a variety of programmes related to the needs of different communities. In addition, PSU includes 30 faculties, two hospitals, and more than 40 research and excellence centres, all committed to academic excellence, demonstrating great social responsibility and actively

offering services to all members of the community. The main aims of the university are to raise general educational standards and to support industry and development at a regional level.

VIETNAM



Hanoi University of Science and Technology (HUST), Hanoi, Vietnam

Hanoi University of Science and Technology (HUST), formerly known as Hanoi University of Technology, was founded in 1956. Today it is a leading institute in Vietnam focused on research-based science and technology with 30 000 students, 2 200 employees in 17 schools, eight research institutes, four research centres and a number of recognized laboratories. HUST currently offers 67 Bachelor's degree courses, 33 Master's degree courses and 57 PhD courses.



Nong Lam University (NLU), Ho Chi Minh City, Vietnam

Nong Lam University (NLU) is one of Vietnam's leading universities in agricultural science. NLU provides an excellent living and learning environment and is becoming the destination for many young and talented students from across the country. NLU has around 14 000 full-time students and more than 6 000 part-time students. The university is rapidly growing thanks to its flexible courses and syllabuses that are revised regularly.



The Vietnam National University of Agriculture (VNUA), Hanoi, Vietnam

The Vietnam National University of Agriculture (VNUA) is a huge multidisciplinary university with 1 340 employees and 38 484 students. It is organised into 14 faculties and this includes the faculty of agronomy, animal science, aquaculture, veterinary medicine, environment, land management, engineering, economics and rural development, accounting and management, political and social sciences, food science and technology, computing, biotechnology, education and foreign languages. The university has four research institutes that conduct work in the field of agrobiolgy, rice research, economics and development, engineering research and training.

Every year VNUA welcomes around 10 000 first year students, 1 200 Master's degree students and around 60 PhD candidates.

3. PROJECT MANAGEMENT: METHODS AND KEY EVENTS



A. WORK PACKAGES AND RESPONSIBILITIES

The AsiFood Project was divided into eight Work Packages (WP). Three of them are given over to project preparation (WP1), project management (WP8) and quality control management (WP7). Five Work Packages focussed on the technical aspects of the project.

WP2 and WP5: Development of the relationships between professional stakeholders and HEIs.

WP3 and WP4: Development of courses and syllabuses related to food safety and quality management adapted to the needs and expectations expressed by professional stakeholders.

WP6: Dissemination of project results to other higher education institutions of the ASEAN.

Each Work Package was led by a higher education institution designated for its expertise or experience in the particular field.

WP1: PREPARATION

The first agreements were signed in November 2015 between Montpellier SUPAGRO and all the university partners and others were signed from then onwards. The staff in charge of the key project activities were designated during the first Steering Committee (SC1) organised in Hanoi in March 2016. During SC1, the work and communication strategy for the entire project was agreed upon. The partners received training in the financial and administrative procedures and regulations that are specific to Erasmus+ funded programmes. A representative from BOKU (the leader of WP7) was present to explain the project and to discuss the means of evaluation (indicators, reports, etc.).

WP2 & 5: DEVELOPMENT OF RELATIONSHIPS WITH PROFESSIONAL STAKEHOLDERS

This work consisted of 2 phases:

- A survey was conducted to assess the relationships that already existed between the HEIs and professional stakeholders (public and private). The strategy for conducting the survey and the questionnaires was developed jointly during videoconference calls. At least 160 professional stakeholders were inter-

viewed. The results were then presented to the different professional stakeholders. An important workshop was also organised for Deans from each university partner (activity 2.7) on “Change Management” to develop syllabuses that suits the needs and expectations of professional stakeholders and achieves graduate employability.

- The WP5 work plan was carried out after the second Steering Committee meeting (SC2). The activities that were to be covered were planned out in advance, namely the production of surveys related to work placements (activity 5.2), the improvement of practices related to work placements (activity 5.3) and a seminar to share experiences about job/recruitment forums and work placement practices (activity 5.4).

WP3 & WP4: DEVELOPMENT AND MODERNISATION OF TEACHING SYLLABUSES RELATED TO FOOD SAFETY AND FOOD QUALITY

The development of suitable training programmes is the key to strengthening relationships between professional stakeholders and HEIs. The major aim of the work conducted in WP3 was to enable universities to build the required skills in food safety and food quality monitoring by means of a participative approach, and then by making recommendations for course syllabuses (activity 3.6). Above all, the objective was also to apply a methodology that would achieve training needs identification and course design.

The AsiFood Project proposed to create three training modules each leading to a total of between 5 and 15 ECTS. The fields of study that were initially identified during the proposal writing period (before February 2015) are:

- Food safety and quality management upstream of the food supply chain
- Food safety and food quality analysis
- Food safety and food quality in a food processing plant

The syllabuses of the modules were defined in greater detail by three Working Groups composed of four experts (from the European Union, Thailand, Cambodia and Vietnam) (activity 4.1 & 4.5). The conditions for the transfer of credits awarded for these modules between partner HEIs were determined after the validation of the modules and syllabuses by each partner university (acti-

vity 4.6) and the integration of the modules into existing or newly created Master's degree courses (activity 4.7). In order to plan out their courses, 24 teachers travelled to a country in the European Union to be trained in both technical subjects (activity 4.3) and new teaching methods (activity 4.4). On their return to their own countries, they remained in contact with the Working Groups. The equipment necessary for practical training activities was purchased by each HEI (activity 4.8). Although the first group of students to prepare the Master's degree (around 20 students per HEI) was initially supposed to start their studies in July 2017, they actually began during the first semester in 2018.

WP6: PROGRAMME PROMOTION AND SUSTAINABILITY

The three training modules became a short technical training course (STTC) (activity 6.2). Each STTC lasted up to six days and was taught and evaluated at least once by every HEI (activity 6.3). The first three sessions were taught by experts from both the European Union and AIT (The Asian Institute of Technology). One of the STTCs became an E-learning module that is now available on the AsiFood Project website. Two other online training modules were also created: one on teaching tools (activity 5.5 and 6.1) and another one on training needs identification and course design (activity 6.5 and 6.6). Initially it was planned that these training sessions would be available in English and in French. However, in actual fact, French is no longer used on Master's degree courses even at the ITC or HUST. For this reason, some of the training courses are only available in English.

The business model for all the training modules (STTCs) was defined and each partner university decided on an estimated budget for the STTC to ensure that the courses would be sustainable.

As Project Coordinator, Montpellier SupAgro had specific responsibilities. In addition to its technical involvement in teacher training, the development of training modules and the creation of E-learning modules, Montpellier SupAgro was also responsible for the coordination and the management of the AsiFood Project (WP1 and WP8). Each Work Package was managed by an academic partner and a member of the Consortium designated for his/her particular experience and skills. Each partner designated a representative to be in charge of coordinating the activities within his/her institution both from a technical and financial point of view.

B. PROJECT MONITORING AND DECISION MAKING

On the technical aspect, the university partners purchased videoconferencing equipment (computers, videoconferencing equipment, printers, etc.) during the first half of the AsiFood Project to enable them to exchange and communicate in the best possible conditions. Despite the purchase of this equipment and the use of Adobe Connect, failures in communication on numerous occasions prevented partners from communicating effectively. The main cause was weak or failed Internet connections for one or more of the participants.

For project management and the monitoring of activities, the AsiFood Project was organised in the following way:

- A Steering Committee (SC) that met on four occasions over the course of the AsiFood Project, with the participation of at least one representative from each higher education institution every time.
- Working Groups with specific roles and tasks (related to the activities of the Work Packages).
- Groups of people in charge of reviewing the documents prepared by the Work Package leaders within the framework of work on quality control management conducted by WP7.

Project management was achieved thanks to the organisation of four Steering Committee meetings as well as monthly or twice-monthly on-line meetings.

The first meeting of the Steering Committee was held in March 2016 in Vietnam at HUST. At first, it was decided that the second and third meetings would be by videoconference. However, in light of the difficulties experienced in establishing Internet connections with HEIs in Cambodia and sometimes in Vietnam, it was decided to organise the second Steering Committee meeting in Vietnam at NLU in March 2017 and the third Steering Committee meeting at ITC in Cambodia in October 2017 (alongside a seminar organised within the framework of WP5). These meetings were in the presence of at least one member from each Asian HEI every time. The meetings were extremely beneficial for all the participants and they were an opportunity to share in depth the outcomes as well as the questions raised about the next steps. The Project Manager systematically made a point of reminding the participants of the overall vision of the AsiFood Project and its expected outcomes. Although videoconference calls with European partners were planned, it was

not, in actual fact, possible to establish a long-lasting and reliable Internet connection between the team in Asia (NLU in Vietnam and ITC in Cambodia) and the European partners. In spite of the interruption of the Internet connection, it was always agreed to continue the meeting all the same. It was therefore crucial that the Project Manager met and interacted directly with the Asian partners.

When the AsiFood Project began in March 2016, an online tool (Smartsheet©) was used by the Project Manager to present the activities in detail and to monitor their progress. In actual fact, this collaborative tool was not really used by all partners and there was very little interaction using this tool. It was therefore decided to manage the AsiFood Project activities without it, and to organise monthly meetings, followed up by written minutes, instead in order to monitor the progress of the activities. Both technical and financial aspects were discussed during such meetings.

Generally speaking, the AsiFood Project ran considerably behind schedule compared to the initial calendar. This was the case for the completion of the surveys conducted by WP2 and WP3. The phase of designing and producing the questionnaires and also that of conducting the surveys was extremely time-consuming. The same was true for the design of the three modules and the validation of the lectures or programmes by the HEIs. It was also the case for the launch of WP5 which in fact did not really get underway until October 2017, far behind the date initially planned at the second Steering Committee meeting and likewise, the involvement of partners for quality control in WP7 also ran behind schedule.

All the partners worked extremely hard to ensure that the activities were implemented in their HEIs. Nevertheless, it was sometimes difficult for the Project Manager to have an accurate and clear global vision of the progress in activities in the different HEIs. The main reasons for the fact that activities ran behind schedule are:

- The availability of lecturer-researchers was, for some, considerably affected by their involvement in Bachelor's and Master's degree programmes. Other people were taken up by their administrative responsibilities within their faculty, as HR Manager or the Head of the Office for International Relations, for example.
- The AsiFood Project was the first experience of taking part in a European capacity building project for all the Asian partners, both as institutions and individuals.
- At certain stages, it was difficult to share a global vision of the project with the different partners.
- For some partners, it was difficult to actively involve lecturer-researchers and experts since some of them were involved in several international projects at the same time.

Furthermore, there was a major change in September 2016 when Frédéric Mens, the founder of the AsiFood Project, was replaced by Laurent Roy as Project Manager for Montpellier SupAgro.

In June 2018, support services were provided to the HEIs in Cambodia and in Vietnam to specifically work on the reporting of their activities, the planning out of work that needed to be completed before the end of the AsiFood Project and the way to conduct pedagogical, administrative and financial reporting.

The fourth Steering Committee meeting was held at PSU in Thailand in July 2018.

C. FINANCIAL MANAGEMENT OF THE ASIFOOD PROJECT

The initial budget validated by the Education, Audio-visual and Culture Executive Agency (EACEA) for the AsiFood Project is as follows:

BUDGET VALIDATED FOR THE ACTIVITIES IN THE ASIFOOD PROJECT

1. Staff costs	397 739 €	<i>Cannot exceed 40% of the total A</i>
2. Travel costs	123 920 €	
3. Cost of stay	108 600 €	
4. Equipment	272 000 €	<i>Cannot exceed 30% of the total A</i>
5. Subcontracting	93 500 €	<i>Cannot exceed 10% of the total A</i>
TOTAL A	995 759 €	



In the project preparation phase, it was mutually agreed to divide up the budget among the 13 partners according to the designation of the activities and responsibilities (planned field trips, teacher training, Work Package coordination, etc.). Each partner's initial budget was specified and detailed in the partnership agreements that were signed between Montpellier SupAgro and each institution when the AsiFood Project got underway.

It was necessary on numerous occasions to reiterate the rules and procedures for financial reporting, actual expenditure and pre-defined fixed expenditure (for staff, travel and subsistence costs). This was also true for the rules and procedures for numbering and indexing the supporting documents and also the criteria applied to determine the eligibility of expenditure. It must be acknowledged that all the partners conducted their financial reporting in a rigorous and serious manner.

To help partners manage their budget and carry out reporting correctly the following actions were implemented by the Project Management team:

- A summary support document written using the guidelines published by the EACEA was distributed and explained to all the partners at the launch workshop in March 2016 at HUST in Vietnam.
- A workspace was created on Dropbox where all the partners could share the necessary supporting documents online with the Project Manager.
- Participants were reminded of the rules and procedures at the second Steering Committee meeting in March 2017.

- A further reminder of the procedures and rules was made to participants during the workshop held at ITC in October 2017.
- In June 2018, support services were provided to the partners in Cambodia and in Vietnam.
- In July 2018, during the fourth Steering Committee meeting at PSU, a working session was specifically organised with the person in charge of financial reporting at PSU.
- In addition and on several occasions, the Project Management team organised tailor-made support sessions via Skype on a one-to-one basis with partner universities to respond to their specific questions and needs.

Furthermore, in compliance with the rules procedures laid down by the Erasmus+ Programme, there were many opportunities for questions to be answered during Email exchanges or Skype conversations and this throughout the whole period of the AsiFood Project. This was also the case for discussions about the use of funding and how to account for expenditure.

The main difficulties encountered by partners in the financial management of the funding and the reporting were particularly due to the fact that:

- The partner universities did not have Montpellier SupAgro's experience in European funded projects and Erasmus+ Programme projects.
- Particular difficulties arose when one of the partners in Cambodia was refused the settlement of a partial payment on four consecutive occasions.

➤ It was very difficult to manage pre-defined travel costs (particularly as they were estimated at an extremely low rate which left very little latitude for the organisation of field and study trips abroad) and also pre-defined staff costs (and still enable the active involvement of certain European experts).

The latest versions of each partner's budgets are currently being updated in the final phase of the project in September/October 2018 and will be appended to the amendments to the agreements that have been signed.

On the whole, the financial management of the AsiFood Project was conducted in a reasonable and efficient manner. Indeed, the modalities for using European funding for this particular Project are much simpler than with Tempus projects. The diligent work of those people responsible for the budgets in each of the partner institutions also significantly contributed to the successful financial management of the AsiFood Project.

D. QUALITY CONTROL MANAGEMENT OF THE ASIFOOD PROJECT

It was intended that within the framework of WP7, BOKU would conduct the quality control management of the AsiFood Project. The ISEKI-Food Association also intervened in staff training to design the modules and to

check that the proposed modules complied with EQAS requirements.

In actual fact, the quality control management system was implemented by the AsiFood Project partner universities. It must however be pointed out that the system as it stood was unsuitable for use as a steering tool for this Project. The Asian partners found it difficult to use this system in a proactive way. This was undoubtedly due to their lack of experience in the application of rules and procedures applicable to such a project. Another difficult factor was the fact that the Project Manager who took over this role at the end of the first year, did not have the global vision of the Project needed to effectively guide the project partners. Despite BOKU's commitment in the AsiFood Project, the regular issuing of reminders and the partner universities' good will, the quality control system was still relatively cumbersome. The main identified area for improvement is:

➤ The creation of a summary table that was both validated and used by all the partners to track the progress in the activities and that provides a global vision of the reporting from all the Working Groups.

The internal evaluation was carried out by the beneficiaries of the AsiFood Project. In this way an evaluation of the course syllabuses was carried out Master's degree students. Professional stakeholders who attended the short technical training courses carried out an evaluation of the teaching skills of the trainers. During the last steering committee meeting, the following table was set up.



Table 1: Self Assessment

CRITERIA	DEFINITION	KEY REMARKS ABOUT THE ASIFOOD PROJECT	AREAS FOR IMPROVEMENT
RELEVANCE	<p>The extent to which the project activity was suited to the priorities and policies of the target group, the recipient and the donor.</p> <p>To what extent were the objectives of the programme achieved?</p> <p>Were equal opportunities respected?</p>	<ul style="list-style-type: none"> - Food safety and food quality is a highly relevant issue for the ASEAN. - A means to strengthen of the relationships between HEIs and professional stakeholders. - The gender balance was respected. 	<ul style="list-style-type: none"> - The Bologna process as it is always complicated to apply the calculation of ECTS to every country. - Irregular participation of some members of the Consortium at certain points in the AsiFood Project.
EFFICIENCY	<p>Output compared to input, whose indicators can be both quantitative and qualitative.</p> <p>It refers to the use of resources to achieve the project objectives.</p> <p>Were resources used?</p> <p>Was there the same number of student and staff mobilities as initially intended?</p> <p>Were the activities carried out according to the original schedule?</p>	<ul style="list-style-type: none"> - All the Master's degree programmes were taught at least once in each of the partner HEIs. - Every HEI organised at least one short technical training course session for professional stakeholders. - Support services were provided by the Project Management team to partner HEIs (in Cambodia and in Vietnam) for technical and financial reporting. - All the necessary equipment was purchased and is operational. 	<ul style="list-style-type: none"> - The calendar put forward in the project proposal was extremely ambitious both in terms of objectives and action. - On the basis of the initial calendar, many actions were implemented behind schedule leaving very little room to make up for the delay. This has therefore limited the extent to which the impact of the actions can be assessed.
EFFECTIVENESS	<p>The extent to which objectives are achieved.</p>	<ul style="list-style-type: none"> - On the whole, the objectives were achieved. 	
IMPACT	<p>The effect of the positive and negative changes brought about by the project on partner institutions.</p>	<ul style="list-style-type: none"> - Improvement in the quality of teaching by enhancing lecturer-researchers' professional skills. - Development of resources and tools to improve the monitoring of work placements and the interview procedure to recruit graduates on the courses. 	
SUSTAINABILITY	<p>The capacity of the project to continue and exploit its results beyond the end of the funding period.</p>	<ul style="list-style-type: none"> - All the partner universities have reviewed existing courses or created new courses based on the modules created thanks to the AsiFood Project. - Equipment is available and operational for use by teaching staff and for work in the future. A plan and provisions for maintenance has been defined by each HEI. - Business plans for short technical training courses have been defined for each HEI. - In depth work carried out by the ISEKI to investigate the quality of the training modules that contributes to promoting their international recognition. - There is now a new dynamic behind the cooperation between Consortium members, between Asian HEIs and between Asian HEIs and European HEIs. - The decision was made by partners at the last Steering Committee meeting to submit a new project for the Erasmus+ 2019 call for proposals. 	<ul style="list-style-type: none"> - Lack of signed bilateral agreements between members of the Consortium. - The launch of new Master's degree courses was delayed by the fact that in some HEIs (particularly in Cambodia), there are not many students who prepare for Master's degrees.



4. SPECIFIC OBJECTIVES OF THE ASIFOOD PROJECT



The aim of the AsiFood Project is to help HEIs in Vietnam, Thailand and Cambodia develop their skills and also their relationships with professional stakeholders working in food safety and quality management. The Project intervenes within the context of these countries being currently involved in integrating the Association of Southeast Asian Nations (ASEAN).

The specific objectives of the AsiFood Project are:

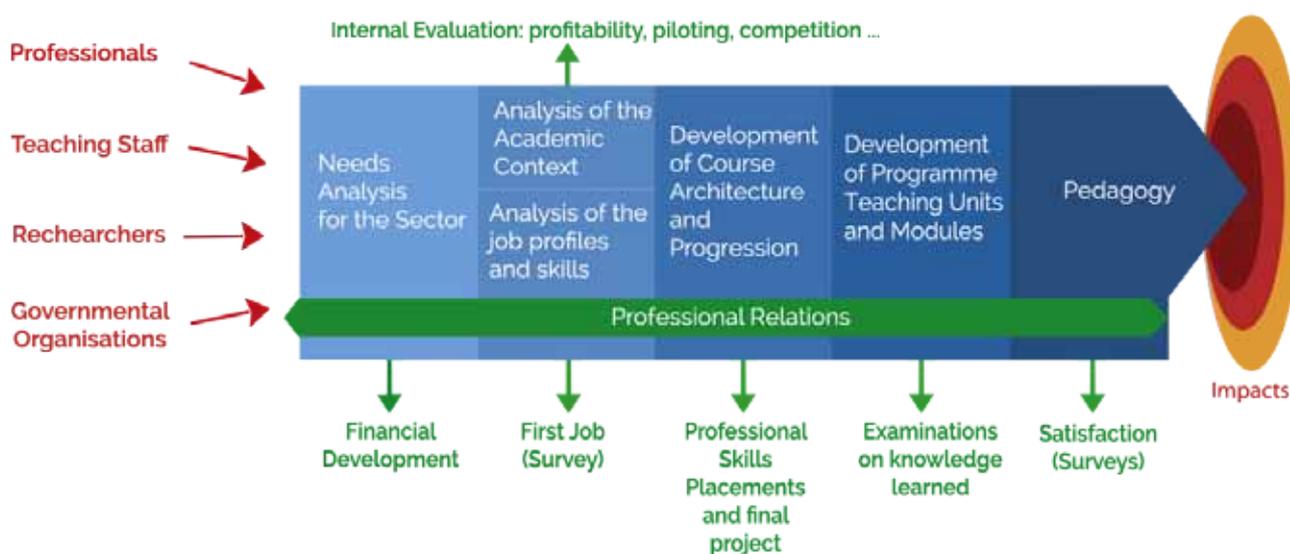
- **SO1:** To develop and improve relationships between HEIs and professional stakeholders in the food processing industry.
- **SO2:** To improve the capacity of partner universities to develop new syllabuses adapted to the needs and expectations of professional stakeholders in the current economic context.
- **SO3:** To create three training course modules on food safety and quality management that could go

on to serve as models and be integrated into the HEI's training courses.

- **SO4:** To improve relationships between Asian higher education institutions and between Asian and European HEIs to work on food safety and food quality.

The AsiFood Project has primarily strengthened the capacity of HEIs in Cambodia, Vietnam and Thailand to develop new syllabuses that meet the key needs and expectations of the sector. Consequently, this increases graduates' chances of finding employment, thereby improving the relationship between HEIs and professional stakeholders in the food processing industry with the creation of specialities in food safety and quality management at a Master's degree level.

The activities of the AsiFood Project were all defined using the "Upstream" training needs identification and course design method illustrated below in the following diagram:



The main outcome of the activities/of the AsiFood Project is that syllabuses of the modules have been built as a direct result of the prior identification of the key needs and expectations of professional stakeholders in the sector. Another outcome of the AsiFood Project is to ensure that courses do more for students than simply teaching subject matter by also providing them with adequate skills for the job market.

A. SO1: TO DEVELOP AND IMPROVE RELATIONSHIPS BETWEEN HEIS AND PROFESSIONAL STAKEHOLDERS IN THE FOOD PROCESSING INDUSTRY

DESCRIPTION

Initially, it was intended that each partner university would develop a “University Industry Linkage Office” (UILO) to carry out the activities described below. In actual fact, the approach was more pragmatic which meant that the activities could be completed without creating specific offices. This was fortunate since the AsiFood Project had not budgeted for equipping or running them. The following activities were managed by the lecturer-researchers for the AsiFood Project:

- Meetings with professional stakeholders to conduct surveys.
- Proposal, promotion and organisation of short technical training courses (STTCs).
- Use and promotion of the training needs identification and course design method within the HEIs.
- Help in organising job/recruitment forums for students on Master’s degree programmes with the offices already in charge of this sort of event.

The Consortium decided that these activities should all be carried out in close collaboration with existing HEI structures, without creating specific offices as part of the AsiFood Project, and without adding to the workload of the lecturer-researchers already involved in the Project.

RESOURCES AND TOOLS: SEMINARS, WORKSHOPS, SKYPE MEETINGS AND SHORT MEETINGS (SMMS)

Each HEI organised several meetings or workshops with professional stakeholders to present and discuss and analyse the survey results. The aim was to have a clear vision of the needs and expectations of professional stakeholders’ within the/their national socio-economic context. This vision would then enable them to improve their relationships with them and to adapt the syllabuses of the training courses accordingly.

One of the desired outcomes of the AsiFood Project was the compilation of a list of the enterprises that took part in the surveys and that would then serve as a data base so that the HEI’s could contact professional stakeholders.

OUTCOMES

All the HEIs organised a first survey that targeted HEIs and professional stakeholders. In all, 160 enterprises took part in the surveys to ascertain the relationships that existed between HEIs and professional stakeholders (44 enterprises and 20 HEIs in Thailand, 17 enterprises and eight HEIs in Cambodia and 51 enterprises and 20 HEIs in Vietnam). All the HEIs held feedback meetings to review the results obtained from their partners.

Some partner HEIs are used to organising job/recruitment forums on a yearly basis. Some HEIs (AIT and KU) organise two per year. As part of the AsiFood Project, some HEIs organised, for the very first time, a special event/a special day particularly aimed at undergraduates and Master’s degree programmes graduates. Up until then, it was more frequent that job/recruitment forums were organised across the whole university covering all subjects and both Bachelor’s and Master’s degree courses. The current trend among Master’s degree programmes is that demand outweighs supply. It is important to underline that the profile of graduates recruited by enterprises after a Bachelor’s degree is generally well-suited to the needs and expectations of professional stakeholders. Consequently, they often enrol on Master’s degree course as part of their vocational training, while remaining employed by their company in the food processing sector. In Asian university faculties, this is known to be the case for more than half of the students on Master’s degrees courses. The aim of the AsiFood Project was not to replace existing HEI proposals, but rather to bolster or complete their offer made available at faculties or schools in order to help Master’s degree students find work placements or employment.

For some HEIs (KU, ITC), the number of students enrolling on Master’s degree programmes has been in decline for some years. It would appear that families do not see the point of their children studying for a Master’s degree for a further two years when a Bachelor’s degree is sufficient for them to find employment directly. Each HEI proposed one short technical training course (STTC) that was aimed at students and professional stakeholders (refer to the table below). These courses are clearly a strong way to develop the relationship between them.

CHALLENGES AND OPPORTUNITIES

Challenges

- Professional stakeholders are often unwilling to pay to attend training courses.
- Professional stakeholders would like to attend training courses that lead to certifications and/or where, in some cases, participants are provided with a certificate of attendance (particularly for training courses in HACCP) to comply with national legal requirements

Opportunities

- Enterprises express a clear demand for short technical training courses (STTCs) for their staff in food safety and quality as well as nutrition and concepts related to sustainable development in the food processing industry.

SUSTAINABILITY

The university faculties prepared a business plan for the three short technical training courses to highlight the costs and income in order to ensure that this work was both profitable and sustainable. Three notes outlining methodology were prepared and made available to the existing HEI offices and online on faculty websites.

They describe the key stages or milestones involved in the organisation of job/recruitment forums and/or professional activity sector fairs, the supervision of students on work placements and the advice given to students on work placement hunting, job applications and job interview preparation.

B. SO2: TO IMPROVE THE CAPACITY OF PARTNER UNIVERSITIES TO DEVELOP NEW SYLLABUSES ADAPTED TO THE NEEDS AND EXPECTATIONS OF PROFESSIONAL STAKEHOLDERS IN THE CURRENT ECONOMIC CONTEXT

DESCRIPTION

Before the AsiFood Project began, KU, AIT, ITC, VNUA and HUST offered Master's degrees in "Food Processing" with options that introduced some general notions of food safety and quality management. In partnership with the University of Liège, VNUA already offered a training course in "Food Technology - Quality Management and Food Safety" which ended in 2018. Today, VNUA continues to offer an International Master's degree in "Food Technology" in partnership with Ghent University in Belgium and with three other HEIs in Vietnam including Nong Lam University.

All the activities related to this aim have come about as a direct result of the use of the "Upstream" training needs identification and course design method.

RESOURCES AND TOOLS

A second survey was conducted among 134 professional stakeholders, enterprises, academic institutions on their needs and expectations in terms of graduate skills. This survey was created jointly by the partners of the Consortium. A great deal of time and energy was also spent creating and validating these questionnaires that, although extremely thorough, were probably, in actual fact, too long. Initially, the questionnaires were posted online using Lyme Survey software which made it easier to record the answers. However, partner HEIs encountered problems in accessing both the questionnaires and the data. In many cases, the survey results were recorded using Google Forms. Depending on the country, the surveys were conducted face-to-face, like in Cambodia, which led to a lot of travelling. For KU in Thailand, most

of the surveys were conducted by telephone (and systematically in two stages: Step 1: presenting the AsiFood Project and the aim of the survey and also scheduling an appointment. Step 2: conducting the survey by telephone). The aims of this second survey were:

- To obtain and analyse the needs and expectations of professional stakeholders and the skills associated with Master's degrees and future graduates.
- To obtain and analyse the needs and expectations of professional stakeholders and the needs and potential of the business sector.

Furthermore, WP3 analysed the existing training offers (in education and research) and this work subsequently enabled each HEI to create new courses to incorporate into their existing training offers.

A training session and a workshop was organised in Vietnam in June 2016 and facilitated by the ISEKI Food Association. The EQAS accreditation system and the procedure to apply for the accreditation of a training course was presented to all the participants, along with the supports for preparing the teaching modules according to these guidelines.

Following this, 24 lecturers were selected to take part in one of three training courses organised in Europe. The choice of course was made while taking into account their academic field, the theme of the training course and their level in English. In May/June 2017, three groups of lecturers attended a two-week training course held in Belgium, Austria or France.



OUTCOMES

Three lecturer-researchers from each Asian partner university, i.e., 24 lecturers in all, attended training courses in Europe from 15 to 26 May 2017. Eight trainees attended Module 1 training course at the University of Liège, eight trainees attended Module 2 at Montpellier SupAgro with the support and collaboration of the Agreenium Institute and a further eight trainees attended Module 3 at BOKU, the Department of Food Science and Technology. The theoretical courses on offer and the laboratory work was based on the programmes that had been prepared. This included field trips to visit research centres, research and/or analysis laboratories, food processing plants and farms.

These visits served several purposes:

- to improve participants' knowledge on subjects covered by the training modules
- to discover measures currently in use in production, control and transformation in Europe
- to enhance partner universities' networks with researchers from host laboratories
- to strengthen the relationships between partner universities and HEI research laboratories.

A total of 22 lecturer-researchers pursued their training at the University of Pisa in Italy from 29 May to 1 June 2017 on a course specialised in educational innovation. Working sessions to prepare new modules were also organised for each group. Generally speaking, participants enjoyed the activities that were organised.

Furthermore, all the HEIs purchased laboratory or food processing equipment for the Master's degrees courses. The list of equipment is to be found in appendix.

Today, every HEI is now in a position to offer short technical training courses (STTCs) aimed at professional stakeholders and based on the three modules that had been designed and created once the training needs identification and course design method had been applied with professional stakeholders.

The first session of training courses for professional stakeholders was piloted by and held at the AIT in May 2018. The resource material for the courses was subsequently made available to partner universities for use as a future model if necessary.

Table 2: The short technical training courses (STTCs) taught on at least one occasion at a partner university over the course of the AsiFood Project

HIGHER EDUCATION INSTITUTE	NAME GIVEN TO THE STTC AIMED AT PROFESSIONAL STAKEHOLDERS WHEN NUMBER OF PARTICIPANTS
The Asian Institute of Technology (AIT), Thailand	- Food quality and safety in innovative production systems 20 - 26 May 2018 Coordination by Dr Anil Kumar Anal (AIT), Dr Gerhard SCHLEININGG (BOKU) and Dr Nicolas KORSACK (ULg) 88 trainees
Kasetsart University, (KU), Thailand	Food safety standard and GMP 18 July 2018 – Bangkok Speaker: Asst. Prof. Dr. Warapa Mahakarnchanakul 86 trainees (within Food SMEs competitiveness driving platform project - Organized by Food Research Development Center (RDC) by Faculty Of Agro-Industry - Sponsored by National Science Technology and Innovation Policy Office) Good Laboratory Practices and the elements of standard quality and safety of laboratory 1-2 August 2018 - Kasetsart University Chalemphrakiat Sakonnakhon Province Campus Speakers: Asst. Prof. Dr. Warapa Mahakarnchanakul and Dr. Kullanart Tongkhao 57 trainees (During Improvement of safety standards of food quality and safety laboratory workshop -Sponsored by KU-FIRST and) Good Hygienic Practice in food services and the basic food safety management 11 September 2018 - Chanthaburi, Thailand Speaker Asst. Prof. Dr. Warapa Mahakarnchanakul 59 trainees (During the following event : Principles of food processing hygiene practices in food process and the development of packaging for the food business - Organized by Food Research Development Center (RDC) by Faculty Of Agro-Industry - Sponsored by National Science Technology and Innovation Policy Office)
The Prince of Songkla University (PSU), Thailand	Food Safety for Small Holders of Retailers 9 August 2018 500 participants
The Cambodian Institute of Technology (ITC), Cambodia	Training workshop on Food Safety and Food Quality for SMEs 21 - 22 August 2018 Coordinated by Dr. Tan Reasmey and Dr. HasiKa Mith 64 trainees
The Royal University of Agriculture (RUA), Cambodia	Quality and Food Safety Management 24 August 2018 50 trainees
The Vietnam National Institute of Agriculture (VNUA), Vietnam	Innovation in Food Safety Management 19-22 June 2018 25 trainees with the contribution of Professor Alessandra Guidi, a lecturer-researcher at the University of Pisa, Pisa, Italy.
Hanoi University of Science and Technology (HUST), Vietnam	Quality assurance and food safety 30 June 2018 7 trainees
Nong Lam University (NLU), Vietnam	Food quality management for food processing plants 21 - 22 September 2018 29 trainees

A further outcome of the AsiFood Project is the creation of an E-learning module on training needs identification and course design that is actually available in French and English.

The training course is made up of six sequences:

➤ **Sequence 0:** Welcome

➤ **Sequence 1:** Introduction

➤ **Sequence 2:** Understanding the socio-economic context

➤ **Sequence 3:** Understanding the institutional and academic context

➤ **Sequence 4:** Preparation of students for employability in Higher Education Institutions

➤ **Sequence 5:** Analysis of different professions and the skills required

➤ **Sequence 6:** Development of extensive training programmes and the building of teaching units

CHALLENGES AND OPPORTUNITIES

Challenges

- It is initially difficult to promote training needs identification and course design methodology.
- It is difficult to promote training courses and to persuade professional stakeholders to attend them.

Opportunities

- Having benefitted from this initial experience, HEIs can now use this methodology to develop new training courses (Bachelor's degree courses, Master's degree courses or PhD level).

SUSTAINABILITY

It was the first time that lecturer-researchers had used this methodology. The E-learning module is available online which makes it easy to continue to apply this

approach and/or to revise certain aspects of the course if necessary. The training needs identification and course design module is available in both French and English.

C. S03: TO CREATE THREE TRAINING COURSE MODULES ON FOOD SAFETY AND QUALITY MANAGEMENT THAT COULD GO ON TO SERVE AS MODELS AND BE INTEGRATED INTO THE HEI'S TRAINING COURSES



DESCRIPTION

The following three modules were designed on the basis of information that emerged during the preparatory stage of the AsiFood Project:

- a. Food Safety and Quality in Primary Production
- b. Food Safety and Quality - Laboratory Management and Analysis Techniques
- c. Food Safety and Quality in the Food Processing Industry

The underlying aim was to study the concepts of food safety and food quality across the primary food production process from farm to fork. Lecturer-researchers developed the syllabuses of each module based on the results of two surveys targeted at professional stakeholders to know the skills required of graduates. The surveys were conducted in close relationship with European lecturer-researchers. Depending on the situation of each HEI, the modules were either partially integrated into existing training courses or they were used in full. An example is the launch of a new Master's degree course by the RUA. To do so, workshops were organised as well as specific meetings for each module and discussions were organised via Skype.

Lecturer-researchers from each partner HEI consulted European researchers in-depth as well as lecturer-researchers from each partner country. Between June 2016 and December 2017, WP3 and WP4 gathered, organised and analysed all the information collected over the course of the surveys. This work resulted in the creation of three training modules to be taught in English.

OUTCOMES

The modules that were developed were either partially integrated incorporated into existing Master's degree courses or used to create completely new ones.

Three modules were developed and each module was divided into several sequences making it easier to partially integrate them into existing training offers.

Table 3: Presentation the professional knowledge, professional skills and interpersonal skills acquired by graduates on completion of the different training modules

PROFESSIONAL KNOWLEDGE	TEACHING RESOURCES, TOOLS, METHODS AND ACTIVITIES
Students will be trained to:	
- Recognise and identify the characteristics of quality in food - Understand how to apply control measures and implement food quality management systems	Lectures, assignments (written reports), preliminary and final tests, case studies
- Recognise and identify the key factors that influence the quality of agricultural products before and after harvest	Lectures, review and compare articles, preliminary and final tests, case studies (guest speakers, personal study, written reports and oral presentations)
- Understand how to apply control measures and implement food quality management systems.	Lectures, case studies (guest speakers, personal study, written reports and oral presentations)
PROFESSIONAL SKILLS	TEACHING RESOURCES, TOOLS, METHODS AND ACTIVITIES
The student will show that that he/she can:	
- Develop and implement a food quality management plan for primary production	Lectures, case studies, field trips (visits to production plants), conferences
- Evaluate food quality management systems and recommend control measures	Lectures, case studies, field trips (visits to production plants), conferences, practical audit and inspection simulations (role-plays)
INTERPERSONAL SKILLS	TEACHING RESOURCES, TOOLS, METHODS AND ACTIVITIES
In addition, students will learn how to:	
- Systematically study, select and evaluate documentary resources and other relevant documents on food quality	Case studies, field trips (farm visits)
- Plan and manage research and identify keys issues related to food quality in primary production	
- Take on responsibility for food quality	

The course framework which served as the basis for the presentations of the modules was recommended by the ISEKI Food Association as part of the EQUAS certification process. It presents the title given to the module, the number of hours and the equivalent number of ECTS credits, the objectives, the course syllabus, the learning outcomes, the expected results in terms of professional

knowledge, professional skills and interpersonal skills and the methods of evaluation.

A matrix was also used to cross-check the actual outcomes of the AsiFood Project with those that were hoped for and suggested at the beginning of the Project.

A summary of the three modules is presented below.



MODULE 1: “FOOD SAFETY AND QUALITY IN PRIMARY PRODUCTION”

Objectives of Module 1

The objectives of the Module 1 are to:

- Understand the key factors that influence the quality of agricultural products;
- Check and maintain the level of quality of these products in compliance with current regulations;
- Recognise and identify possible food contaminants;
- Check the parameters that influence the safety of agricultural products;
- Implement food safety management systems to ensure the safety of agricultural raw materials.



1.1 FOOD SAFETY ISSUES AND FOOD SAFETY MANAGEMENT SYSTEMS IN PRIMARY PRODUCTION (7 ECTS)

1. Introduction and overview of issues related to food safety and food hygiene in primary production
2. Food contaminants in primary production
3. Legislation and regulations in primary production
4. Food quality management systems for primary production
5. Case studies: Subsistence crop production, animal production and fish production

LEARNING OUTCOMES

On completion of Module 1.1 the student can:

- LO1: Recognize and identify what characterises food quality.
- LO2: Recognize and identify pre-harvest and post-harvest factors that influence the quality of agricultural products.
- LO3: Analyse and implement measures to ensure the quality of agricultural products.
- LO4: Evaluate food quality management systems and recommend preventive measures.

1.2 FOOD QUALITY IN PRIMARY PRODUCTION (5 ECTS)

1. Defining food quality
2. Characterising food quality
3. Subsistence crops
4. Animal production
5. Fish production
6. Case studies: Subsistence crop production, animal production and fish production

LEARNING OUTCOMES

On completion of Module 1.2, the student can:

- LO1: Recognize and identify food contaminants that influence the safety of agricultural products.
- LO2: Understand and correctly apply national and international legislation and regulations.
- LO3: Implement food safety management systems in primary production.
- LO4: Evaluate food safety management systems and recommend preventive measures.
- LO5: Carry out research on a topic, summarise the latest information available and give an oral presentation on food safety and quality.



MODULE 2 “FOOD SAFETY AND QUALITY - LABORATORY MANAGEMENT AND ANALYSIS TECHNIQUES”

Objectives of Module 2

The objective of the Module 2 is to:

- Acquire knowledge of the key requirements for laboratory activities, including management, standard practice and international standards and legislation



1.1 FOOD QUALITY MANAGEMENT SYSTEMS (6 ECTS)

1. Introduction to national and international legislation specific to food safety and quality: Codex, FSMA, EU, GMO, food packaging labelling, allergies
2. Quality management systems for the laboratory
3. Laboratory safety

LEARNING OUTCOMES

On completion of module 2, the student can:

- LO1: Understand legislation and standards specific to food safety and quality.
- LO2: Understand and identify food hazards, falsification and traceability.
- LO3: Understand quality management systems for the laboratory.
- LO4: Understand how to validate a method for monitoring routine microbiological and/or chemical food hazards in an accredited laboratory and in compliance with international legislation and guidelines.
- LO5: Set up a quality management system in testing laboratories in compliance with ISO 17025.
- LO6: Safeguard the confidential nature of the results of analyses.
- LO7: Summarise the latest information available and promote food safety, food quality and food safety management systems.

1.2 FOOD ANALYSIS (9 ECTS)

1. Laboratory analysis for the identification of food hazards
2. Sampling techniques
3. Food quality analysis
4. Analysis of statistics

LEARNING OUTCOMES

On completion of Module 2.2, the student can:

- LO1: Understand and identify food hazards, falsification and traceability.
- LO2: Understand how to validate a method for monitoring microbiological and/or chemical food hazards in compliance with international legislation and guidelines.
- LO3: Understand how to perform advanced methods of analysis to identify food hazards, falsification and traceability.
- LO4: Implement a certain number of standard methods of analysis to monitor microbiological, chemical and/or physical food hazards.
- LO5: Perform laboratory analyses for routine microbiological and/or chemical testing hazards in an accredited laboratory.
- LO6: Implement a sampling plan to monitor microbiological and/or chemical food hazards.
- LO7: Develop a project call for proposal.



MODULE 3 “FOOD SAFETY AND QUALITY IN THE FOOD PROCESSING INDUSTRY”

Objectives of Module 3

The objective of the Module 3 is to:

- Acquire knowledge of key food safety issues, including food safety hazards, their origins and means of control during manufacturing, packing and storage.



1.1 FOOD SAFETY IN THE FOOD PROCESSING INDUSTRY (5 ECTS)

1. Foodborne diseases
2. Food safety hazards and contamination during food processing
3. Food preservation
4. Good hygiene practice
5. Hygienic premises and equipment
6. Introduction to waste management, the recovery and the reuse of active ingredients
6. Introduction to Life Cycle Assessment (LCA) in the food industry to achieve sustainability

LEARNING OUTCOMES

On completion of Module 3.1, the student can:

- LO1: Understand a wide range of key issues related to food safety, including food safety hazards, their origins and means of control during manufacturing, packing and storage.
- LO2: Know the current and future implications of food safety hazards and risks.
- LO3: Understand the basic needs required during food processing, storage and transport, from the reception of raw materials and food supplies to manufacturing, packing and storage.
- LO4: Understand the basic principles of waste management and the carbon footprint in the food processing industry.
- LO5: Identify common food pests and apply pest control methods.
- LO6: Understand the basic principles, forms and limitations of cleaning and disinfection and their application in the workplace.
- LO7: Identify hygiene hazards in food processing units and put forward proposals to adapt design in order to avoid them.
- LO8: Carry out research on a topic, summarise the latest information available and give a presentation on ways to ensure food safety and quality in the food processing industry.

1.2 QUALITY AND FOOD SAFETY MANAGEMENT SYSTEMS IN THE FOOD PROCESSING INDUSTRY (5 ECTS)

1. Overview of the issues related to food safety and quality in the food processing industry
2. Food Quality Management Systems (FQMS) and Food Safety Management Systems (FSMS)
3. Laws and regulations governing the food processing industry
4. Hazard analysis and hazard management systems in the agro-food industry
5. Traceability in food supply systems in the food processing industry
6. Auditing in the agro-food industry

LEARNING OUTCOMES

On completion of Module 3.2, the student can:

- LO1: Recognize the importance of food hazards and the regulations and guidelines aimed at achieving good professional practice in the food processing industry.
- LO2: Understand the difference between Food Quality Management Systems (FQMS) and Food Safety Management Systems (FSMS).
- LO3: Implement food safety and food quality management systems in the agro-food industry.
- LO4: Synthesize and apply appropriate food safety legislation and/or food standards at a national, regional and international level.
- LO5: Understand the system of traceability and tools to achieve this currently used in the food processing industry.
- LO6: Schedule and carry out audits in the food processing industry.
- LO7: Carry out research on a topic, summarise the latest information available and give a presentation on food safety and quality management in the food processing industry.

All the partner universities have revised their existing Master's degrees programmes or have created new Mas-

ter's degree programmes. The following table presents these courses in detail.

Table 4: Description of the Master's degree programmes that have integrated all or parts of the three modules developed by the AsiFood Project

HEI	NAME OF THE MASTER'S DEGREE COURSE	DATE OF THE OFFICIAL VALIDATION OF THE COURSE BY THE HEI/ STARTING DATE	NUMBER OF ECTS CREDITS	TYPE OF COURSE AND FURTHER DETAIL
HUST	Master of Food Technology	2018	5 ECTS	Elective course: BF 6831, Quality Management in Primary Production in Food Industry
			5 ECTS	Elective course: BF 6832, Food Analysis
			5 ECTS	Elective course: BF 6830, Quality and Safety Assurance in Food Industry
	Master of Quality Assurance and Food Safety	2018	5 ECTS	Compulsory course: BF 6831, Quality Management in Primary Production in Food Industry
			5 ECTS	Compulsory course: BF 6832, Food Analysis,
			5 ECTS	Compulsory course: BF 6830, Quality and Safety Assurance in Food Industry
NLU	Developing of New Master Program of Food Technology	2018	5 ECTS	Elective course: Quality Management in Primary Production in Food Industry
			5 ECTS	Elective course: Food Analysis
			5 ECTS	Elective course: Quality and Safety Assurance in Food Industry
KU	Integration of the Modules to existing Master Program Master of Science in Food Science	2018	4 ECTS	01052542 Hygienic Problems of Foods
			4 ECTS	01052517 Advanced Food Science and Technology
			4 ECTS	01052546 Health Foods and Nutraceuticals
PSU	Integration of the Modules to existing Master Program of Food Technology	2017	3 ECTS 3 ECTS 3 ECTS	850-512 Advanced food analysis 857-522 Food Chain Quality and Safety Management System 850-571 Food Safety and Risk Assessment
AIT	Integration of the Modules to existing Master Programs: Master in Food Engineering and Bioprocess Technology, Master in Agri-Business, Professional Master in Aqua Business Management	2018	2 ECTS	Elective course: ED80.04 "Safety and Standardization of Food Products"
			2 ECTS	Elective Course: "Postharvest Management and Food Safety in Aquaculture"
			2 ECTS	Elective course: Innovations in Safety and Quality in Food Production Systems
ITC	Implementation of master of Agro-Industry and Environment	2018	3 ECTS	Quality management system and food safety
			5 ECTS	Advanced food microbiology
			3 ECTS	Advanced analytical chemistry
			3 ECTS	Food laws and certification system
RUA	Developing of New Master in Food Science and Technology	2017	4 ECTS	Elective course: Postharvest technology
			5 ECTS	Elective Course: Current Issue in Food Safety and Sanitation
			5 ECTS	Core course: Advanced Food Analysis
			4 ECTS	Compulsory course: Food Quality and Safety Management

Table 5: Number of students in the eight different partner HEIs

University	Number of students in 2017 Semester 2	Number of students in 2018 Semester 1	Number of students in 2018 Semester 2	Total number of students who have enrolled since the launch of the AsiFood Project	Total number of students who have been awarded grants since the launch of the AsiFood Project
KU	18	6	0	24	0
AIT	0	21	9	30	0
PSU	15	12	18	45	0
HUST	9	8	8	8	0
NLU	2	2	6	10	0
VNUA	19	9	5	26	9
ITC	0	0	7	7	3
RUA	0	4	0	4	4
TOTAL	63	62	54	154	16

It was initially intended to use questionnaires for student feedback and to identify areas for improvement. The purpose of the feedback was also to assess how satisfied students and trainees were with the training courses they have attended. The survey could be conducted in writing or by means of open discussions with students.

List of questions

1. What is the name of your university course?
2. Did the name of the course and the course work meet your expectations?
3. Are there close ties between the course and its application in the world of work?
4. How do you rate the importance of this course on a scale from 1 to 5?
5. What is your impression of the complexity of the subject matter on a scale from 1 to 5?
6. How do you rate your level of knowledge in the field before the course on a scale from 1 to 5?
7. What aspects of previous courses do you recommend that trainees and/or students should revise before beginning this course?
8. Are you satisfied with the time you spent studying?
9. Are you satisfied with the fields of study on this course?
10. What do you think are the necessary study areas that have not been included in the course?
11. How do you rate the structure/architecture of the course and the course material? How do you rate the links between the different teaching material and the logic behind the course structure on a scale from 1 to 5?
12. How do you rate the quality of communication between the lecturer-researcher(s) and the student(s) during the course on a scale from 1 to 5?
13. Are you satisfied with the teaching materials used by the lecturer-researcher in the classroom environment?
14. What teaching methods were used on this course?
 - a. Conference
 - b. Interactive methods
 - c. Active learning methods
15. How do you rate the performance appraisal system for students on the course? (on a scale from 1 to 5)
16. How do you rate the use and relevance of this course compared to other courses in the University faculty?
17. Why do you like this course?
18. What can be done to improve the quality of this course?

This questionnaire was extremely useful and thorough and it was suggested that it be used with the partner universities involved in the AsiFood Project. However, in actual fact, every HEI was already using its own questionnaire and this turned out to be a lot simpler option.

The most frequently used method of feedback with Master's degree students is oral feedback with lecturer-researchers on completion of each sequence within a module. On the whole, the results were positive.

CHALLENGES AND OPPORTUNITIES

Challenges

It is difficult to envisage the revision of existing Master's degree programmes within the timescale of a 3-year project.

Each HEI and/or country carries out the revision of training courses and syllabuses at its own pace.

Opportunities

Course syllabuses and teaching methods have been updated. The three modules defined by the AsiFood Project can still be used for the revision of courses in the years to come. The partner universities are involved in other certification processes with European universities.

SUSTAINABILITY

Three training modules were co-created by the 13 partner universities involved in the AsiFood Project. The modules were reviewed by lecturer-researchers and professional stakeholders in Asia who were, up to then, unfamiliar with the Project. These modules were then used as a basis to revise and improve existing training courses and/or to create new training courses. Some HEIs used them to create new Master's degree programmes and in fact, three new Master's degree courses emerged from the Project. All the partner universities have succeeded in validating their new training courses and/or Master's degree courses that were based on the modules defined by the AsiFood Project. The lecturer-researchers have also created their new lectures. The modules have been translated into Thai, Khmer and Vietnamese.

In actual fact, there are undoubtedly some areas for improvement in all three modules. However, it is impor-

tant to bear in mind the fact that the common ground of these modules has led to the introduction or a stronger presence of the dimension of food safety and quality in training courses. This aspect is also in accordance with the needs and expectations of professional stakeholders. The process of consulting and working closely with professional stakeholders should continue beyond the AsiFood Project by using the "Upstream" training needs identification and course design method. In such a way, HEIs will continue to meet the needs of enterprises and therefore contribute to improving food safety for the benefit of all consumers.

KU initiated the EQAS certification process with the help of the ISEKI Food Association. Other partner universities, NLU, HUST for example, are involved in the certification process of the ASEAN Universities' Network (AUN-QA).

D. S04: TO IMPROVE RELATIONSHIPS BETWEEN ASIAN HIGHER EDUCATION INSTITUTIONS AND BETWEEN ASIAN AND EUROPEAN HEIS TO WORK ON FOOD SAFETY AND FOOD QUALITY

DESCRIPTION

HEIs must build new relationships with higher education institutions in their own countries and with the other partner universities involved in the Project. This can be achieved through learning and/or working mobility of students and/or staff for at least one semester. The creation of new Master's degree programmes and/or the revision of existing courses in compliance with the Bologna standards could facilitate such exchanges.

RESOURCES AND TOOLS

Each seminar and workshop organised during the AsiFood Project was an ideal opportunity for participants to exchange ideas, to get to know the partner institutions

and their organisation and to build their networks. In addition, the training session in May 2017 in Europe enabled 24 Asian lecturer-researchers to discover the partner HEIs in Liège, Vienna, Pisa, Dijon and Montpellier. Finally, in 2018, one lecturer-researcher from each Asian partner university had the opportunity to visit and develop exchanges with one or two European partner universities.

OUTCOMES

The lecturer-researchers who were involved in the AsiFood Project could learn about each other's activities and specialities and, often for the very first time, they had the opportunity to visit the various partner universities.

Table 6: List of field trips organized to improve research capacities and to develop food safety and food quality network

HEI	PERIOD	PARTNER UNIVERSITY VISITED	MAIN THEME OF THE VISIT	PROFESSOR/LECTURER
ITC	January 2018	Agreenium – AgroSup Dijon	Food safety analysis	Dr Tan Reasmey
AIT	March 2018	Montpellier SupAgro	Nutrition and food quality	Dr Anil Kumar Anal
PSU	March 2018	ULg	Food –borne pathogens	Dr. Kitiya Vongkamjan
NLU	August 2018	BOKU	Food safety analysis	Dr Thien
KU	August 2018	University of Liege	Microbiology	Dr. Warapa Mahakarnchanakul
		Agreenium – AgroSup Dijon	Microbiology	
RUA	August 2018	BOKU	Food safety analysis	Msc.Rathna Hor
VNUA	September 2018	KU	Food Safety and Food packaging	MSc.Nguyen Thi Thu Nga
HUST	September 2018	ULg	Deterioration of lipids and proteins in food	Prof. Chu Ky Son

CHALLENGES AND OPPORTUNITIES

Challenges

- Overall, the interest by students in HEIs ((ITC, HUST, VNUA) to study in the French language is low and in decline.
- The national education systems differ between countries. This is true of the way credits and ECTS points are calculated as well as the way to go about finding a work placement in a research and/or a business environment.

Opportunities

- Some of the partner universities (HUST, KU and the PSU) are already involved in other international projects backed by funding from the European Commission.

For some HEIs, these meetings have triggered off the launch of an official collaborative process aimed at developing student and staff mobility. AIT is about to sign a Memorandum of Understanding (MOU) with SupAgro Montpellier for student learning mobility. Alongside this initiative, KU signed a MOU for student learning mobility with Montpellier SupAgro in April 2015. Montpellier SupAgro has also set up International Mobility Credit Programmes with Cambodia and Thailand for the PhD students.

The Agreenium Institute and Montpellier SupAgro continue to be actively involved in the Consortium by provi-

ding support and governance to ITC.

Generally speaking, and this in each country (Thailand, Vietnam, and Cambodia), the AsiFood Project was an excellent opportunity to create and develop new relationships between lecturer-researchers and different countries. For example, KU has developed new relationships and recruited lecturer-researchers from abroad. The AsiFood Project has also succeeded in promoting student and staff mobility in Vietnam and Thailand thanks to invitations from HUST and VNUA. New working relationships have also been established between AIT and NLU.



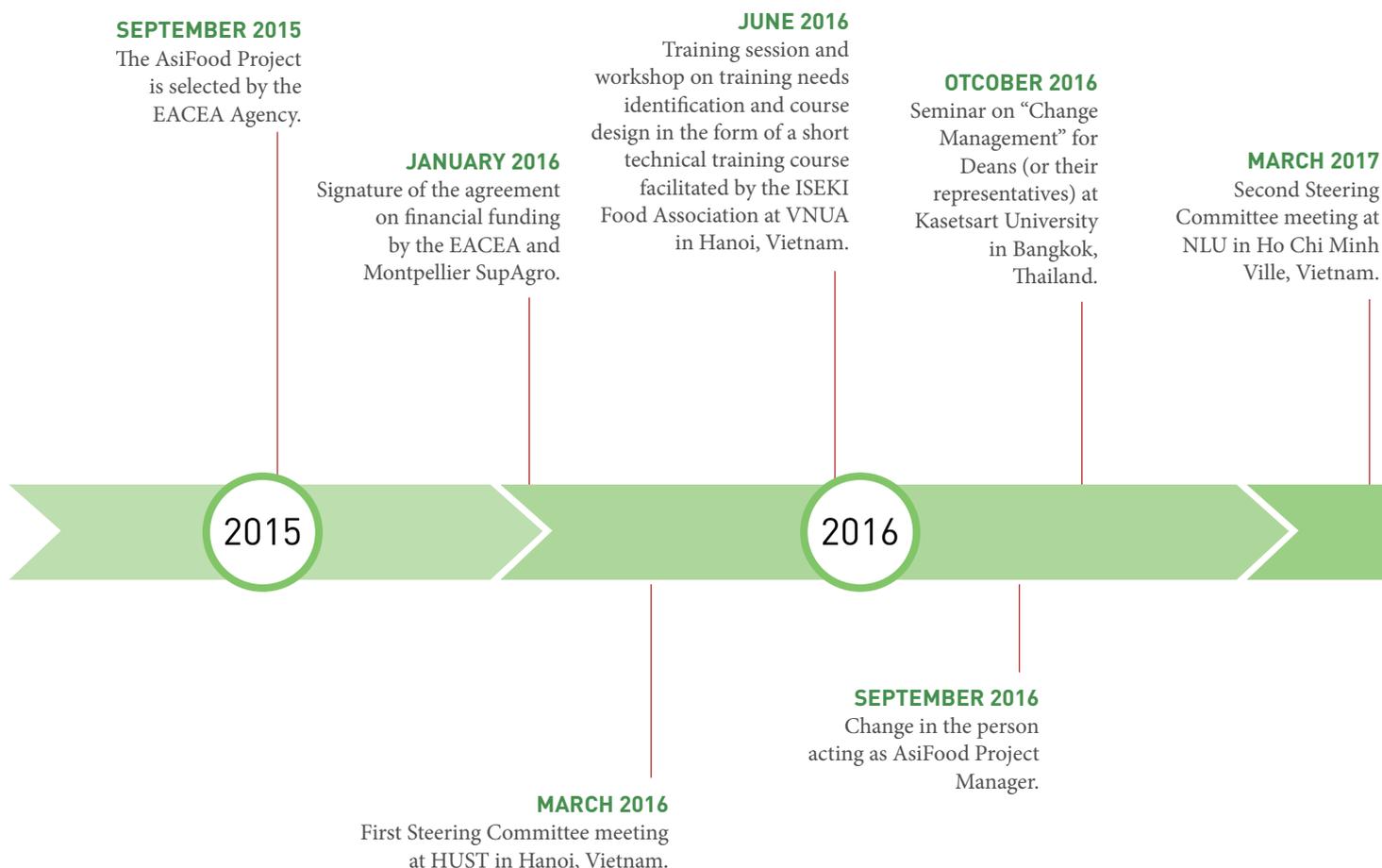


5. SUMMARY: KEY DATES AND EVENTS IN THE ASIFOOD PROJECT AND PLANS FOR THE FUTURE



A. THE ASIFOOD PROJECT CALENDAR

Below is an overview of the key dates and events that marked the AsiFood Project:



B. KEY OUTCOMES

Over the course of the last three years, all the partner universities involved in the AsiFood Project, have come a very long way. They have encountered some challenges due to both internal and external factors, but thanks to the determination, commitment and hard work of everyone concerned, we can confirm that the main objectives of the AsiFood project have been achieved and that positive outcomes are apparent.

A number of outcomes were planned and are directly related to the AsiFood Project objectives:

- All the partner universities have revised the syllabuses of their existing Master’s degrees and/or created new

Master’s degree courses based on the three training modules.

- At this stage, the feedback from both lecturer-researchers and students is positive. However, we should ensure that the feedback process is further enhanced.
- 154 students have already benefited from these courses
- New relationships have been created between partner universities while existing relationships have been strengthened between Asian universities and also between Asian universities and European partners.
- Some staff mobility plans have already been set up

JUNE 2017

A training course was provided to 22 lecturers-researchers into educational innovation at the University of Pisa in Pisa, Italy.

JULY 2017

Intermediary report sent to the EACEA at the halfway point of the AsiFood Project.

Audit of all the financial documents at the halfway stage of the AsiFood Project at Montpellier SupAgro in Montpellier, France.

OCTOBER 2017

Third Steering Committee meeting at the ITC in Phnom Penh, Cambodia.

The work of WP5 results in a Job/Recruitment Forum and a workshop about the around the difficulties encountered by students to find work placements, job offers, etc. organised at the ITC in Phnom Penh, Cambodia.

FEBRUARY - SEPTEMBER 2018

A choice of one out of seven field trips for the lecturer-researchers from Asian to European HEIs to improve scientific cooperation, to prepare new modules and to identify new themes for future research programmes.

DECEMBER 2017

Independent feedback on the three training modules obtained by working closely with students, professional stakeholders and independent lecturer-researchers.

Feedback provided by the ISEKI Food Association on the three modules before the launch of the validation process by the partner universities.

SEPTEMBER 2018

Co-organisation of the first two-day IFIFS Conference with SeaABT and ISEKI Food Association held in Bangkok, Thailand. (12 - 13 September).

2017

2018

MAY - JUNE 2017

Three STTCs organised at the ULg, Montpellier SupAgro and BOKU, each one based around a different training module and for a group of eight lecturers-researchers (24 people in all) from Asian partner universities.

JULY - AUGUST 2017

One Working Group meeting is organised for each training module.

Six meetings of the Working Groups in Vietnam, Cambodia and Thailand in charge of designing three training modules.

MAY 2018

The first session of a Short Technical Training Course (STTC) for professional stakeholders piloted by AIT in Bangkok Thailand.

JULY 2018

Fourth Steering Committee meeting at PSU, Thailand.

between different them.

- To date, at least 2 conventions have been officially formalised and others have been agreed on an informal basis.
- University Deans (or representatives on their behalf) have attended a training course on "Change Management".
- The relationships between HEIs and professional stakeholders in the food processing industry have been considerably strengthened (invitations to attend training courses, job/recruitment forums, faculty or university Steering Committee meetings and Working Groups)

- All the partner universities in Asia have purchased equipment to carry out analyses or production pilots to improve the range of training opportunities on offer to students and also to better prepare graduates for their future careers. This document to indicate the sustainability of this equipment has been examined and a maintenance plan has been implemented.
- The training courses organised in European universities have been extremely beneficial for the trainees for both professional and personal reasons. The courses enabled them to develop their professional knowledge, widen their experience and build their professional network. 24 lecturers (i.e., three lecturers from every

HEI and who attended the training courses).

- The E-learning module on training needs identification and design is available in French and English
- A set of teaching methods and tools are available online.

Other outcomes were unexpected and even exceeded the AsiFood Project's initial expectations.

- A group Facebook page has been set up and is active
- An International Scientific Conference was organized jointly with Sea-ABT and ISEKI –Food Association for dissemination and scientific networking purpose. More than 40 researchers from Europe, Thailand, Vietnam, Cambodia, Philippines, India, Indonesia and also some stakeholders from Thailand and policy makers were present.
- The AsiFood Consortium is highly motivated to pursue its work and is currently preparing to build a new HEI capacity building project within the framework of the Erasmus+ 2019 call for proposals
- A number of research projects or research activities are about to get underway.

C. WHAT NEXT?

The key elements and factors that could favour or limit whether the AsiFood Project continues in the future or not are outlined below:

THREATS AND LIMITS

- The language and cultural gap between Asian and European partner HEIs at different levels were sometimes the source of misunderstanding.
- There is a certain disparity in the courses proposed by different partner HEIs and at different levels: internal organisation, use of pedagogical methods, resources available, tools made available to help students and graduates find job placements, etc.
- The time necessary for the validation processes linked to the revision and/or creation of training courses within the Universities was largely under-estimated in the initial bid for proposal. Lecturer-researchers who are directly involved in the AsiFood Project were not all fully familiar with national/local procedures.
- Each partner university had its own financial procedures and constraints thereby resulting in the acquisition of the equipment necessary for the Project running behind schedule.

Methodology

- The design, delivery and use of the first and second survey was too time-consuming. Furthermore, the two surveys for two different Work Packages should have been merged into one.
- The survey software was not adapted and partner universities did not have the necessary technical skills to readily use it within the Consortium.
- The initial expected outcomes announced on the website were too ambitious and were conditioned by the actual skills within the Consortium and the time available.
- The validation of the teacher training plan and the course contents by the Project partners should have been discussed with the participants, better planned out and validated at the same time.
- The Project objectives were over-ambitious thereby rendering it impossible to fully achieve all of them within the period of three years.

Promotion and communication

- The partner universities did not discuss and develop a communication strategy during the first Steering Committee meeting and consequently many questions were left unanswered. For example, do we have the necessary skills required within the Consortium to promote the visibility of the AsiFood Project? Should we consider outsourcing this promotion and communication?

Irregular involvement of partner universities at times

- Failure to create a synergy between partner universities related to WP5.
- It was not uncommon that some partner universities faced issues with their own national coordination teams which prevented them from fulfilling all the objectives.
- It was difficult to keep track of the progress in the different activities due to inappropriate tools.
- The objective of the first Steering Committee should have been reviewed in order to ensure that partner universities were fully aware of what exactly was expected of them.

CHALLENGES

- The recruitment of students and professional stakeholders onto training courses and even Master's degree courses.
- An enhanced and wider-reaching promotion and communication campaign was required around the AsiFood Project to help recruitment and to find other forms of outside financial support.
- Many students did not want to apply for a Master's degree course, as for them, two years of further studies was too long and too costly compared to the short term benefits.
- The unwillingness of professional stakeholders to pay to attend short technical training courses was a source of concern.

OPPORTUNITIES/SUSTAINABILITY

For Higher Education Institutions

- Some partner HEIs already had real experience of participating in European-funded projects.
- Partner universities are leaders in their field of study (with national or international experts in food safety and quality).
- The first version of the survey questionnaire is now available and can easily be improved to assess the academic, technical and human skills required by professionals. It will be easy to adapt the existing survey to the rules and language of Asian universities.
- A single survey could be used to identify both the needs and expectations of professional actors and the nature of their current relationship with HEIs.



- This survey could also be used for promotion and communication purposes.
- The survey created a useful list of professional actors that could be used by HEIs to find international internships, identify collaborative research projects and encourage student and staff mobility.
- The partners in the AsiFood project have expressed their willingness to continue working together as a consortium in the near future.
- Relationships between all partner universities have been strengthened, they have gained experience and their capacity to participate in international projects (educational projects, research projects and cooperative capacity-building projects) has been strengthened.

For professional stakeholders

- There is a huge demand throughout the ASEAN region for training courses related to food safety and quality.
- The results of the surveys revealed that the needs and expectations of the professional stakeholders were very similar for all Asian partners, regardless of their country. There was a general need of short technical training courses that developed both academic, technical skills and soft skills.
- Professional stakeholders expressed their immediate and urgent need for short technical training courses in no uncertain terms.
- National and international policy makers were also involved in the design, delivery and support provided to STTCs, thereby proving a guarantee for sustainability.

CONCLUSION

We are now reaching the end of the first part of our capacity building project. It goes without saying that what will follow does not wholly depend on the members of the Consortium. We must also take into account the political situation in the countries of our partner universities i.e., Thailand, Vietnam and Cambodia.

The AsiFood Project has, without any doubt, planted quite a few seeds and launched some interesting processes in all of the institutions that have been involved. The highly positive general feeling when the team parted from the PSU-Trang Campus after the final Steering Committee for the Project must not be forgotten. It officially marked the end of the AsiFood Project but we all had no doubt that the ideas would live on.

More importantly, the tangible and concrete outcomes of the AsiFood Project are the proof of its success and tend to promise its development in the future. The Master's degree courses and the training modules work and are currently in use. Although there is the undeniable issue of the lack of scholarships in some HEIs, we believe that they will live on and evolve. The training equipment is already in use and plays an important part in providing students with training that prepares them for the needs and expectations of the job market.

However the AsiFood Project has achieved much more than technical or practical advances. Over the course of the last three years, the Project and the work carried out has been characterised by an open spirit and willingness by all to share experiences. One of the most important impacts of the AsiFood Project is of course the enhanced cooperation between HEIs both at nationally and internationally and that is true for all the partner universities in the ASEAN and also in Europe, and this for both education and research. Lecturer-researchers and staff from all the participating countries felt that they belonged to one large community and strove together to achieve a common goal, readily shared experiences and knowledge, while constantly managing and enjoying the complexity of working in an intercultural and international environment.

This three-year AsiFood Project has had its fair share of challenges, outcomes and opportunities and as this adventure draws to an end, we can cast a confident eye on the future. We know that we have succeeded in launching different forms of sustainable processes and this for years to come. What is more, as announced at the final Steering Committee meeting, the AsiFood Project partners would



like to continue enhancing the proposal and pursue their work together. It was agreed that the Consortium would develop a new project proposal on food safety and but one that also widens its scope to include food safety and food quality, nutrition, food loss and wastage, sustainable development, etc. and that strengthens the vocational training made available to professional stakeholders in response to their immediate and urgent needs and expectations.

Finally, we would like to take this opportunity to thank everyone who was involved in the AsiFood Project. The work accomplished by the partner universities was of an extremely high standard and everyone can be extremely proud of what has been accomplished.

We look forward to the Consortium building a new educational, research or capacity building project together in the near future.



APPENDIXES





Appendix 1: List of Asian companies and institutions involved in the AsiFood Project

NO	COUNTRY	COMPANY ORGANIZATION NAME	PRODUCT (MANUFACTURE)	WEBSITE
1	Cambodia	Achinomoto (Cambodia) Co. Ltd	Processed food, seasoning	http://www.ajinomoto.com
2	Cambodia	Cambodia Beverage Company. Ltd	Beverage	http://www.thecoca-colacompany.com
3	Cambodia	Confirel Co. Ltd	Pepper, Vinegar, Palm Wine, Palm Sugar	http://www.confirel.com
4	Cambodia	Ganzberg Co. Ltd	Beverage	http://www.ganzberg.com
5	Cambodia	Khmer Brewery Co. Ltd	Beverage	http://www.khmerbrewery.com
6	Cambodia	Lyly Food industry Co., Ltd	Crackers	http://www.lylyfood.com
7	Cambodia	Medical supply Co. Ltd	Finished product	http://www.cambodiapp.com/ company/11629/Medical_Supply_Co_Ltd
8	Cambodia	Pharmaproduct Manufacturing Co. Ltd	Pharmaceutical products	http://www.ppmpharma.com
9	Thailand	AJINOMOTO Co., (THAILAND) Ltd.	Seasoning, instant noodle, beverage, processed food, etc.	http://www.ajinomoto.co.th
10	Thailand	Ampol Food Processing Co., Ltd.	Coconut, beverage, prepared foods, seasoning, confectionary	http://www.ampolfood.com
11	Thailand	Belucky	Meat products	http://www.belucky.co.th
12	Thailand	Betagro Group	Livestock, animal feed, pet food, food, animal health care	http://www.betagro.com
13	Thailand	Betagro Science Center Co., Ltd.	Analysis lab.	http://www.bsc-lab.com
14	Thailand	Bluefalo Co., Ltd.	Feed mill plant	http://www.bluefalo.com
15	Thailand	Buono (Thailand) Co., Ltd.	Ready-to-eat, ice dessert, frozen novelties	http://www.buonothailand.com
16	Thailand	Charoen Pokphand Foods PCL.	Fresh food products, processed food products, cooked food products	https://www.cpfworldwide.com
17	Thailand	Chic Foods (Thailand) Ltd.	Food Safety Service provider	http://www.chicfoods.com
18	Thailand	Chotiwat Manufacturing Co., Ltd	Frozen seafood	http://www.chotiwat.com
19	Thailand	CPF (Thailand) Public Company Ltd.	Fresh food products, processed food products, cooked food products	https://www.cpfworldwide.com
20	Thailand	F&N United Ltd.	Ice cream	http://magnoliaicecreamth.com
21	Thailand	Fonterra Brands Thailand	Finished product	https://www.fonterra.com
22	Thailand	Foodstar co. Ltd.	Fruit juice, yogurt drink	http://www.foodstar.co.th
23	Thailand	Fresh From Farm	Organic vegetable	-
24	Thailand	Hat Yai Canning Ltd.	Healthy Beverage	http://www.hatyaicanning.com
25	Thailand	HJ Langdon (Thailand) Ltd.	Food & Health Ingredients	http://www.hjlangdon.com
26	Thailand	Kasemchaifarm Group	Egg products	http://www.kcf.co.th
27	Thailand	Kiang Huat Sea Gull Trading Frozen Food Public Co., Ltd.	Frozen seafood	http://www.kst-hatyai.com
28	Thailand	Kingfisher Holding Ltd	Frozen premium seafood products, canned/pouch seafood-chicken	http://www.kingfisher.co.th
29	Thailand	Kritsamai Plantation	Melon, Organic Vegetable	
30	Thailand	KTY Foods International Co., Ltd.	Instant coffee	http://www.buddydean.com
31	Thailand	Lhian Thai Rice Vermicelli Co., Ltd.	Vermicelli, rice stick, rice paper, rice flour	http://www.lhianthai.com
32	Thailand	Liquid Purification Engineering International Co., Ltd.	Service provider	http://lpe.co.th
33	Thailand	Man A Frozen Foods Co.Ltd.	Seafood processed products	http://www.manafish.com/
34	Thailand	Mit Charoen Farm	Carcass chicken	-
35	Thailand	Mitr Phol Group	Sugar, fertilizer, etc.	https://www.mitrphol.com
36	Thailand	Nestle Thailand	Coffee, tea, chocolate Beverage, milk Powder, cereal Beverage, etc.	http://www.nestle.co.th
37	Thailand	Oishi Group Public Co., Ltd.	Beverage, food, restaurant, delivery	http://www.oishigroup.com
38	Thailand	Pacific Fish Processing Co., Ltd.	Frozen seafood processing	http://www.pfp-pacific.com

NO	COUNTRY	COMPANY ORGANIZATION NAME	PRODUCT (MANUFACTURE)	WEBSITE
39	Thailand	Pathumthani Brewery Co., Ltd.	Beverage	http://ptb.boonrawd.co.th
40	Thailand	Pattani Food Industries Co., Ltd.	Regular Tuna Products , Ready - To - Eat Products and Pet Food Products	http://www.pattanifood.co.th
41	Thailand	Prime Product Industry Co., Ltd.	Canned pineapple	http://www.primeproducts.co.th
42	Thailand	Rajburisugar	Sugar	http://rajburisugar.com
43	Thailand	S&P Syndicate Public Co., Ltd.	Food,bakery	https://www.snpfood.com
44	Thailand	S.P.C. Snack Food Co., Ltd.	Food, Beverage, Household products, Personal care	http://www.sahapat.com
45	Thailand	Seafresh Industry Public Co., Ltd.	Raw shrimp products, cooked shrimp products , sushi shrimp products	http://www.seafresh.com
46	Thailand	Seawealth Frozen Food Ltd.	Chilled and processed seafood products	http://www.seawealth-food.com
47	Thailand	Siam Makro Public Company Limited	Fresh and finished products	https://www.siammakro.co.th
48	Thailand	Siam Oriental Food Co., Ltd.	Fresh fruits and vegetables	http://www.sofood.co.th
49	Thailand	Siamchai International Food Co., Ltd.	Frozen seafood	http://www.sifcogroup.com
50	Thailand	Songkla Canning Public Co. Ltd.	canned seafood	-
51	Thailand	South DC For All Partnership Ltd.	Jelly dessert	-
52	Thailand	Sun Group International	Chicken product	http://www.sungroup.co.th
53	Thailand	Tako Foods Industry Co., Ltd.	Juice products	http://www.takofoods.com
54	Thailand	Thai Krub Products Partnership Ltd.	Drinks & Beverages	-
55	Thailand	Thai Ocean Venture Co., Ltd.	Frozen Tuna Loin CO	http://www.thaiocventure.com
56	Thailand	Thai Summit Marketing Co., Ltd.	Chicken product	-
57	Thailand	The Union Frozen Product	Frozen, fresh and ready to eat (cooked) seafood	http://www.ufp.co.th
58	Thailand	Tropical Canning (Thailand) Public Co. Ltd.	Regular Tuna Products,Canned Shellfish Products,Ready-To-Serve Products,Pet Food	http://www.tropical.co.th
59	Thailand	United Farmer and Industry (Phulung)	Sugar	https://www.mitrphol.com
60	Thailand	Zuellig Pharma Ltd.	Health care	http://www.zuelligfirst.com
61	Vietnam	Ajinomoto Viet Nam	MSG	http://www.ajinomoto.com.vn/
62	Vietnam	American Feed Co., Ltd	Finished product	-
63	Vietnam	An Dinh Co., Ltd.	Finished product	-
64	Vietnam	An Lac Seafood Company Limited	Seafood	http://www.anlacseafood.com/
65	Vietnam	Asia Foods Corporation	Product from rice and wheat	https://www.asiafoods.vn/
66	Vietnam	Ben Tre Import and Export Joint Stock Corp (BETRIMEX)	Products from coconut	https://www.betrimex.com.vn
67	Vietnam	Bien Bac Import Export Trade Co., Ltd.	Frozen seafood	-
68	Vietnam	Big C Vietnam	Supermarket	https://www.bigc.vn
69	Vietnam	Biolife Joint Stock Company	Finished product	-
70	Vietnam	Cocoland's Brand JSC	Specialty (products from coconut...)	https://www.xudua.vn
71	Vietnam	Công ty cổ phần chế biến hàng xuất khẩu Cầu Tre	Finished product	-
72	Vietnam	Công ty Cổ phần Thương Hiệu Xứ Dừa	Finished product	-
73	Vietnam	Công ty cổ phần việt nam kỹ nghệ súc sản	Finished product	-
74	Vietnam	Công ty CP XNK Bến Tre	Finished product	-
75	Vietnam	Công ty Lương thực Tiền Giang	Finished product	-
76	Vietnam	Công ty Rồng Đò	Finished product	-

NO	COUNTRY	COMPANY ORGANIZATION NAME	PRODUCT (MANUFACTURE)	WEBSITE
77	Vietnam	Công ty TNHH Thực Phẩm Nguyên Hà	Finished product	-
78	Vietnam	CPCBTPXK G.O.C	Finished product	-
79	Vietnam	Farina Food Company Limited	Flour, baking material,	http://www.farina.com.vn/
80	Vietnam	Ha noi - Hai duong Beer Joint Stock Company	Beverage, beer, soft drink	http://www.hadubeco.com.vn/
81	Vietnam	Ha noi - Thai Binh Beer Joint Stock Company	Beverage, beer, soft drink	http://www.tbbeco.com.vn/
82	Vietnam	Hanoi Beer Joint Stock Company	Beverage, beer, soft drink	http://www.habeco.com.vn/
83	Vietnam	JSC CP Vietnam	Fresh product and cooked food product	https://www.cp.com.vn/
84	Vietnam	Kim Anh Tea Joint Stock Company	Black tea, green tea and fragrant tea	http://www.kimanhtea.com/
85	Vietnam	Minh Trung Co., Ltd. Hoa Binh Branch	Supply products	-
86	Vietnam	Natural Fruits Trading Service Co., Ltd	Fresh produce	-
87	Vietnam	Nutricare Nutrition Co., Ltd.	Nutritional products	http://nutricare.com.vn/
88	Vietnam	Phu Thai Group Joint Stock Company, Ha Noi	Finished product	info@phuthaigroup.com
89	Vietnam	Phuoc An Food Producing and Trading Joint-stock Company	Wheat flour	https://www.phuocanflourmill.com
90	Vietnam	Red Dragon Co., Ltd	Fresh produce	https://www.reddragon.vn
91	Vietnam	Saigon-Nghetinh Beer Joint Stock Company	Beverage, beer, soft drink	http://www.sabeco.com.vn/en-Us/home
92	Vietnam	Suntory Beverage PepsiCo Vietnam Bac Ninh Branch	Beverage	-
93	Vietnam	Tan Hiep Phat Beverage Company,	Beverage, beer, soft drink	https://www.thp.com.vn/en/
94	Vietnam	Technical Center for Quality Measurement Standard	Analysis	
95	Vietnam	Tetra Pak Vietnam JSC	Food Package	https://www.tetrapak.com/vn
96	Vietnam	Tien Giang Food Company	Food products and related services	https://www.tigifood.com
97	Vietnam	Trái Cây Thiên Nhiên	Finished product	-
98	Vietnam	Trang An Joint Stock Company	Confectionery product	http://www.trangan.com.vn/
99	Vietnam	VISSAN Joint Stock Company	Meat product	https://www.vissan.com.vn

NO.	COUNTRY	COMPANY ORGANIZATION NAME	ADDRESS	WEBSITE/E-MAIL	CONTACT PERSON	POSITION
1	Austria	BOKU	1190 Wien, Muthgasse 18	http://www.dlwt.boku.ac.at		
2	Cambodia	University of Heng Samrin Thbongkhmum	Nikum Leu village, (teak plantation area), Sralap commune, Thbongkhmum district, Thbongkhmum province in Cambodia.	http://www.uhst.edu.kh		
3	Bangladesh	Horticulture Research Centre (HRC), Bangladesh Agricultural Research Institute (BARI)	Joydebpur, Gazipur-1701, Bangladesh	taanasrin@gmail.com	Dr. Taslima Ayesha Aktar Nasrin	Senior Scientific Officer, Postharvest Technology Section,
4	Cambodia	Institute of Technology of Cambodia	PO Box 86, Russian Conf. Blvd. Phnom Penh, Cambodia.	http://www.itc.edu.kh		
5	Cambodia	International University, Cambodia	Sangkat Phnom Penh Thmey, Khan Sen Sok, Phnom Penh, Cambodia.	http://www.iu.edu.kh		
6	Cambodia	Royal University of Phnom Penh	Russian Federation Boulevard, Toul Kork, Phnom Penh, Cambodia.	http://www.rupp.edu.kh		
7	Cambodia	Svay Rieng University	National Road No. 1, Phumi Chambak, Sangkat Chek, Svay Rieng City, Svay Rieng Province, Cambodia	http://www.sru.edu.kh/?page=contact&dlg=en		
8	Cambodia	University of Battambang	National Road 5, Sangkat Preaek Preah Sdach, Battambang City, Battambang Province, Cambodia	http://ubb.edu.kh		
9	Indonesia	Faculty of Agricultural Technology, Gadjah Mada University	Yogyakarta, Indonesia	pranoto@ugm.ac.id	Dr. Yudi Pranoto	Professor, Vice Dean for Academic and Student Affairs
10	Myanmar	Deutsche Gesellschaft für Internationale	Zusammenarbeit (GIZ) GmbH, Yangon, Myanmar	may.phyu@giz.de	May Pwint Phyu	Jr. Technical Expert (Honey expert)
11	Myanmar	UNIDO (United Nations Industrial Development Organization)	Myanmar	hurakyaw06@gmail.com	Thura Kyaw	Food Safety Specialist
12	Nepal	Kathmandu University	Department of Biotechnology	ktika@ku.edu.np	Prof. Dr. Tika Bahadur Karki	Professor, Department of Biotechnology
13	Nepal	Nepal Agricultural Research Council	Scientists, Food Research Division. Kathmandu, Nepal	projha84@gmail.com	Pravin Ojha	Scientists, Food Research Division
14	Pakistan	University of Balochistan	Saryab Road Quetta 87300, Balochistan Pakistan	aliakbar.uob@gmail.com	Dr. Ali Akbar	Assistant Professor Department of Microbiology
15	Thailand	Asian Institute of Technology	P.O. Box 4 58 Moo 9, Km. 42, Paholyothin Highway, Klong Luang, Pathum Thani 12120 Thailand	anilkumar@ait.asia	Dr. Anil Kumar Anal	Head and Associate Professor, Department of Food Agriculture and Bioresources
16	Thailand	Asian Institute of Technology	P.O. Box 4 58 Moo 9, Km. 42, Paholyothin Highway, Klong Luang, Pathum Thani 12120 Thailand	locnguyen@ait.asia	Dr. Loc Thai Nguyen	Assistant Professor, Department of Food Agriculture and Bioresources
17	Thailand	Asian Institute of Technology	P.O. Box 4 58 Moo 9, Km. 42, Paholyothin Highway, Klong Luang, Pathum Thani 12120 Thailand	m.bilalsadiq@hotmail.com	Dr. Muhammad Bilal Sadiq	Lecturer, Department of Food, Agriculture and Bioresources
18	Thailand	Asian Institute of Technology	P.O. Box 4 58 Moo 9, Km. 42, Paholyothin Highway, Klong Luang, Pathum Thani 12120 Thailand	melada@ait.asia	Melada Supakijnoraset	Lab Supervisor, Department of Food Agriculture and Bioresources

NO.	COUNTRY	COMPANY ORGANIZATION NAME	ADDRESS	WEBSITE/E-MAIL	CONTACT PERSON	POSITION
19	Thailand	Asian Institute of Technology	P.O. Box 4 58 Moo 9, Km. 42, Paholyothin Highway, Klong Luang, Pathum Thani 12120 Thailand	manisha-s@ait.asia	Manisha Singh	Research Associate, Department of Food Agriculture and Biore-sources
20	Thailand	Asian Institute of Technology	P.O. Box 4 58 Moo 9, Km. 42, Paholyothin Highway, Klong Luang, Pathum Thani 12120 Thailand	memostha13@gmail.com	Smriti Shres-tha	Research Associate, Department of Food Agriculture and Biore-sources
21	Thailand	Chiang Mai University	239, Huay Kaew Road, Muang District, Chiang Mai 50200 Thailand	http://www.cmu.ac.th		
22	Thailand	College of Health Sciences, Christian University of Thailand	144 Moo 7, Donyaihom District Nakhonpathom, Thailand 73000 Thailand	gard.tabkrich@gmail.com	Tabkrich Khumsap	Instructor, Department of Innovation in Food Technology
23	Thailand	Department of Fisheries, Ministry of Agriculture and Cooperatives	50 Phaholyothin Road, Ladyao Chatuchak Bangkok 10900 Thailand	http://www.fisheries.go.th		
24	Thailand	Department of Fisheries, Faculty of Agriculture, Rajamangala University of Technology Srivijaya, Nakhon Si Thammarat Campus	109 M.2 Tham Yai Sub-district, Thung Song District, Nakhon Si Thammarat 80110 Thailand	http://agr.rmutsv.ac.th		
25	Thailand	Faculty of Agricultural Technology, Songkhla Rajabhat University	160 Moo 4, Khao Roop Chang sub-district, Muang Songkhla, Songkhla 90000 Thailand	http://agri.skru.ac.th/		
26	Thailand	Faculty of Agro-Industry, Rajamangala University of Technology Srivijaya Nakhon si Thammarat (Thung Yai)	109 M.2 Tham Yai Sub-district, Thung Song District, Nakhon Si Thammarat 80110 Thailand	http://agro-industry.rmutsv.ac.th		
27	Thailand	Faculty of Technology and community Development, Thaksin University, Phatthalung Campus	222 Moo 2, Ban Phrao Sub-District, Pa Payom District, Phatthalung 93110 Thailand	http://www2.tsu.ac.th/eng_tcd/contact.php?idm=5&mid=216		
28	Thailand	FAO Regional Office for Asia and the Pacific, Bangkok, Thailand	39 Phra Atit Road, Bangkok 10200, Thailand	Anthony.Bennett@fao.org	Dr. Anthony Bennett	Senior Food Systems Officer (Post Production)
29	Thailand	Food and Drug Administration	88/24 Tiwanon Road, Non-thaburi, 11000 Thailand	http://www.fda.moph.go.th		
30	Thailand	Food Biotechnology Research Unit, NSTDA and Adjunct Faculty, AIT.	111 Thailand Science Park, Phahonyothin Road, Khlong Nueng, Khlong Luang, Pathum Thani 12120 Thailand	wonnop@biotech.or.th	Dr. Wonnop Visessanguan	Director
31	Thailand	Institute of Food Research and Product Development	Kasetsart University. P.O. Box 1043, Kasetsart, Chatuchak, Bangkok 10903, Thailand	http://ifrpdku.ac.th		
32	Thailand	Kasetsart University	50 Ngamwongwan Road, Ladyao, Chatuchak, Bangkok 10900 Thailand	chitsiri.t@ku.ac.th	Asst. Prof. Dr. Chitsiri Rach-tanapun	Departmnet of Food Science and Technology, Faculty of Agro-Industry
33	Thailand	Kasetsart University	50 Ngamwongwan Road, Ladyao, Chatuchak, Bangkok 10900 Thailand	fagikpp@ku.ac.th	Dr. Kanitha-porn Vangnai	Departmnet of Food Science and Technology, Faculty of Agro-Industry

NO.	COUNTRY	COMPANY ORGANIZATION NAME	ADDRESS	WEBSITE/E-MAIL	CONTACT PERSON	POSITION
34	Thailand	Kasetsart University	50 Ngamwongwan Road, Ladyao, Chatuchak, Bangkok 10900 Thailand	kriskamol.n@ku.ac.th	Asst. Prof. Dr. Kriskamol Na Jom	Department of Food Science and Technology, Faculty of Agro-Industry
35	Thailand	Kasetsart University	50 Ngamwongwan Road, Ladyao, Chatuchak, Bangkok 10900 Thailand	fagiknt@ku.ac.th	Dr. Kullanart Tongkhao	Department of Food Science and Technology, Faculty of Agro-Industry
36	Thailand	Kasetsart University	50 Ngamwongwan Road, Ladyao, Chatuchak, Bangkok 10900 Thailand	fagipmu@ku.ac.th	Dr. Pathima Udompititkul	Department of Food Science and Technology, Faculty of Agro-Industry
37	Thailand	Kasetsart University	50 Ngamwongwan Road, Ladyao, Chatuchak, Bangkok 10900 Thailand	pitiya.k@ku.ac.th	Asst. Prof. Dr. Pitiya Kamonpatana	Department of Food Science and Technology, Faculty of Agro-Industry
38	Thailand	Kasetsart University	50 Ngamwongwan Road, Ladyao, Chatuchak, Bangkok 10900 Thailand	sudsai.t@ku.ac.th	Asst. Prof. Dr. Sudsai Treva-nich	Department of Food Science and Technology, Faculty of Agro-Industry
39	Thailand	Kasetsart University	50 Ngamwongwan Road, Ladyao, Chatuchak, Bangkok 10900 Thailand	warapa.m@ku.ac.th	Asst. Prof. Dr. Warapa Mahakarnchanakul	Department of Food Science and Technology, Faculty of Agro-Industry
40	Thailand	King Mongkut's University of Technology North Bangkok (Prachinburi Campus)	129 Moo 6, Tumbon Noenhom, Amphur Muang, Prachinburi 25230 Thailand	https://www.kmutnb.ac.th		
41	Thailand	Mahidol University	Division of food Industry, School of Interdisciplinary Studies, Mahidol University, Kanchanaburi 199 Moo 9, Lumsum Sub-district, Sai Yok District, Kanchanaburi Province, 71150 Thailand	ronna_y@hotmail.com	Ronnachai Yoddamnern	Lecturer, Department of Food Technology
42	Thailand	NANOTEC, NSTDA and Adjunct Faculty, AIT	111 Thailand Science Park, Phahonyothin Road, Khlong Nueng, Khlong Luang, Pathum Thani 12120 Thailand	rawiwan@nanotec.or.th	Dr. Rawiwan Maniratana-chote	Principal Scientist
43	Thailand	NANOTEC, NSTDA and Adjunct Faculty, AIT	111 Thailand Science Park, Phahonyothin Road, Khlong Nueng, Khlong Luang, Pathum Thani 12120 Thailand	uracha@nanotec.or.th	Dr. Uracha Ruktanonchai	Deputy Executive Director
44	Thailand	National Bureau of Agricultural Commodity and Food Standards, Ministry of Agriculture and Cooperatives	50 Phaholyothin Road, Ladyao Chatuchak Bangkok 10900 Thailand	kwan64@gmail.com	Kwanhatai Thongpalad	Veterinary officer
45	Thailand	National Bureau of Agricultural Commodity and Food Standards, Ministry of Agriculture and Cooperatives	50 Phaholyothin Road, Ladyao Chatuchak Bangkok 10900 Thailand	songkhla@gmail.com	Dr. Songkhla Chulakasian	Veterinary officer
46	Thailand	National Science and Technology Development Agency	111 Thailand Science Park (TSP), Phahonyothin Road, Khlong Nueng, Khlong Luang, Pathum Thani 12120, Thailand	https://www.nstda.or.th		
47	Thailand	National Sanitation Foundation International (Thailand)	Bangkok, Thailand	pbracher@nsf.org , foodasia@nsf.org	Peter Bracher	Managing Director, Asia-Pacific

NO.	COUNTRY	COMPANY ORGANIZATION NAME	ADDRESS	WEBSITE/E-MAIL	CONTACT PERSON	POSITION
48	Thailand	National Sanitation Foundation International (Thailand)	Bangkok, Thailand	sketudut@nsf.org , foodasia@nsf.org	Sutida Ketudut	Regional Director (Global Food Division) Thailand and SE Asia
49	Thailand	National Sanitation Foundation International (Thailand)	Bangkok, Thailand	lhuang@nsf.org , foodasia@nsf.org	Huang Luying	Project Coordinator
50	Thailand	National Sanitation Foundation International (Thailand)	Bangkok, Thailand	mthapa@nsf.org , foodasia@nsf.org	Mridula Thapa	Project Coordinator
51	Thailand	National Sanitation Foundation International (Thailand)	Bangkok, Thailand	jan011988@gmail.com	Thazin Oo	Project Coordinator and Food Safety Auditor, Food Retail and Supply Chain
52	Thailand	Prince of Songkla University	15 Karnchanavanich Rd., Hat Yai, Songkla, 90110, Thailand	kitiya.v@psu.ac.th	Asst. Prof. Kitiya Vongkamjan	Department of Food Technology, Faculty of Agro-Industry
53	Thailand	Prince of Songkla University	15 Karnchanavanich Rd., Hat Yai, Songkla, 90110, Thailand	punnanee.s@psu.ac.th	Asst. Prof. Dr.Punnanee Sumpavapol	Department of Food Technology, Faculty of Agro-Industry
54	Thailand	Prince of Songkla University	15 Karnchanavanich Rd., Hat Yai, Songkla, 90110, Thailand	teweeem27@gmail.com	Dr. Tewee Maneerat	Department of Pest Management, Faculty of Natural Resources
55	Thailand	Prince of Songkla University	15 Karnchanavanich Rd., Hat Yai, Songkla, 90110, Thailand	saowapa.d@psu.ac.th	Dr. Saowapa Duangpan	Department of Plant Science, Faculty of Natural Resources
56	Thailand	Rajamangala University of Technology Isan (Nakhon Ratchasima Campus)	744 Suranarai Road Muang District Nakhon Ratchasima 30000 Thailand	https://www.rmuti.ac.th		
57	Thailand	Rajamangala University of Technology Krungthep	2 Nanlinji Road, Tungmahamek, Sathorn, Bangkok 10120 Thailand	http://www.rmutk.ac.th		
58	Thailand	Rajamangala University of Technology Krungthep	2 Nanlinji Road, Tungmahamek, Sathorn, Bangkok 10120 Thailand	thatchajaree_m@hotmail.com	Thatchajaree Mala	Instructor, Food product Development Department
59	Thailand	Rajamangala University of Technology Lanna (Phitsnulok Campus)	128 Huay Kaew Road, Muang, Chiang Mai 50300, Thailand	https://www.rmutl.ac.th		
60	Thailand	School of Agricultural technology, Walailak University	222 Thai Buri, Tha Sala District, Nakhon Si Thammarat 80161 Thailand	http://www.wu.ac.th		
61	Thailand	Songkhla Rajabhat University	160 Moo 4, Tambon Khoarob-Chang, Muang District, Songkhla 90000	http://www.skru.ac.th		
62	Thailand	Srinakharinwirot University	114 Sukhumvit 23, Bangkok 10110 Thailand	http://www.swu.ac.th		
63	Thailand	Suan Dusit University	295 Nakhon Ratchasima Road Dusit District, Bangkok 10300 Thailand	http://www.dusit.ac.th		
64	Thailand	Suratthani Rajabhat University	272 Moo 9 Surat-Nasan Road, Khun Taleay, Muang Surat Thani 84100 Thailand	http://www.sru.ac.th		
65	Thailand	Udon Thani Rajabhat University	64 Thaharn Road, Muang, Udon Thani 41000 Thailand	http://www.udru.ac.th		
66	Thailand	Winrock International, United States Agency for International Development (USAID) funded project for Agricultural Development called Knowledge-based Integrated Sustainable Agriculture in Nepal (KISAN) II.		abiral.pant@winrock.org	Abiral Pant	Senior Business Opportunities Manager

NO.	COUNTRY	COMPANY ORGANIZATION NAME	ADDRESS	WEBSITE/E-MAIL	CONTACT PERSON	POSITION
67	Vietnam	Can Tho University	3-2 street, Ninh Kieu district, Can Tho Province, Vietnam	https://www.ctu.edu.vn		
68	Vietnam	Ho Chi Minh University of Technology	475A Dien Bien Phu street, ward 25, Binh Thanh district, Ho Chi Minh City	https://www.hutech.edu.vn		
69	Vietnam	Lac Hong University	10 Huynh Van Nghe street, Buu Long district, Bien Hoa city, Dong Nai province	https://www.lhu.edu.vn		
70	Vietnam	Nha Trang University	2 Nguyen Dinh Chieu street, Nha Trang city, Khanh Hoa province	https://www.ntu.edu.vn		
71	Vietnam	Nong Lam University HCMC	Linh Trung Ward, Thu Duc district, Ho Chi Minh City	https://www.hcmuaf.edu.vn		
72	Vietnam	Phu Yen College	276 Truong Chinh street, Ward 7, Tuy Hoa city, Phu Yen province	https://www.cdnpy.edu.vn		
73	Vietnam	School of Biotechnology and Food Technology, Ha Noi, Viet Nam.	No.1, Dai Co Viet road, Hanoi - Vietnam	son.vuhong@hust.edu.vn	Dr. Vu Hong Son	Head of Department, Department of Quality Management
74	Vietnam	School of Biotechnology and Food Technology, Ha Noi, Viet Nam.	No.1, Dai Co Viet road, Hanoi - Vietnam	thao.nguyenthi@hust.edu.vn	Assoc. Prof. Dr. Nguyen Thi Thao	Deputy Head, Department of Quality Management
75	Vietnam	School of Biotechnology and Food Technology, Ha Noi, Viet Nam.	No.1, Dai Co Viet road, Hanoi - Vietnam	tu.nguyenthiminh@hust.edu.vn	Assoc. Prof. Dr. Nguyen Thi Minh Tu	Vice Director, Department of Quality Management
76	Vietnam	School of Biotechnology and Food Technology, Ha Noi, Viet Nam.	No.1, Dai Co Viet road, Hanoi - Vietnam	quynh.cungthito@hust.edu.vn	Assoc. Prof. Dr. Cung Thi To Quynh	Lecturer, Department of Quality Management
77	Vietnam	School of Biotechnology and Food Technology, Ha Noi, Viet Nam.	No.1, Dai Co Viet road, Hanoi - Vietnam	tuan.hoangquoc@hust.edu.vn	Dr. Hoang Quoc Tuan	Lecturer, Department of Quality Management
78	Vietnam	School of Biotechnology and Food Technology, Ha Noi, Viet Nam.	No.1, Dai Co Viet road, Hanoi - Vietnam	ha.hophu@hust.edu.vn	Assoc. Prof. Dr. Ho Phu Ha	Head of Department, Department of Food Technology
79	Vietnam	School of Biotechnology and Food Technology, Ha Noi, Viet Nam.	No.1, Dai Co Viet road, Hanoi - Vietnam	trang.vuthu@hust.edu.vn	Assoc. Prof. Dr. Vu Thu Trang	Deputy Head, Department of Food Technology
80	Vietnam	School of Biotechnology and Food Technology, Ha Noi, Viet Nam.	No.1, Dai Co Viet road, Hanoi - Vietnam	son.chuky@hust.edu.vn	Assoc. Prof. Dr. Chu Ky Son	Vice Director, Department of Food Technology
81	Vietnam	School of Biotechnology and Food Technology, Ha Noi, Viet Nam.	No.1, Dai Co Viet road, Hanoi - Vietnam	nga.luonghong@hust.edu.vn	Assoc. Prof. Dr. Luong Hong Nga	Lecturer, Department of Food Technology
82	Vietnam	University of Education and Technology	01 Vo Van Ngan street, Linh Chieu ward, Thu Duc district, Ho Chi Minh City	https://www.hcmute.edu.vn		
83	Vietnam	University of Food Industry	140 Le Trong Tan street, Tay Thanh ward, Tan Phu district, Ho Chi Minh City	https://www.hufi.edu.vn		
84	Vietnam	University of Industry	12 Nguyen Van Bao street, Go Vap, Ho Chi Minh City	https://www.hui.edu.vn		
85	Vietnam	University of Technology, Ho Chi Minh National University	268 Ly thuong Kiet, district 10, Ho Chi Minh City	https://www.hcmut.edu.vn		

Appendix 2: List of equipment purchased with Erasmus+ funds

	UNIVERSITY	TYPE OF EQUIPEMENT AND MATERIALS	SPECIFICATION
1	AIT	Undergrad Stirrer hotplate, ceramic top, digital	UC152D
2	AIT	Colony counter, digital plus	SC6PLUS
3	AIT	x3 magnification magnifier	SC6/1/3
4	AIT	pH/EC Portable 50 with datalogger,	PC50
5	AIT	Nimbus Analytical balance, 0.0001, 210g	NBL214i
6	AIT	Handheld homogeniser, UK plug	SHM1/UK
7	AIT	10mm Stainless steel homogeniser probe	SHM/10
8	AIT	Stand and clamp for Homoginizer	LC-023
9	AIT	Horizontal electrophoresis: Multi Sub Mini, 7 x 7 cm & 10 cm UV tray and 2*8 sample, 1mm thick combs, casting dams	MSMINIDUO
10	AIT	CLEAVER OmniPAC, MINi 300V 400mA 60W	nanoPAC-300
11	AIT	Vortex mixer, variable speed	SA8
12	AIT	Vacuum pump max 650mmHg, 1/6HP, Flow rate 26L/min	LC 024
13	AIT	Waterproof Turbidity Meter, 0-1000 NTU	TN50
14	AIT	Microplate reader	Infinte F50
15	AIT	Computer core i3	LC 0007
16	AIT	Anaerobic jar	LC 025
17	AIT	Densitometer (Mc Farland Meter)	LC 026
18	AIT	A-16 Adapter for diameter 16mm, tube	LC 027
19	AIT	Micropipette	RBO
20	AIT	Smart TV webOS 43LJ55 108cm/43	43LJ55 108cm/43
21	AIT	Apple MacBook Pro 13-inch 3.1GHz 256 GB	
22	AIT	Apple iMac 27-inch 3.5GHz quad-core Intel Core i5	
23	AIT	Logitech ConferenceCam Group	
24	AIT	Dell Notebook	V5471-W56854202TGW-Sr
25	AIT	Epson Projector EB-W41 (3LCD,WXGA/3600 ANSI Lumens)	EB-W41
26	AIT	Brother Laser ColorPrinter	HL-L8260CDN
27	AIT	Apple iPad Wi-Fi 128GB 6th Gen	
28	AIT	Desktop	
29	HUST	Gas chromatograph	GC-2014
30	HUST	Macbook Air 2016 : Intel® Core™ i5-5250U 1.6GHz / 8GB, SSD 128GB / 13.3 / OS X El Capitan	
31	HUST	Macbook Pro 2016 : Intel® Core™ i5-5257U / 8GB / SSD 256GB / 13.3» OS X El Capitan	
32	HUST	Canon Laser Printer Multifunction 27 pages / minute	
33	HUST	Meeting System Polycom - RealPresence Group 310-720p online	
34	HUST	Software bundled software and equipment calibration system setup	
35	HUST	Cable, accessories and Installation of the network service of the equipment and online conferencing system	
36	ITC	Oven (55L, 105°C, Model UN75)	
37	ITC	T25 digital Ultra turrax homogenizer (IKA)	
38	ITC	Refrigerator (4°C)	
39	ITC	Moisture meter (Shimadzu)	
40	ITC	Water activity meter (PAWKIT-DECAZON)	
41	ITC	Color-meter	
42	ITC	Refractometer (ATAGO)	
42	ITC	InertSep™ PLS-3 Cartridge for pesticides by GC-MS	(200mg/6 mL, 30 pcs, Cat. No. 5010-25050)
43	ITC	InertSep™ AC cartridge for pesticides by GC-MS	(InertSep SlimJ) AC, 400mg, 50 pcs, Cat. No. 5010)

	UNIVERSITY	TYPE OF EQUIPEMENT AND MATERIALS	SPECIFICATION
44	ITC	Nitrogen gas for GC-MS (gas)	
45	ITC	Acetone for GC-MS (1L)	
46	ITC	n-hexane for GC-MS (2.5L)	
47	ITC	Dichloromethane for GC-MS (2.5L)	
48	ITC	Sodium sulfate for GC-MS (1kg)	
49	ITC	Acetonitrile for GC-MS (2.5L)	
50	ITC	Micropipette 1-5ml	
51	ITC	Micropipette 1000µl	
52	ITC	Micropipette 20-200µl	
53	ITC	Micropipette 1-20µl	
54	ITC	Aflatoxin Elisa test kit in agricultural products	(023G9, 25 tests/box)
55	ITC	Test kits for pesticides in food	(G9 fast-pesticides, 003G9, 10 tests/box))
56	ITC	Test kit for drug residues in meats and seafood	(007G9, 50 tests /box)
57	ITC	Test kit for borax in food	(008G9, 50 tests/box)
58	ITC	Test kit for formalin in food	(009G9, 300 tests/box)
59	ITC	Test kit for sulfite in food	(019G9, 50 tests/box)
60	ITC	Bostwick Consitometer	
61	ITC	Pasteurizer unit	
62	ITC	Sorlex extraction apparatus (500mL)	
63	ITC	MacBook Rpo 13 in, 2,7 GHz, 256 GB (x3) and accessories	
64	ITC	HP LaserJet Pro200 Color MFP M276n	
65	ITC	Microsoft Office Pro 2013 (x3)	
66	ITC	LCD Projector Casio	
67	ITC	Screen projector 2,4m	
68	ITC	Server Synology	
69	ITC	Canon EOS 7D Digital SLR Camera ansd accessories	
70	ITC	Sony TV LCD 50 inc and accessories	
71	KU	Electronic balance (AXA) 2000G	AXA20002
72	KU	Vortex mixer GENIE 2	G650E
73	KU	Autoclave: TOMY	ES-315 (Chamber size: 53lt.)
74	KU	Shaking Incubator: Unimex 1010	HED-1 543-12319-00
75	KU	Dispenser 1.0-10.0 ML	BOECO SA Series dispenser
76	KU	Pipette controller STD. VERS	FALCON, U.S.A.
77	KU	Autopipette research plus 3-Pack	Eppendorf (0.5*10 ul/10-100 ul/100-1000ul)
78	KU	Autoclavable micropiette 0.5-10(ul)	Discovery Comfort 0.5-10 ul
79	KU	Autoclavable micropipette 2-20(ul)	Discovery Comfort 2-20 ul
80	KU	Autoclavable micropipettw 20-200(ul)	Discovery Comfort 20-200 ul
81	KU	Autoclavable micropipette 100-1000(ul)	Discovery Comfort 100-1000 ul
82	KU	Autoclavable micropipette 1-5 ml	Discovery Comfort 1-5 ML
83	KU	Visualizer(portable)	RAZR LX550U
84	KU	LED Projector	Acer (K137i)
85	KU	Colony counter	COLE-PARMER
86	KU	Advanced UV/Visible Spectrophotometer; 90 to 264 VAC	JENWAY/UK, 7315
87	KU	pH/ORP meter	AS ONE/Japan, AS800
88	KU	pH meter ion 6+ meter	Oakton
89	KU	LOGR RH/TMP/DEWHIGH ACU W/LCD	Lascar electronic
90	KU	Anaerobic jar	MERCK
91	KU	MacBook Pro 13" Touch bar and Touch ID 512 GB, mouse, carrier bag, MS Office for Mac	
92	KU	Notebook 15" HP Pavillion + license Window 10 (x2)	
93	KU	MS office 2016: 2 users	

	UNIVERSITY	TYPE OF EQUIPEMENT AND MATERIALS	SPECIFICATION
94	KU	Colored laser printer and scanner (x3)	
95	KU	Antivirus Kaspersky Internet Security for 3 users	
96	KU	Headphone and Bluetooth microphone: Jabra Bluetooth Headset model Motion (x3)	
97	KU	External HD 2TB: Western Digital (x2)	
98	NLU	Suitcase test fast micro Airbacct-quick check food hygiene and safety and accompanied tools	Air BACcT, Nippon Bacterial Test
99	NLU	Water activity analyzer	ClimMate-aw, Novasina – Switzzeland
100	NLU	Analytical balance (x2)	PA214, OHAUS – USA
101	NLU	Moisture analyzer and accompanied cups	MB90, OHAUS – USA
102	NLU	Furnace	LE6/11/R7, Nabertherm - Germany
103	NLU	Culture media and chemicals for testing microorganism and analysis	Loc, Cuong Thinh and Kim Hong companies
104	NLU	Labtop Dell Inspiron, 15» i7, 2,5GHz, 256 GB and accessories (x2)	
105	NLU	Labtop Dell InspironN7359, 13» i7, 2,5GHz, 256 GB and accessories (x1)	
106	NLU	Microsoft Office Pro 2016 (x3), Antivirus Kapersky	
107	NLU	Presenter Logitech R 400, mouse Logitech (x3)	
108	NLU	Laser Printer Canon MF226dn and accessories	
109	NLU	Logitech Group HD Video and Audio Conferencing System , Logitech Conference Cam BCC950 (x3) & Cam Portable	(960-001060)
110	NLU	Projector VPL-EW255	
111	NLU	Television LED smart LG 60LX541H	
112	NLU	Electric power sockets (x5) and frames for projector and TV	
113	PSU	Oven Model FD 115 with Forced convection (E3)	
114	PSU	Fat extraction system including Soxhlet 8000 ExtractionUnit and control Unit, Cool Ace Model CA-1115	
115	PSU	Notebook ASUS K556UQ-XX688D	
116	PSU	LED TV VIERA TH 55D300T	
117	PSU	UPS ETEC 1200VA	
118	PSU	Video Conference -Video HD2 Endpoint	
119	PSU	InoGeni 4K HDMI USB	
120	PSU	Logitech Group	
121	PSU	TV Stand with wheels	
122	RUA	Spray dryer pilot	
123	VNUA	Chroma Meters Measuring Head including basis accessories	CR-400 Head
124	VNUA	Light Projection Tube for CR -400 (no disc)	
125	VNUA	Light Projection Tube for CR -400	
126	VNUA	Glass light Projection Tube (for CR-400)	
127	VNUA	Glass light Projection tube (for CR-400)	
128	VNUA	Kit Detector FID including	Gas Chromatography
129	VNUA	ASXL FID Assembly, 230 V	
130	VNUA	RESTRICTOR ASSY-ASXL BLUE 6	
131	VNUA	RESTRICTOR ASSY-ASXL BLACK(4)	
132	VNUA	FID Amplifier	
133	VNUA	Graph/Ves Ferrule 1/8 x 1/16», Pkg. 10	
134	VNUA	XLS+ LTS PIPET 100-1000 uL	Mettler Toledo
135	VNUA	XLS+ LTS PIPET 10-100 uL	Mettler Toledo
136	VNUA	XLS+ LTS PIPET 20-200 uL	Mettler Toledo
137	VNUA	XLS+ LTS PIPET 0.5-10 uL	Mettler Toledo

Appendix 3: List of partners' contact details

Address	Web site	Name	Current job Position	E-Mail
58 Moo 9, Km. 42, Paholyothin Highway, Khlong Luang, Pathumthani 12120, Thailand	http://www.ait.ac.th/	Dr. Anil Kumar	Associate Professor	anilkumar@ait.asia
Gregor Mendel Strasse 33, 1180 Vienna, Austria	https://www.boku.ac.at/en/	Dr. Gerhard Schleining	Ass.Prof.	gerhard.schleining@boku.ac.at
N°1, Dai Co Viet Road, Hanoi, Vietnam	http://sbft.hust.edu.vn/en/home.html	Dr. Line Fritis Lindner	Project manager	line.lindner@boku.ac.at
42, rue Scheffler 75116 Paris France	http://www.iavff-agreenium.fr/	Dr. Yves Waché	Deputy Director of School / Associate Professor	tu.nguyenthiminh@hust.edu.vn
PO Box86, Boulevard de la confédération russe, Phnom Penh Cambodia	http://www.itc.edu.kh/en/	Mrs Cathy Méjean	Professor	ywache@u-bourgogne.fr
50 Ngamwongwan Rd., Chatuchak, Bangkok 10900, Thailand	http://www.ku.ac.th/	Mrs Linda Ihadjadene	Project manager	lynda.ihadjadene@agreenium.fr
Unh Trung Ward, Thu Duc District Ho Chi Min City, Vietnam	http://en.hcmuaf.edu.vn/	Dr. Seingheng Hul	Director of Research and Development	hul@itc.edu.kh
15 Kanjanavanich Road, Hat Yai Songkla 90110, Thailand	http://www.en.psu.ac.th/	Dr. Warapa Mahakarnchanakul	Assistant Professor	fagiwpm@ku.ac.th
Dangkor District, Phnom Penh Cambodia	http://www.rua.edu.kh/	Dr. Pathima Udompjitkul	Lecturer	Pathima.u@ku.th
2, place Pierre Viala - 34060 Montpellier cedex - France	https://www.montpellier-supagro.fr/	Dr. Hong Minh Xuan Nguyen	Lecturer	nmhxhong@hcmuaf.edu.vn
Place du 20 août n°7, 4000 Liège, Belgium	https://www.ulg.ac.be/cms/c_5000/en/home	Dr. Chutima Tantikitti	Associate Dean/ Assistant Professor	chutima.t@psu.ac.th
Lungarno Pacinotti 43, 56126 Pisa, Italy	https://www.unipi.it/index.php/english	Narumon	Administrative Assistant	narumonpreuksa@gmail.com
Trau quy, Gia lam, Hanoi, Vietnam	http://www.vnua.edu.vn/eng/	Thong Kong	Dean and Associate Professor	kt hong@rua.edu.kh

