

# **Erasmus+**

# Cooperation for innovation and the exchange of good practices sub-programme

# TECHNICAL REPORT form

Programme	Erasmus+
Sub-Programme	Cooperation for innovation and the exchange of good practices
Action	Capacity Building in higher education
Sub-Action	Joint Projects
Call for Proposal	EAC-A02-2019-CBHE
Project number	619225-EPP-1-2020-1-ES-EPPKA2-CBHE-JP
Agreement/decision number	
Project Title	Inow Asia: Development of innovative multilevel formation programs for the new water leading professionals in South East Asia

# **Contractual Data**

# **Dates and Beneficiaries**

#### Dates

Project Start:	15/01/2021	Project End:	14/01/2024
Activities Start:		Activities End:	
Project Duration(months):	36		

#### **Beneficiary Data**

Role	PIC	Name	Country
Co-Beneficiary / Partner	917307564	SOUPHANOUVONG UNIVERSITY	Laos
Co-Beneficiary / Partner	984078484	NATIONAL UNIVERSITY OF LAOS	Laos
Co-Beneficiary / Partner	925565562	NATIONAL UNIVERSITY OF BATTAMBANG	Cambodia
Co-Beneficiary / Partner	933222354	INSTITUTE OF TECHNOLOGY OF CAMBODIA	Cambodia
Co-Beneficiary / Partner	998039209	CAN THO UNIVERSITY	Vietnam
Co-Beneficiary / Partner	998111862	HANOI UNIVERSITY OF SCIENCE, VIETNAM NATIONAL UNIVERSITY HANOI	Vietnam
Co-Beneficiary / Partner	948373366	WORLD UNIVERSITY SERVICES OF THE MEDITERRANEAN-WUSMED	Spain
Co-Beneficiary / Partner	949499924	FUNDACIO SOLIDARITAT UB	Spain
Coordinating Organization / Beneficiary	999895983	UNIVERSITAT DE GIRONA	Spain
Management Contact Person	999895983	UNIVERSITAT DE GIRONA	Spain
Co-Beneficiary / Partner	999851169	UNIVERSITE PAUL SABATIER TOULOUSE III	France
Co-Beneficiary / Partner	999513803	INSTITUT DE RECHERCHE POUR LE DEVELOPPEMENT	France

### Legal Representative

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#### Department

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# **Project Summary and Horizontal Issues**

# **Project Description**

English - 1	The main objective of INOWASIA is to train the new Southeast Asian young water professional in the field of water resources, with a strong and multidisciplinary background in sustainable water management, with a global view of the sector current and future challenges but with a specific approach to the local demands, and the required soft skills to join and lead the water sector market.
	Four main activities were defined to achieve this objective:
	Curriculum development - Water resources training/teaching -Water challenges and education gaps in Cambodia, Laos and Vietnam were identified. -The contents and syllabus of the existing MSc in the SEA universities of INOWASIA were reviewed.
	-A list of the required competences, including basic and advanced knowledge topics and personal skills, was generated
	-A list of courses to cover these gaps was created: basic knowledge (9 courses) through an open e learning platform with free self-paced courses, and advanced knowledge (13 courses), that will be implemented in existing or new subjects in the MSc programs from our SEA universities. -The partners (with the input of the APC) have developed the material for teaching.
	At this time, the learning platform is being validated, the teaching material is partially finished, and the approval/authorisation procedures to implement the courses during 2023 in SU, NUOL, ITC, NUBB, CTU and VNU-HUS have been initiated.
	Additional virtual and face-to-face teaching and training on water resources has been offered. An intensive virtual week of additional training in innovative water aspects, including leadership and entrepreneur skills, has been scheduled for early 2023.
	Curriculum development - Innovative learning methodologies Problem-based learning (PBL) was selected to train our students with key 21st century personal skills. PBL is a student-centred semi-autonomous cooperative learning process in small groups where (real) complex situations are discussed in group instead of lecture-based classes. A total of 183 teachers were trained on PBL, with virtual and face-to-face courses taught by the project coordinator institution. More training sessions are scheduled for 2023.
	e-learning methodology was selected as complementary learning methodology to let the students to get significant personal skills like digital skills, time management, autonomy, responsibility, confidence in their technical abilities, and self-motivation and personal drive.
	International internships in companies and research centres is also promoted in INOWASIA to enhance mobility and to improve the capacity in research and/or to advance the career perspectives of Southeast Asian students. A call for companies and institutions to offer positions was launched, and the students will be selected at the end of December to start their 4-6 months internships during 2023.
	Water-oriented living labs Six water-oriented living labs were co-designed for each Southeast Asian Partner and their implementation is almost finished in their University Campuses. These living labs, connected through a virtual network and available from INOWASIA webpage, are used for education, training, research and demonstration, with the aim to create an innovation hub and a meeting point for knowledge exchange among students, academics and stakeholders.
	International stakeholders' network INOWASIA is creating an international multilevel network of postgraduate students, professors and water professionals (Academic and Professional Committee: APC) to stimulate a cross- disciplinary collaboration to provide creative solutions to water challenges. Dissemination and social media (Facebook, LinkedIn and twitter) are used to is used to attract potential stakeholders, who can join the INOWASIA.

### **Horizontal Issues**

#### Previous recommendations/follow-up

There was only one weakness in the Initial Erasmus+ assessment report, compared to up to sixteen strengths and a final score of 82%. The main weakness identified was that the long-term sustainability of the project was not clear. The reviewers also mentioned:

•the proposal offers weak discussion on real demand and needs of targeted HEIs.

Strategy to inclusion and diversity, particularly needed for students in rural areas in LDCs, is weakly explained
Involvement of Partner HEIs in decision-making is insufficiently detailed to further reinforce ownership.
The proposal may be overly optimistic on long-term impacts. Dissemination plan almost entirely relies on events and websites and does not adequately consider networks and living labs created by the project.

Based on that, the general recommendations of the officer in the initial meeting with the coordinator were: •Enhance the leadership of Southeast Asian partners.

•Guarantee long term sustainability of the actions (involve SEA institutions). Initiate bilateral Erasmus agreements and legal path for accreditation processes in each SEA HEI

•Guarantee impact (in SEA countries and institutions). Recruit/involve students, teachers, researchers and stakeholders in local events.

•Establish contact with similar projects (in the area, and in environmental field) and take advantage of the resources committed for inowasia.

There was also an external evaluation focused on effectiveness, impact and sustainability at the end of the first year of the project. The list of recommendations was in the same line as the Erasmus+ assessment report, and they have been followed and addressed properly. To face these weaknesses INOWASIA has defined the following actions: - All the SEA partners are involved leading or co-leading one WP, and one representative of each institution is a member of the committee in which all decisions are discussed and agreed monthly. They have also contributed to identify the gaps and needs in their countries (replying WP1 questionnaires), to select the topics and prepare the material for the courses, to start the authorization/accreditation process, to design and implement the living labs, to identify and contact potential public/private stakeholders for the APC, to involve the leading teams of their institutions to guarantee long-term sustainability, to invite students and teachers from their universities to attend training and teaching activities, to use their institutional web page and social networks for dissemination purposes, and they have co-organized the agendas of the consortium trips to their institutions and countries.

- The multi-level international network of stakeholders from the water sector has been reinforced with the creation of the Academic and Professional Committee. The members of the APC have attended meetings, seminars and teaching&training activities (also as speakers), have replied WP1 to identify gaps and needs in each country, have given inputs and feed backs for the preparation of the material for the courses and for the water oriented living lab definition, and have offered positions for the internships of our students. Our aim is to involve them in all the project activities to strengthen the alliance with our Asian partners and secure commitment for long-term collaboration with the research and education activities related to water resources, and funding for the maintenance of the living labs. - The number of students and teachers (not only from the research group and faculty of our partners) involved in INOWASIA activities and events has been significantly increased.

- We have diversified the dissemination activities and enhanced the use of the social media (LinkedIn, Facebook and twitter).

#### **Transversal issues**

INOWASIA addresses transversal issues relevant for EU and critical for the Least developed countries in Southeast Asia. As stated by the United Nations, "Water is at the core of sustainable development and is critical for socioeconomic development, healthy ecosystems and for human survival itself. It is vital for reducing the global burden of disease and improving the health, welfare and productivity of populations. It is central to the production and preservation of a host of benefits and services for people. Water is also at the heart of adaptation to climate change, serving as the crucial link between the climate system, human society and the environment".

One of the main objectives of INOWASIA is to increase basic competences and skills in water resources of the students and current and future professionals in the field, to guarantee a sustainable development and green growth of Cambodia, Laos and Vietnam. To this end, several courses have been implemented, covering basic and innovative concepts. The implementation with different teaching methodologies (e-learning and problem-based learning) guarantees the acquisition of 21st century soft and digital skills. This educational innovation allows a cross-disciplinary and interdisciplinary learning program with insights from outside the scope of each involved disciplinary. Improving higher education in the field of water resources and modernising universities in Southeast Asia, will contribute to improve the employment indicators and social cohesion.

Therefore, the Sustainable Development Goals 4 (Quality Education) and 6 (Clean water and sanitation), objectives 6 and 4 are fully covered by inowasia. Similarly, other SDG are indirectly covered, like SDG 8 (Decent Work and Economic Growth), SDG 9 (Industry, Innovation, and Infrastructure), SDG 11 (Sustainable Cities and Communities), and SDG 13 (Climate action).

For INOWASIA it is of special importance the incorporation of the gender approach in the development of water and sanitation projects, which ensures that projects implement services with inclusive access for all and does not disadvantage women or users of different ethnic groups. Due to this, the Water-Hygiene-Sanitation (WASH) online course created by FSUB, in collaboration with experts in WASH-Gender, that will be public in INOWASIA's e-learning platform, will include WASH gender aspects such as menstrual hygiene and the five principles of gender mainstreaming: gender-sensitive language; gender-specific data collection and analysis; equal access to and utilisation of services; women and men equally involved in decision making; and equal treatment integration into steering processes.

In the SC meetings guidelines and indicators of participation have been established (WP2 and WP3) and evaluated (WP4), ensuring the inclusion of vulnerable groups (gender and physical and intellectual disabilities) in the activities carried out during the project. Our indicators illustrate a great participation of women in training activities, both students and academic. This is of great relevance since typically there is a large majority of men in the water sector.

Part of the SC decision was to guarantee that at least 50% of INOWASIA scholarships will be granted to women if they meet the minimum requirements demanded in the recruitment process.

Although the majority of INOWASIA responsible and core working group in Europe is composed by women (> 70 %), for the SEA countries this is the contrary. All IP of the Southeast Asian countries are men, and the large majority (>75 %) of the core academic working group that attends the project meetings too. This problem was discussed in the last Biannual Meeting, and a parity policy will be applied in the next mobilities.

#### Involvement of people with fewer opportunities

# Award Criteria

## Assessment Criteria

#### Relevance of the project

#### Relevance to the objectives

There have been no significant changes that have affected the project relevance. The global water crisis is still a reality, and expectations have worsened with ecosystem degradation and climate change forecasts. Some regions of the world, like Southeast Asia, are especially vulnerable and sensitive to the availability and quality of their water resources. The difficult socioeconomic reality in countries like Cambodia, Laos and Vietnam is directly related to their environment and water management, facing dramatic challenges such as lack of safe drinking water supply and sanitation, desertification, deforestation, and other threats to their biodiversity.

The main concerns and needs on water resources of each country were already partially identified during the drafting of the proposal. However, the exhaustive work carried out in WP1, through literature revision and questionnaires addressed to relevant stakeholders of the area, has made it possible to clearly identify the current situation in the water resources sector in Cambodia, Laos and Vietnam. Both, from the point of view of training and education needs, as well as in the development of skills demanded by the labor market. These national needs were contrasted with the current postgraduate programs existing in the HEI of Inowasia's SEA partners in order to define the list of basic and advance knowledge courses which INOWASIA is developing to implement. The basic courses will be made available in a free elearning platform open to a worldwide audience of students and professionals in the field, and the list of specific advanced knowledge concepts will be implemented as new or modified subjects in the existing MSc programs, and taught with the use of the teaching methodology of problem-based learning to promote contemporary 21st century skills.

Additional, virtual and face-to-face, training for teachers have also been provided at each Southeast Asian university, in order to improve their teaching skills and their knowledge of the most advanced and innovative topics in the field of water resources. Furthermore, the creation of the Water-oriented Living Labs (WOLL) is also crucial for training and research and represent an innovation hub. These educational activities have been opened to students and to members of the local institutions of our Academic Professional Committee (APC). The main objective remains to improve the quality of education and teaching in Cambodia, Laos and Vietnam (priority B).

The decision of creating an APC originated from the results of the study of the situation in Cambodia, Laos, and Vietnam. The intention of this multilevel international network was to include the point of view of local authorities, stakeholders and private companies in our training programs, in order to educate, increase awareness and involve the society in water-related issues, and for the participation in water governance and planning at different scales.

#### EU Education, Cooperation & Development policies

The objectives of the project are fully aligned with the education, cooperation and development policies of the EU. The capacity building action in higher education of our six partners from Southeast Asia includes: •Reinforcement and improvement of existing postgraduate studies in water and environment with the implementation of new subjects that include innovative concepts of the water resources sector. Focusing on concepts, identified by companies and stakeholders, which represent a gap in education and a requirement for the incorporation into the labour market. This contributes indirectly to a sustainable growth of the economy, to improving the quality of the jobs in the sector, and to enhancing social cohesion in the country. •The Problem-Based Learning (PBL) methodology implemented promotes long-life learning for students and future professionals, and guarantees the acquisition of contemporary skills and abilities such as critical thinking, creativity, collaboration, communication, identification of relevant sources of information, flexibility, leadership, initiative, productivity and social skills. These skills are aligned with the identified needs of the labour market in

the field of water resources in Southeast Asia. •The development of the e-learning courses facilitates the acquisition of water basic knowledge to students, professional and other stakeholders in the field. In addition, these courses offer the opportunity to the new young water professionals worldwide to acquire digital skills and literacy.

•The promotion of student internships in companies and stakeholders (local or international, with or without mobility) improves the capacity in research and/or to advance the career perspectives of INOWASIA's students. •Innovation capacities will be boosted and promoted through student, stakeholders and society training in the Water-oriented living labs implemented.

•Capacity and competences of the teaching staff of Inowasia SEA partners will be improved with innovative student-centred methodologies training.

Definitively, INOWASIA contributes to the modernization of the SEA HEIs based on Bologna's principles on key competences for long-life learning.

#### Quality of the project implementation

#### Description of the implemented activities

Overall, the quality of the project implementation as high. It started as planned and it remains on track, with some delays due mainly to Covid-19 restrictions, not only due to the inability to meet in person but also due to the additional burden it generated to the educational institutions. Furthermore, as stated in the first external evaluation report, the project proposal's timetable was very ambitious and more time was needed for the project to kickoff and for partners to fully comprehend and take over their roles and responsibilities.

The research within WP1 (Preparatory research and analysis) was thorough and executed in high quality, bringing the completion with a 4-month delay. The WP1 indicators were achieved or overachieved, and all the deliverables elaborated, providing a strong basis for further INOWASIA implementation. A new, and very important, milestone was achieved: the establishment of the INOWASIA Academic Professional Committee (APC) composed by 40 members at the time of writing this report. The Committee is open for new water related memberships and it is therefore ongoing.

The WP 2 (Modular Curriculum Development and Teaching Capacitation) is ongoing with delays, partly caused by the late completion of the WP1. Most of the planned outputs and deliverables have been concluded, but there are some additional activities related to education material, training and teaching that will be completed by the end of 2022 or beginning of 2023. Moreover, the selection of the students for the international internships will remain open until the end of 2022.

The WP3 (Implementation of the modules and water living labs in PC's HEI Campus) is ongoing but accumulating WP1 and WP2 delays. The implementation and the corresponding reports of the e learning courses, of the PBL subjects, and of the internships will be completed in 2023. Nevertheless, the water-oriented living labs definition started earlier than planned in the proposal in order to prepare the equipment acquisition, and the internship announcement also started earlier than originally scheduled to guarantee the implementation during the first semester of 2023.

The WP4 (Quality Plan) is ongoing as scheduled and has been provided all the deliverables on time. Except for the teaching material which has not been evaluated in the totality yet since it will be completed and fully implemented during second part of the project.

The WP5 (Dissemination) is ongoing with some initial delays. Two deliverables – the Dissemination plan and the Website – have been completed in high quality. Dissemination through social media and through the APC has been intensified with a considerable follow of water professionals and students. The idea of preparing a monthly magazine was discarded by the Steering Committee, as it was considered excessive work with little impact on INOWASIA's social network.

The WP6 (Project Management) is ongoing as scheduled. The initial travel plans were affected by Covid travel restrictions during the 1st year of implementation of the project. Therefore, the Kick-Off Meetings (with full partners and APC members) and the 1st Biannual Steering Committee had to be organized virtually. The following 2nd and the 3rd Biannual SCs were designed as circular trips in Europe and Vietnam, hosted by several partners and cities.

By concentrating all these meetings/working sessions in one journey we managed to make considerable progress, reduce travel costs and, most importantly, minimised the carbon footprint. It also offers us the possibility of visiting all the HEIs and SEA Living Labs rather than limiting our encounters to the capital of each SEA partner. We therefore foresee 2 more circular trips (Laos, Cambodia) in the following year.

Quality assurance

During the first months of the project, the lead and colead of WP4, SU and WUSMED, developed the quality plan which aimed to provide detailed information on the QA strategies and procedures to be followed during the implementation of the project.

This deliverable is being used as a guideline by the project coordinator and it contributes to ensure that quality reviews are being conducted at relevant timings during the project execution. It also serves as a reference for all project partners, to understand their responsibilities, regarding the project deliverables and outcomes.

Quality control mechanisms were defined to facilitate the identification of important tasks and dependencies critical for the success of the project. It also provided a detailed guide to the INOWASIA consortium to guarantee effective cooperation within the consortium and to ensure the highest level of quality of project documentation.

The general perception, after analysing the responses given by the partnership, is that the project is proceeding in a satisfactory way.

The main problem identified during the first year of the project was the uncertainty caused by COVID-19 and how this may affect the project implementation in terms of partner's coordination and reaching the target students and teachers. Other related concerns were the implementation and coordination of the Living Labs, Workshops and Events celebrated in different countries.

On the other side, partners remained positive and motivated for teamwork despite the pandemic hitting hard in Asia particularly.

Based on the perception of most of the partners, the strategy of dissemination and communication is very good, although it could be improved with a progressive collaboration of all partners. Regarding internal coordination, the information provided by the Project coordinator/manager to partners is perceived as very well organized and coordinated particularly taking in account the limitation of face-to-face meetings.

Finally, it is important to highlight the positive evaluation in relation to the project implementation and management. In addition, the quality team sends a periodical reminder to all partners about the obligation of answering all questionnaires; remaining proactive and suggesting contributions for improving project development.

Visibility

INOWASIA team invested a lot of effort to make their project visible thus it plays a crucial role in the project success and the alignment between different HEI organizational levels, students and stakeholders.

74 local events have been held; 27 conferences have had the participation of INOWASIA members. To highlight that INOWASIA has been officially presented to the World Water Forum at Dakar in March 2022. The partners have published 17 scientific papers in 14 high rank journals: 2 books, 9 chapters, 2 Newsletters and 3 National Reports.

In accordance with art 1.16 "Dissemination and Exploitation of Results" of the Grant Agreement: Partners have been committed to disseminate all project related activities, ensuring that the project results receive substantial visibility, either through their respective HEI websites, Inowasia's website and through Social media (mainly Linkedin, Facebook and Twitter).

1) Website: The website https://inowasia.com was generated during the first months of the project and is being kept active and up to date with articles and information posted under the NEWS section, it offers a description of the PROJECT, a CONTACT section to contact the coordinator, it includes the list of beneficiaries under CONSORTIUM with their respective contact details. The results are being uploaded, as and when they become available, under the subsection RESULTS within the PROJECT page. All pages display the European Union's financial support with the relevant LOGO (as required in Article 1.15)

The website's target audience includes the target sectors identified for the project: students, HEIs, public and

private stakeholders, academia, local and Regional Governmental Institutions, policy makers and the general public.

The main objective of the public website is to provide general information about the project, describing the key purposes and objectives, providing relevant contact details for project partners and stakeholders, as well as updates on current activities and, in general, project achievements. As the project develops and progresses the site is updated by all partners, through WP5 leaders supervision, with relevant news, and publications, main outputs of the project including public deliverables.

2) Social media

Facebook with more than 450 followers, https://www.facebook.com/INOWASIA/· Linkedin with more than 415 followers https://es.linkedin.com/company/inowasia?trk=public\_post\_feed-actorname Twitter

So far, INOWASIA project has implemented at least 251 items recorded on the web entirely visible for all internet visitors. In the INOWASIA website, 74 posts have been done; 52 have been relayed to Facebook and Linkedin.

3) Additional support material for project visibility/promotion: - Leaflets (in English and local Asian languages: total 5) and Rollups/posters (total 7) https://drive.google.com/drive/folders/1ga9tDPI\_pPM8L92oSNsr\_f5Wf5wN-gN?usp=share\_link

- Videos of the project and partners/team presentation https://drive.google.com/drive/folders/1RKPgIfgz88ZIuZdQWnvymAQ5HbfOCOeK?usp=share\_link

An exhaustive dissemination list is compilled in an excel file https://docs.google.com/spreadsheets/d/1Rlaae6be\_4QMrxQrIG7I9tKf\_RLmtzee/e

Equipment

The Equipment costs of the proposal was 198.000,00€, 21% of the total cost.

The process of purchasing equipment was very long as it required the initial assessment of each HEI and drawing the plan of each Living Lab adapted to their individual needs and requirements. The list of equipment was presented to the EU Officer in November 2021 and, after receiving the approval in December 2021 most partners started their process of purchasing. In the case of Vietnam a slow process of Tendering had to be carried out following the national legal procedures. This translates in a delay on producing the required invoices and documentation.

At the moment of this report a total of 81.033,71€ (40,94% of the total budget) have been carefully validated and uploaded to the Financial Statement. The remaining budget is being revised and will be uploaded as a the required proof of payment and other minor administrative details are being covered. NUOL and NUBBs equipment have been purchased and installed almost in its entirety and ITC and SU are halfway there. The final deadline for all equipment to be installed is 14th January and all SEA HEIs are expecting to reach that deadline.

Each SEA HEI has acquired the equipment for the implementation and updating of the Water-oriented Living Labs (WoLL) as described in the project proposal.

- The Six WOLLs co-created and being implemented in each PC HEL are the following:
- 1: Water Quality & Treatment for Green Growth (HUS VNU) Vietnam
- 2: Natural-Based Wastewater Treatment (CTU) Vietnam
- 3: Domestic Wastewater Quality Education (NUOL) Laos
- 4: Groundwater Quality education for Sustainable Agriculture (SU) Laos 5: Coastal and Wetland Environment Research Laboratory (ITC) Cambodia
- 6: ECOHEALTH-Ecosystem Health Laboratory (NUBB) Cambodia

The material purchased by PC partners for their WoLL are:

1- Water sampling and monitoring material (for microbiological/physicochemical/ecological water quality onsite analysis/monitoring and water quantity monitoring).

2- Water analysis laboratory material (including equipments and chemical needed to perform potable, agriculture, aquifer and wastewater quality analysis)

3- Water pilot plant equipment (equipment to control water pilots in the WoLL such as flowmeters)4. Monitoring sensors and data treatment and collection equipment and software (standard and low-cost sensors, IoT material, PC-laptops, computer peripherals and software for data collection and treatment).

All equipment items are/will be installed and used in the WoLL and will serve for research, training and for teaching in the water-related master's and PhD Programs.

These LLs will also serve as a meeting point for students, academics and companies to exchange experiences and knowledge and promote innovation. Moreover, it is intended that PC postgraduate students will make use of this equipment during their internship/master/PhD thesis.

For more impact and long-term sustainability, it is planned for the WoLL to offer their services both to public and the private sector: for instance by performing water quality analysis for the government/water agencies (WoLL 3, 4, 5, 6) or by using sensors and water quality analysis material for monitoring the performance of water technologies installed in the living labs (WoLL 1, 2).

Finally, the six WOLLs will be connected through a virtual Living Lab platform based in the INOWASIA Website. This network will provide practical formation and dissemination activities. The data obtained through the monitoring equipment in the research activities in the WoLL will be shared in the INOWASIA educational platform.

#### The project includes activities relating to curriculum development

 $( \bullet )$ Yes

> HIGHER EDUCATION: Promoting internationalisation, recognition and mobility, supporting changes in line with Bologna principles and tools.

INOWASIA is an Erasmus+ project under the Cooperation for Innovation and the exchange of Good Practices Programme, Capacity Building in higher Education - Joint Projects Action. The main activities aimed to curriculum development in the six higher education institutions from our partners in Cambodia, Laos and Vietnam include:

- The addition of new subjects or the modification of the syllabus of existing subjects in their water/environment MSc and PhD programs, including innovative water related concepts that were identified as a gap in education or a need in the labour market for each specific Southeast Asian country.

- Training of the staff teachers of each SEA HEI

- The implementation of problem-based learning in their studies as a student-centred methodology to let the student acquire and develop twenty first century skills (communication, collaboration, creative and critical thinking)

- International student internships for the best students to improve the capacity in research and/or to advance the career perspectives in the public-private sector, practical training in research in the water-oriented living labs.

With these four main activities we are reinforcing the MSc and PhD studies from SU, NUOL, ITC, NUBB, CTU and VNU in accordance with European standards but specifically adapted to their national frameworks. New general, specific, and transversal competences are included in their curricula, promoting practical experience and international mobilities. The capacitation of teachers on problem-based learning is also very important to guarantee the acceptance and implementation of innovative teaching methodology, and to modernize the pedagogical systems in Southeast Asia.

The European Credit Transfer System (ECTS) could not be used, but the equivalence and compatibility were clearly defined for the PBL methodology. The learning objectives were classified in single PBL units. Each unit was equivalent to 1.5 ECTS, including 15 face-to-face hours and 25 additional effort hours for a student (40 hours in total).

#### New/updated courses

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		PhD of our SEA partners. The material to teach these topics is being developed in PBL methodology (the level of development reached as compared to the final product is around 70%, and expected to be finished early 2023), and they will be implemented along 2023 as new subjects or modifying the syllabus of current subjects. The procedure to authorize the implementation of these subjects has
<ul> <li>partially modified to include 1 or 2 PBL units within an existing 45-hour subject NUBB (UT3, IRD, IPC, Additional material about ecosystem services in the mangroves will be developed.</li> <li>NUBB: Water Quality management Sustainable agriculture MSC and Sustainable Ecosystem Mangement MSC. A new 45-hours subject will be implemented, including 2 PBL units (30 hours).</li> <li>NUCI: Apply biological indicators for water quality assessment. Environmental pollution and prevention MSC. Syllabus will be modified to implement 2 PBL units in a 30-hour existing subject. U(JT3, IRD).</li> <li>SU: Experiment MSC. Syllabus will be modified to implement 2 PBL units in a 32-hour existing subject. Su(JT3, IRD).</li> <li>TC: Wanagement MSC. Syllabus will be modified to implement 2 PBL units in a 32-hour existing subject. Su(JT3, IRD).</li> <li>TC: Management of water supply and sanitation, Water and environmental engineering MSC. A new 32-hours subject will be implemented pHL units in a 32-hour existing subject. TTC (UdG, VNU, APC).</li> <li>TC: Resource recovery. Water and environmental engineering MSC and Engineering MSC. A new 32-hours selective subject will be implemented, if there are new students, including 2 PBL units. UdG (JC, FSUB).</li> <li>TC: Hidrological modelling, Water engineering MSC. The syllabus will be modified to implement 2 PBL units in a 32-hour existing subject. TTC (UdG, SUB, UT3, APC).</li> <li>VULHUS: Wastewater treatment design. Environmental chemistry MSC and Engineering MSC. A new 32-hour existing subject. TTU (HGR).</li> <li>VULHUS: Wastewater treatment design. Environmental chemistry MSC and Environmental Engineering MSC. The syllabus will be modified to implement 1 PBL unit in a 32-hour existing subject. TVU (UdG, FSUB, UT3, APC).</li> <li>VULHUS: Wastewater treatment design. Environmental chemistry MSC and Environmental Engineering MSC. The syllabus will be modified to implement 1 PBL unit in a 32-hour existing subject. TVU (UdG, FSUB, UT3, APC).</li> <li>Nuthet was an advantic conse</li></ul>		the subject (new or existing; estimated time), and the leading partner and task force to prepare the
<ul> <li>- SU: Experimental Design in agriculture and Forest Environment, Agriculture and Forest Environment Market SU (UT3, IRD).</li> <li>- ITC: Management of water supply and sanitation, Water and environmental engineering MSc. The syllabus will be modified to implement 2 PBL units in a 32-hour existing subject. ITC (UdG, VNU, APC).</li> <li>- ITC: Resource recovery, Water and environmental engineering MSc and Engineering MSc. A new 32-hours elective subject will be implemented, if there are new students, including 2 PBL units. UdG (T. FSUB).</li> <li>- GTU: Hidrological modelling, Water engineering MSc. The syllabus will be modified to implement 2 PBL units in a 32-hour existing subject. CTU (IRD).</li> <li>- VNU-HUS: Watewater treatment design, Environmental chemistry MSc and Environmental Engineering MSc. Syllabus will be modified to implement 1 PBL unit in a 32-hour existing subject. UV (UdG, FSUB).</li> <li>- WU-HUS: Water and smart cities sustainable water management. Green cities, MSc and Environmental Engineering MSc. The syllabus will be modified to implement 1 PBL unit in a 32-hour existing subject. VNU (IdG, FSUB).</li> <li>- Nub-HUS: Water and smart cities sustainable water management. Green cities, MSc and Environmental Engineering MSc. The syllabus will be modified to implement 1 PBL unit in a 32-hour existing subject. VNU (IRD, UT3).</li> <li>On the other hand, the material to implement thirteen e learning self-pace online courses for basic water resources knowledge is being developed. The template and instructions are available for all partners. The material will be ready by the end of 2022, and the courses will be implemented as compared to the final product is around 50%. The list of the courses, and the responsible partner, is the following:</li> <li>- Introduction to aquatic ecology (responsible NUBB).</li> <li>- Natural services and aquatic conservation (UT3).</li> <li>- Natural services and aquatic conservation (UT3).</li> <li>- Natural services and aquatic conservation (UT3).</li> <li></li></ul>		<ul> <li>partially modified to include 1 or 2 PBL units within an existing 45-hour subject. NUBB (UT3, IRD, ITC). Additional material about ecosystem services in the mangroves will be developed.</li> <li>NUBB: Water Quality management, Sustainable agriculture MSc and Sustainable Ecosystem Management MSc. A new 45-hours subject will be implemented, including 2 PBL units (30 hours) combined with conventional teaching methodology. NUBB (SU, UT3, UdG).</li> <li>NUOL: Apply biological indicators for water quality assessment, Environmental pollution and prevention MSc. Syllabus will be modified to implement 2 PBL units in a 30-hour existing subject.</li> </ul>
<ul> <li>syllabus will be modified to implement 2 PBL units in a 32-hour existing subject. ITC (UdG, VNU, APC).</li> <li>• TC: Resource recovery, Water and environmental engineering MSc and Engineering MSc. A new 32-hours elective subject will be implemented, if there are new students, including 2 PBL units. UdG (IC, FSUB).</li> <li>• CTU: Hidrological modelling, Water engineering MSc. The syllabus will be modified to implement 2 PBL units in a 32-hour existing subject. CTU (IRD).</li> <li>• NUL-HUS: Wastewater treatment design, Environmental chemistry MSc and Environmental Engineering MSc. Syllabus will be modified to implement 1 PBL unit in a 32-hour existing subject. VIU (UdG, FSUB).</li> <li>• NUL-HUS: Water and smart cities sustainable water management. Green cities, MSc and Environmental Engineering MSc. The syllabus will be modified to implement 1 PBL unit in a 32-hour existing subject. VNU (HD, UT3).</li> <li>• On the other hand, the material to implement thirteen e learning self-pace online courses for basic water resources knowledge is being developed. The template and instructions are available for all partners. The material will be ready by the end of 2023. The level of development reached as compared to the final product is around 50%. The list of the courses, and the responsible partner, is the following:</li> <li>• Introduction to aquatic ecology (responsible NUBE).</li> <li>• Atural bercinologies for sanitation (FSUB)</li> <li>• Matural technologies for sanitation (FSUB)</li> <li>• Basic ecohydrology (IRD)</li> <li>• Material vall be modified to malement (VNU-HUS).</li> <li>• Material applied in water and wastewater treatment (VNU-HUS).</li> <li>• Vatersiand applied in water and wastewater treatment (VNU-HUS).</li> <li>• Material applied in water and wastewater treatment (VNU-HUS).</li> <li>• Material applied in water and wastewater treatment (VNU-HUS).</li> <li>• Material applied in water and wastewater treatment (VNU-HUS).</li> <li>• Waterial applied in water quality monitoring (NUOL).</li> <l< td=""><td></td><td>- SU: Experimental Design in agriculture and Forest Environment, Agriculture and Forest Environment MSc. Syllabus will be modified to implement 2 PBL units in a 32-hour existing subject. SU (UT3, IRD).</td></l<></ul>		- SU: Experimental Design in agriculture and Forest Environment, Agriculture and Forest Environment MSc. Syllabus will be modified to implement 2 PBL units in a 32-hour existing subject. SU (UT3, IRD).
<ul> <li>32-hours elective subject will be implemented, if there are new students, including 2 PBL units. UdG (ITC, FSUB).</li> <li>CTU: Hidrological modelling, Water engineering MSc. The syllabus will be modified to implement 2 PBL units in a 32-hour existing subject. CTU (IRD).</li> <li>VNU-HUS: Wastewater treatment design, Environmental chemistry MSc and Environmental Engineering MSc. Syllabus will be modified to implement 1 PBL unit in a 32-hour existing subject. VNU (UdG, FSUB, UT3, APC).</li> <li>VNU-HUS: Water and smart cities sustainable water management. Green cities, MSc and Environmental Engineering MSc. The syllabus will be modified to implement 1 PBL unit in a 32-hour existing subject. VNU (IRD, UT3).</li> <li>On the other hand, the material to implement thirteen e learning self-pace online courses for basic water resources knowledge is being developed. The template and instructions are available for all partners. The material will be ready by the end of 2022, and the courses will be implemented in the INOWASIA elearning platform at the beginning of 2023. The level of development reached as compared to the final product is around 50%. The list of the courses, and the responsible partner, is the following:</li> <li>Introduction to aquatic coology (responsible NUBB)</li> <li>Chemistry for environmental engineering (ITC)</li> <li>Natural services and aquatic conservation (UT3)</li> <li>Natural services and aquatic conservation (UT3)</li> <li>Basic hydrology (IRD)</li> <li>Basic hydrology (IRD)</li> <li>Municipal wastewater treatment (UdG)</li> <li>Diniking water treatment (UdG)</li> <li>Material applied in water and wastewater treatment (VNU-HUS)</li> <li>Watershed management (CTU)</li> <li>Chemistry environment and management (SU)</li> <li>Biological approach for water quality monitoring (NUOL)</li> </ul>		syllabus will be modified to implement 2 PBL units in a 32-hour existing subject. ITC (UdG, VNU, APC).
<ul> <li>PBL units in a 32-hour existing subject. CTU (IRD).</li> <li>-VNU-HUS: Wastewater treatment design, Environmental chemistry MSc and Environmental Engineering MSc. Syllabus will be modified to implement 1 PBL unit in a 32-hour existing subject. VNU (UdG, FSUB, UT3, APC).</li> <li>-VNU-HUS: Water and smart cities sustainable water management. Green cities, MSc and Environmental Engineering MSc. The syllabus will be modified to implement 1 PBL unit in a 32-hour existing subject. VNU (IRD, UT3).</li> <li>On the other hand, the material to implement thirteen e learning self-pace online courses for basic water resources knowledge is being developed. The template and instructions are available for all partners. The material will be ready by the end of 2022, and the courses will be implemented in the INOWASIA elearning platform at the beginning of 2023. The level of development reached as compared to the final product is around 50%. The list of the courses, and the responsible partner, is the following:</li> <li>Introduction to aquatic ecology (responsible NUBB)</li> <li>Chemistry for environmental engineering (ITC)</li> <li>Natural services and aquatic conservation (UT3)</li> <li>Natural technologies for sanitation (FSUB)</li> <li>Basic hydrology (IRD)</li> <li>Municipal wastewater treatment (UdG)</li> <li>Drinking water treatment (UdG)</li> <li>Material applied in water and wastewater treatment (VNU-HUS)</li> <li>Watershed management (CTU)</li> <li>Chemistry environment and management (SU)</li> <li>Biological approach for water quality monitoring (NUOL)</li> </ul>		32-hours elective subject will be implemented, if there are new students, including 2 PBL units. UdG (ITC, FSUB).
<ul> <li>-VNU-HUS: Water and smart cities sustainable water management. Green cities, MSc and Environmental Engineering MSc. The syllabus will be modified to implement 1 PBL unit in a 32-hour existing subject. VNU (IRD, UT3).</li> <li>On the other hand, the material to implement thirteen e learning self-pace online courses for basic water resources knowledge is being developed. The template and instructions are available for all partners. The material will be ready by the end of 2022, and the courses will be implemented in the INOWASIA elearning platform at the beginning of 2023. The level of development reached as compared to the final product is around 50%. The list of the courses, and the responsible partner, is the following:</li> <li>Introduction to aquatic ecology (responsible NUBB)</li> <li>Chemistry for environmental engineering (ITC)</li> <li>Natural services and aquatic conservation (UT3)</li> <li>Natural services and aquatic conservation (UT3)</li> <li>Natural services and aquatic onservation (UT3)</li> <li>Basic hydrology (IRD)</li> <li>Basic ecohydrology (IRD)</li> <li>Material applied in water and wastewater treatment (VNU-HUS)</li> <li>Watershed management (CTU)</li> <li>Chemistry environment and management (SU)</li> <li>Biological approach for water quality monitoring (NUOL)</li> </ul>		PBL units in a 32-hour existing subject. CTU (IRD). - VNU-HUS: Wastewater treatment design, Environmental chemistry MSc and Environmental Engineering MSc. Syllabus will be modified to implement 1 PBL unit in a 32-hour existing subject.
<ul> <li>On the other hand, the material to implement thirteen e learning self-pace online courses for basic partners. The material will be ready by the end of 2022, and the courses will be implemented in the INOWASIA elearning platform at the beginning of 2023. The level of development reached as compared to the final product is around 50%. The list of the courses, and the responsible partner, is the following:</li> <li>Introduction to aquatic ecology (responsible NUBB)</li> <li>Chemistry for environmental engineering (ITC)</li> <li>Natural services and aquatic conservation (UT3)</li> <li>Natural technologies for sanitation (FSUB)</li> <li>Basic hydrology (IRD)</li> <li>Basic ecohydrology (IRD)</li> <li>Municipal wastewater treatment (UdG)</li> <li>Othiking water treatment (UdG)</li> <li>Material applied in water and wastewater treatment (VNU-HUS)</li> <li>Watershed management (CTU)</li> <li>Chemistry environment and management (SU)</li> <li>Biological approach for water quality monitoring (NUOL)</li> </ul>		- VNU-HUS: Water and smart cities sustainable water management. Green cities, MSc and Environmental Engineering MSc. The syllabus will be modified to implement 1 PBL unit in a 32-hour
<ul> <li>Chemistry for environmental engineering (ITC)</li> <li>Natural services and aquatic conservation (UT3)</li> <li>Natural technologies for sanitation (FSUB)</li> <li>Introduction to WASH (FSUB)</li> <li>Basic hydrology (IRD)</li> <li>Basic ecohydrology (IRD)</li> <li>Municipal wastewater treatment (UdG)</li> <li>Drinking water treatment (UdG)</li> <li>Material applied in water and wastewater treatment (VNU-HUS)</li> <li>Watershed management (CTU)</li> <li>Chemistry environment and management (SU)</li> <li>Biological approach for water quality monitoring (NUOL)</li> </ul>		water resources knowledge is being developed. The template and instructions are available for all partners. The material will be ready by the end of 2022, and the courses will be implemented in the INOWASIA elearning platform at the beginning of 2023. The level of development reached as compared to the final product is around 50%. The list of the courses, and the responsible partner, is
<ul> <li>Drinking water treatment (UdG)</li> <li>Material applied in water and wastewater treatment (VNU-HUS)</li> <li>Watershed management (CTU)</li> <li>Chemistry environment and management (SU)</li> <li>Biological approach for water quality monitoring (NUOL)</li> </ul>		<ul> <li>Chemistry for environmental engineering (ITC)</li> <li>Natural services and aquatic conservation (UT3)</li> <li>Natural technologies for sanitation (FSUB)</li> <li>Introduction to WASH (FSUB)</li> <li>Basic hydrology (IRD)</li> <li>Basic ecohydrology (IRD)</li> </ul>
		<ul> <li>Drinking water treatment (UdG)</li> <li>Material applied in water and wastewater treatment (VNU-HUS)</li> <li>Watershed management (CTU)</li> <li>Chemistry environment and management (SU)</li> </ul>
	0 N	lo
eaching / Training Activities	eaching	/ Training Activities

Mobility for Teaching, Training and/or project research activities	Mobilit	y for	Teaching,	Training	and/or	project	research	activities
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INOWASIA aims to train future young water professionals in basic and advanced knowledge in the field of water resources, providing contemporary skills. The idea is to combine master classes and seminars with practical training, target to academic staff and open to students and stakeholders. Long-term international internships in entities are also planned for 12 students from Inowasia Southeast Asia (SEA) HEIs partners.

The outbreak of the covid pandemic fully affected the scheduled mobility for teaching and training. The Steering Committee decided to combine virtual and face-to-face teaching & training sessions, advancing virtual training on problem-based learning (PBL) methodology during the most critical months of the pandemic, and concentrating as many face-to-face training sessions as possible during the consortium trips to Europe and SEA. In addition, a series of specific missions of European experts were scheduled to train professors and students from Southeast Asian universities in the most relevant and innovative aspects of the field of water resources and PBL learning methodology. Finally, a week of virtual training has been scheduled for the beginning of 2023, provided by internationally recognized experts, on topics related to the teaching material developed for the implementation of PBL subjects in SEA HEIs MSc. This way, the cost (and risk) of mobilities have been significantly reduced, while continuing to train a large number of Southeast Asian professors and students.

All the staff members of INOWASIA partners were trained on PBL methodology in a 2-hour virtual session in November 2021: 60 teachers from the six SEA HEIs (10 teachers from each university) in 2-hours virtual sessions that included theory about PBL, an implementation example, homework, and a final exam to provide a certificate during January/February 2022. Face-to-face training was complemented during the consortium trips to Europe (UdG) and Vietnam (CTU), and with two specific missions from UdG to Cambodia (August/September 2022) and France (September 2022), adding a total of 183 professors trained. More PBL training is planned for 2023

25 staff members from INOWASIA partners received training in different water resources advanced knowledge and water-oriented living labs, for a total of 52 face-to-face hours and 2 virtual hours during the consortium mobility to Europe (Spain and France) and Vietnam. The face-to-face activities included: master classes (5h) seminars/workshops (13h), hands-on (4h), visits to facilities (33h). In addition, 279 students and 10 professionals from Cambodia received face-to-face training about membranes for water applications and WASH during the specific mission. Two more consortium trips and at least two specific missions to Cambodia and Laos are planned for 2023, together with the virtual week.

The twelve internships in international water institutions are planned for 2023. The call to offer internships has been launched in INOWASIA website, and the selection of the students will be done based on criteria and committees defined in deliverable 2.5. For the courses/seminars taught during the specific missions, our partners in Cambodia have informed all the teachers and students form their departments, faculties, and schools, have displayed posters and roll ups in the Campus, and have sent mails to their contacts in companies and other related stakeholders.

Finally, we would like to point out that all the indicators achieved (with figures higher than promised) are indicated as 100% in the corresponding table, while "country" appears as "-" when teacher/training has been virtual, Due to configuration problems with this table, the excel file has been integrated with annex C (achieved results) and attached.

🔵 No

#### Quality of cooperation

#### Project management

The process for finalising and signing the PA has been straightforward: a draft was circulated, comments by partners were added and the final version was signed by the legal representatives. Two minor amendments have been made thus far, one regarding the central management of travel funds and a second one to add a second prefinancing before the mid-term reporting, as the SEA partners needed more funds to buy Equipment before the deadline.

As to the management procedures for the management the consortium, a Management Plan was drawn up jointly and is currently being followed.

The main management tools used are the Financial Statement template, the Management plan, the Quality Plan and the Dissemination Plan. These tools are used to follow-up on progress and outstanding tasks. The coordinator has appointed a Project Manager, contracted by UdG, to update and follow-up on these tools.

The internal communication is based on biannual in-person Steering Committees (in-person meetings) and monthly virtual Steering Committees. Furthermore, B2B meetings whenever needed according to the work package. All partners have been offered support and guidance for the administrative paperwork required by EU Guidelines.

All related project documentation is shared and stored on Google Drive with all partners having direct access to them.

These arrangements are in line with the strategies outlined in the proposal.

#### Involvement of partners and stakeholders

Project management responsibilities have been shared between all partners since the conception of INOWASIA. All the partners are leading or co-leading one of the six work packages defined, including all the Southeast Asian partners (NUBB is co-leading WP1, ITC is leading WP2, CTU is leading WP3, NUOL is leading WP4, SU is coleading WP5, and VNU is co-leading WP6). It is true that the support effort of the five European partners (particularly UdG and FSUB followed by WUSMED, UT3 and to some extent IRD) is considerable, especially to the less experienced (Laos), but all the partners have been committed from the beginning in the general management of the project and in the specific execution of their responsibilities and activities. Initial B2B meetings were held before the kick off between the coordinator and all the institutions to clarify the project objectives and everyones role during the project implementation. All the significant decisions are discussed and consensuall agreed during the monthly virtual Steering Committee meetings.

The project was officially supported from the beginning by several associated partners, from Europe and SEA, to promote the active participation of key stakeholders in the network and in the project activities, and to support the dissemination of results to the society. This network was extended with the creation of an Academic and Professional Committee (APC), with 40 members right now (13 HEI, 5 NGOs, 9 Research & Innovation Centres/Associations/Platforms, 9 Private companies, and 4 Public institutions). The final aim is to include new stakeholders and to create a larger international multilevel network of postgraduate students, professors, water professionals, regulators and policy makers. The creation of the APC has contributed to increase the cooperation between INOWASIA SEA universities and non-academic sectors of the society. The members of the APC have been involved in the identification of each SEA country's needs, in the development of the teaching material, and in offering international partnership positions for SEA students. APC members have also attended several INOWASIA seminars and meetings, and they, together with other external stakeholders, have offered their facilities for site visits as part of training activities during the consortium trips to Europe and Vietnam (see the details in WP2 Annex C).

Specific partner country needs were briefly identified during the writing of INOWASIA, but the research and analysis activity carried out in WP1 through questionnaires confirmed relevant information for the three SEA partner countries about water related challenges, labour market demand, water related academic offer at PC's HEIs on master, PhD, postgraduate, non-formal levels, including a specification of modules, employability aspects, accreditation procedures and expertise and materials available. The questionnaires were distributed to 28 Southeast Asian institutions from the INOWASIA APC, with the aim to obtain at least 2 replies from each of the target audiences. 16 responses were collected from all organisation profiles with 45% of total answers from Vietnam, 31% from Cambodia and 23% from Laos.

The students at our SEA university partners, especially those who are doing their research under the supervision of INOWASIA staff members, have been fully involved in INOWASIA by supporting the organization and logistics of the consortium's trips to Europe and Vietnam. They have also attended INOWASIA courses and seminars voluntarily, and 12 students will be selected for international internships in institutions from the APC. Finally, INOWASIA has collaborated with public authorities attending the International forum Sustainable Development of the Mekong Delta - SDMD 2022

#### Management of the grant

Right from the onset, it was clear that most of the PCs partners were not so familiar with the management of E+ Capacity Building grants. Therefore, every SC meeting, both in-person and virtual, included a session dedicated to administrative grant management matters. These sessions were followed up by B2B meetings for all partners. The Project Manager provided complete training sessions to certain SEA project teams for administrative and financial guidance and offered personal support/guidance throughout the project.

The difficulties persist to some extent, despite the fact that the financial management has been largely centralised in regards to Travel and Cost of Stay (i.e. UdG makes and pays for travel and hotel arrangements for the whole consortium).

These difficulties can be broken down in five issues:

1. Financial capacity of the SEA partners: the SEA partners were not aware that they would have to have a minimal financial capacity and that the pre-financing does not cover 100% of the cost. Despite the pre-financing conditions being clearly stated in the Grant Agreement and the Partner Agreements, some SEA partners encountered many difficulties in view of the fact that the Equipment needs to be fully purchased before receiving the second pre-financing. This has been partially solved with the funds that were kept in reserve by the Coordinator - UdG.

2. Losses due to currency exchange: the SEA partners were not aware that they would have to cover the losses due to exchange fluctuations. Furthermore, the current macro-economic situation has generated much larger fluctuations than could have possibly been foreseen.

3. Staff costs: partners were not aware that the Staff heading is meant as a contribution to the partner institutions, rather than a right of the actual project members to be reimbursed for their participation in the project. Awareness has now been increased and most partners have started to realise that the Staff heading has to be used to cover, for example, the losses due to currency exchange fluctuation, non-eligible costs and the co-financing of travel costs.

4. The administrative burden of the grant management has proved overwhelming for all partners. It is the general feeling that proportionally a larger percent of time is dedicated to paperwork than to the actual project objectives and results. This has caused some feelings of exasperation and frustration particularly for those partners who are new to the E+ CBHE projects.

5. Some of the administrative documents that are common and conventional within the European Union do not have equivalents in SEA countries. For example: labor contracts, invoices, banking arrangements regarding payments and currency exchange, etc.

These five points have caused extra workload both for partners and the coordinator. In some instances, the partners failed to understand that the requirements do not come from the coordinator but rather from the programme. Furthermore, as the coordinator carries the full financial responsibility, any concessions made to the programme rules will translate into a financial risk for the coordinator.

#### IMPACT AND SUSTAINABILITY

Awareness raising, dissemination, sustainability and exploitation of the project results

The work plan and the activities proposed in INOWASIA, detailed in the Dissemination Plan, have been followed for raising awareness and contributing to the dissemination, exploitation and sustainability of the results achieved.

The basic dissemination material and all the main project outputs are available in the web page of the project. The teaching material for all the courses developed within INOWASIA (e learning courses and PBL units) will be available in a learning platform available for all the users registered. Information about the water oriented living labs and the possibility to join the virtual platform among the six facilities in the Campus of the SEA HEIs is also accessible on the web.

The partners from Southeast Asia (and the whole consortium) are committed and engaged for contributing to the impact and sustainability of the project. They have made significant efforts to involve their institutions and contacts in the project activities:

The work teams of each institution are large and dynamic, trying to consider gender balance with the participation and input into activities and decision-making to ensure that both male and female interests are considered.

Teaching and training activities are open to all the students from their faculties and to professors from other faculties/departments. The dissemination of these activities has been carried out with physical posters, leaflets, and rollups (visible on campus), and virtually through the website of the institution and the usual social networks (mainly Facebook in Southeast Asia and Linkedin in Europe).

Water-oriented living lab facilities have also been disseminated among the faculty students, other departments of the university, and relevant stakeholders in the field.

Public and private institutions have been informed about INOWASIA in B2B meetings and local events, and they have been invited to join the Academic and Professional Committee, to offer international internships for selected students, and to participate in seminars and teaching/training activities organized by INOWASIA

Institutional receptions have been organized (with the rector, vice-rector or department/faculty director, and with local authorities) whenever there has been a consortium trip or a specific mission to the universities of INOWASIA (so far, we have visited Cambodia (ITC and NUBB), Vietnam (CTU and VNU), France (UT3 and IRD) and Spain (FSUB and UdG).

The idea pursued with this involvement of the universities and local/international authorities is their full commitment to guarantee the sustainability of the results of the project beyond 2024 (including the material and the subjects implemented in PBL, the e-learning platform, the virtual network of water-oriented living labs, and the APC).

The multi-level international network integrated in the APC becomes key to guarantee the long-term sustainability of the project outcomes. So far, the network is made up of 40 institutions, but we expect to reach around 100 by the end of the project.

### **Statistics and Indicators**

Type of equipment:

- books and pedagogic materialaudio-visual equipment
  - ✓ Computers and software
  - Iab material
  - Other

#### For Curriculum Development projects

Yes

Level of new/updated courses:
Short cycle
1st Cycle (e.g. Bachelor)
✓ 2nd Cycle (e.g. Master)
✓ 3rd Cycle (e.g. Doctoral)
Vocational Education and Training
Type of recognition:
HEI Degree
✓ National degree
Multiple Degree
Joint Degree
Volume (in ECTS) of new/updated 0
The new study programme includes:
✓ Placements/internships for students
Career orientation service
Career development measures
Number of learners / trainees enrolled (per intake / course 0 delivery)
Type of skills/competence developed:
✓ Transversal/behavioural skills
Technical /academic /scientific / research skills
Linguistic competences
% of the new curriculum taught in foreign language of the the total of <b>0</b>

new curriculum developed by the project	
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#### For Training/Mobility Activities

Number of partner country "HEIs' students" trained	283
Number of partner country "HEIs' academic staff" trained	267
Number of partner country "HEIs' administrative staff" trained	0
Number of partner country "non-HEI individuals" trained (priv. sector, NGOs, civil servants, etc.)	19

#### IMPACT AND SUSTAINABILITY

Impact at individual level		
Extent of attention given to vulnerable groups	to a small extent	
Number of direct beneficiaries in the Partner country(ies) per year: academic staff from HEIs	134	
Number of direct beneficiaries in the PCs (/year): administrative staff from HEIs	0	
Number of direct beneficiaries in the PCs (/year): HE students	142	

#### Impact at institutional level

Extent of impact at institutional level: for instance new courses / strategies (policies, regulations) / services (units, centres )	to a small extent
Potential of planned project measures to contribute to new national cooperation activities in the Partner countries HEIs as a result of the project (Memorandum of Understanding /research projects / joint publications /participation in networks or associations etc.)	to a very high extent
Potential of project to contribute to new international cooperation activities in the Partner countries HEIs as a result of the project (international agreements / Memorandum of Understanding / research projects / joint publications / participation in	to a very high extent

networks or associations, etc.)	

#### Impact on the HE Sector

Potential of project to contribute to new (/updated) national or regional policies / laws / regulations in HE	to a small extent
Potential of project to contribute to the establishment (/ further development) of external bodies (/associations /agencies)	to a high extent
Potential of project to contribute to improve the excellence / competitiveness / attractiveness of the Higher Education institutions	to a very high extent
Innovative character of the planned results (i.e. the courses developed; the new tools, services, procedures delivered; the strategies implemented for reaching the target groups; etc.)	totally accomplished
Impact on the society as a whole	
Potential of the project to pay particular attention to least	
developed countries	to a high extent
developed countries Potential of the project to engage Partner Countries HEIs in new means of cooperation with employers and other stakeholders (e.g. NGOs, associations, etc.)	to a high extent
Potential of the project to engage Partner Countries HEIs in new means of cooperation with employers and other stakeholders	

#### Sustainability

ry HEIs to sustain project	to a high extent	
ires to collect Sources of f	inancial (/logistic) support for sustaining the project results from:	
Partner HEIs		
Public authorities in Partr	ner countries	
NGOs		
Private sector		
	Partner HEIs Public authorities in Partr NGOs	to a high extent ures to collect Sources of financial (/logistic) support for sustaining the project results from: Partner HEIs Public authorities in Partner countries NGOs

European Union	
✓ Other	
QUALITY OF PARTNERSHIP & CO	DOPERATION
Involvement of students in the project implementation	to a high extent
Involvement of non-educational stakeholders in the project implementation	to a very high extent

#### **RELEVANCE** in relation to project objectives

To what contrib of the I	at extent the project utes to the policy objectives Partner Countries	to a high extent				
Project	Project potential to promote EU's horizontal policies					
	Agriculture, fisheries and f	oods				
	Business					
	Climate action					
	Cross-cutting policies					
	Culture, education and you	uth				
	Economy, finance and tax					
	Employment and social rig	phts				
$\checkmark$	Energy and natural resour	ces				
$\checkmark$	Environment, consumers a	and health				
	External relations and fore	ign affairs				
	Justice, home affairs and	citizens' rights				
	Regions and local develop	oment				
$\checkmark$	Science and technology					
	Transport and travel					

# Meetings, Training and Mobilities

#### Meetings, Trainings and Mobilities

Estimated dates of consortium meetings until the end of the projects				
Venue country	Venue city	Date of Meeting		
Laos	Vientian	02/04/2023		
Laos	Luang Prabang	05/04/2023		
Cambodia	Phnom Penh	07/11/2023		
Cambodia	Battambang	12/11/2023		
Vietnam	Hanoi	04/11/2022		
Vietnam	Can Tho	31/10/2022		
France	Toulouse	11/05/2022		
France	Montpellier	09/05/2022		
Spain	Girona	04/05/2022		
Spain	Barcelona	02/05/2022		

#### **Training and Mobilities**

Event	Purpose	Type of participants	Gender	Number	Country of Origin	Country of destination	Duration (in weeks)	%compared to objectives
76	Training	Academic staff – teaching	Number Male	1	Spain	Vietnam	0,4	100
75	Training	Non- academic staff	Number Female	2	Spain	Vietnam	0,4	100
74	Training	Academic staff – teaching	Number Male	1	Spain	Vietnam	0,2	100
73	Training	Academic staff – teaching	Number Female	1	North Macedonia	Vietnam	0,4	100
72	Training	Academic staff – teaching	Number Male	1	France	Vietnam	0,4	100
71	Training	Academic staff – teaching	Number Male	3	Vietnam	Vietnam	0,4	100
70	Training	Academic staff – teaching	Number Female	3	Vietnam	Vietnam	0,4	100
69	Training	Academic staff – teaching	Number Male	4	Cambodia	Vietnam	0,4	100
68	Training	Academic staff – teaching	Number Male	4	Laos	Vietnam	0,4	100

67	Training	Academic staff – teaching	Number Female	1	Laos	Vietnam	0,4	100
66	Teaching	Academic staff – teaching	Number Male	1	Spain	Vietnam	0,1	100
65	Teaching	Academic staff – teaching	Number Female	1	Spain	Vietnam	0,1	100
64	Teaching	Academic staff – teaching	Number Female	1	France	Vietnam	0,1	100
63	Teaching	Academic staff – teaching	Number Male	1	France	Vietnam	0,1	100
62	Teaching	Academic staff – teaching	Number Male	4	Cambodia	Venezuela	0,1	100
61	Teaching	Academic staff – teaching	Number Male	4	Laos	Venezuela	0,1	100
60	Teaching	Academic staff – teaching	Number Female	1	Laos	Vietnam	0,1	100
58	Teaching	Academic staff – teaching	Number Female	6	Vietnam	Vietnam	0,1	100
57	Training	Academic staff – teaching	Number Male	10	Vietnam	Vietnam	0,1	100
56	Training	Academic staff – teaching	Number Female	7	Vietnam	Vietnam	0,1	100
55	Workshop	Students	Number Female	4	Vietnam	Vietnam	0,1	100
54	Workshop	Students	Number Male	2	Vietnam	Vietnam	0,1	100
53	Workshop	Academic staff – teaching	Number Female	1	Spain	Vietnam	0,1	100
52	Workshop	Non- academic staff	Number Female	2	Spain	Vietnam	0,1	100
51	Workshop	Academic staff – teaching	Number Female	1	Spain	Vietnam	0,1	100
50	Workshop	Academic staff – teaching	Number Female	1	France	Vietnam	0,1	100
49	Workshop	Academic staff – teaching	Number Male	1	North Macedonia	Vietnam	0,1	100
48	Workshop	Academic staff – teaching	Number Male	4	Burundi	Vietnam	0,1	100
47	Workshop	Academic staff – teaching	Number Male	4	Laos	Vietnam	0,1	100
46	Workshop	Academic staff – teaching	Number Female	1	Laos	Vietnam	0,1	100

45	Workshop	Academic staff – teaching	Number Female	6	Vietnam	Vietnam	0,1	100
44	Workshop	Academic staff – teaching	Number Male	17	Vietnam	Vietnam	0,1	100
43	Workshop	Academic staff – administrativ e	Number Female	2	Vietnam	Vietnam	0,1	100
42	Workshop	Non- academic staff	Number Male	3	Vietnam	Vietnam	0,1	100
41	Training	Academic staff – teaching	Number Female	5	France	France	0,1	100
40	Training	Academic staff – teaching	Number Male	3	France	France	0,1	100
39	Training	Academic staff – teaching	Number Male	32	Cambodia	Cambodia	0,1	100
38	Training	Academic staff – teaching	Number Female	19	Cambodia	Cambodia	0,1	100
37	Teaching	Students						
36	Teaching	Students						
35			Number Female	11	Cambodia			
34	Training	Academic staff – teaching						
33	Teaching	Academic staff – teaching				Cambodia	0,1	100
32	Teaching	Non- academic staff	Number Male					
31	Teaching	Students		4	Cambodia	Cambodia		
				105	Cambodia		0,1	100
30	Teaching	Students	Number Female	10	Cambodia	Cambodia	0,1	100
29	Training	Academic staff – teaching	Number Female	3	France	Cambodia	0,1	100
28	Training	Academic staff – teaching	Number Male	4	France	France	0,5	100
27	Training	Academic staff – teaching	Number Male	1				
26	Training	Academic staff – teaching		10	Cambodia			
25	Training	Academic staff – teaching			Spain	France	0,5	100
			Number Male	3	Cambodia	France	0,5	100

24	Training	Academic staff – teaching	Number Male	4	Vietnam			100
23	Training	Academic staff – teaching	Number Female	2	Spain	France	0,5	100
22	Training	Academic staff – teaching	Number Female	1	Spain	France	0,5	100
21	Training	Academic staff – teaching	Number Female	1	Laos	France	0,5	100
10	Training					France	0,5	100
19	Workshop	Academic staff – teaching	Number Male	4	Laos	France	0,5	100
18	Workshop	Academic staff – teaching	Number Female	7	-	France	0,5	100
17	Workshop	Academic staff – teaching	Number Male	14	-	-	0,1	100
16	Workshop	Non- academic staff	Number Female	12		-	0,1	100
15	Training	Non- academic staff	Number Male	7	-	-	0,1	100
14	Training	Academic staff – teaching	Number Female	3	France	-	0,1	100
13	Training	Academic staff – teaching	Number Male	4	Spain	Spain	0,5	100
12	Training	Academic staff – teaching	Number Female	6	Spain	Spain	0,5	100
11	Training	Academic staff – teaching	Number Male	4	Vietnam	Spain	0,5	100
10	Training	Academic staff – teaching	Number Male	4	Cambodia	Spain	0,5	100
9	Training	Academic staff – teaching	Number Female	1	Laos	Spain	0,5	100
8	Training	Academic staff – teaching	Number Male	4	Laos	Spain	0,5	100
7	Training	Academic staff – teaching	Number Female	6	-	Spain	0,5	100
6	Training	Academic staff – teaching	Number Male	14	-	-	0,1	100
5	Training	Academic staff – teaching	Number Male	6	-	-	0,1	100
2	Teaching	Academic staff – teaching	Number Male	9	-	-	0,1	100

staff – Female teaching	3	Training	Academic staff – teaching	Number Female	7	-	-	0,1	100
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# Attachments

Type of File	Name of the File
Budget Table	619225_FinancialStatements_IntermediateReport.xlsm
Declaration of Honour	619225_Declaration_honour.pdf
Table of achieved results	Table of achieved planned results + trainings.pdf
Dissemination/Exploitation Plan	INOWASIA_D5.1_Project Dissemination Plan_vf210122.FINAL.pdf
Quality Assurance Plan	INOWASIA_D4.1_Quality Assurance Plan_FINAL.pdf
Request for Payment	619225_FinancialStatements_IntermediateReport_RFP_signed.pdf