

Mid-term evaluation of the
Institutional University
Cooperation for Université
Moulay Ismaïl, Morocco

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1. Acronyms

Acronym	Full name
ABHS	Sebou Hydraulic Bassin Agency (Agence du Bassin Hydraulique du Sebou)
ADS	Social Development Agency (Agence de Développement Social)
AFEM	Association of Feminine Company Heads in Morocco (Association des Femmes Chefs d'Entreprises du Maroc)
ANAPEC	National Agency for the Promotion of Employment and Competencies (Agence Nationale de Promotion de l'Emploi et des Compétences)
ANEAQ	National Agency for Evaluation and Quality Assurance of Higher Education and Scientific Research
APEFE	Association pour la Promotion de l'Education et de la Formation à l'Etranger
ARES	Académie De Recherche Et D'Enseignement Supérieur
APEFE	Association for the promotion of education and abroad training (Association pour la Promotion de l'Éducation et de la Formation à l'Étranger)
CC	Cluster of Competencies
CC-AGRO	Food-processing and Foodstuff Health Security Cluster of Competencies (Cluster de Compétences en Agroalimentaire et sécurité sanitaire des aliments)
CC-EDT	Environmental and Territorial Development Cluster of Competencies (Cluster de Compétences en Environnement et Développement Territorial)
CC-GIRE	Water-Resource Integrated Management Cluster of Competencies (Cluster de Compétences en Gestion Intégrée des Ressources en Eau)
CC-PAM	Cluster of Competencies regarding the valorisation of Natural and Synthetic Compounds of Regional plant resources and their therapeutic effects (Cluster de Compétences en valorisation des composés naturels et synthétiques des ressources végétales de la région et leurs effets thérapeutiques).
CC-SE	Environmental Health Cluster of Competencies (Cluster de Compétences en Santé Environnementale)
CdG	Management Committee (Cellule de Gestion)
CITT	Center for Innovation and Technology Transfers (Centre d'Innovation et de Transfert de Technologie)
CNCES	Coordination of Higher Education
CNRST	National Center for Scientific and Technical Research (Centre National pour la Recherche Scientifique et Technique)
COCESP	Coordination Commission for Private Higher Education
CUI / IUC	Institutional University Cooperation
DMN	National Direction of Meteorology (Direction de la Météorologie Nationale)
DPA	Provincial Directions of Agriculture (Directions Provinciales de l'Agriculture)
EDT	Environmental and Territorial Development (Environnement et Développement Territorial)
GIRE	Integrated Management of Water Resources (Gestion Intégrée des Ressources en Eau)
HEI	Higher Education Institutes
ICT	Information and Communications Technology
KUL	KU Leuven
OECD-DAC	Organisation for Economic Co-operation and Development - Development Assistance Committee
SAWIS	Scientific Association for Water Information System
ToC	Theory of Change
TSA	Autistic Spectrum Disorder (Troubles du Spectre Autistique)
UMI	University Moulay Ismail
VLIR-UOS	Flemish Interuniversity Council (Vlaamse Interuniversitaire Raad), University Cooperation for Development

Disclaimer

This report represents the views of the members of the evaluation commission. It does not necessarily reflect the opinions of the VLIR-UOS. The evaluation commission bears the sole responsibility for the report in terms of content, as well as its structure.

We wish to thank all Moroccan and Flemish participants for their commitment in this evaluation process. Coordinators, project leaders and team members facilitated access not only to all relevant documents and outputs of the project but also to other stakeholders. Despite the pandemic and the difficult conditions, the data collection could take place in Morocco. Evaluators were overwhelmed by their commitment and passion with regards the different activities of the project, especially by the Local and Flemish leaders, Samir el Jaafari and Jean-Michel Rigo. Special thanks to the UMI Project Support Unit and Stéphanie Frère for their support in the evaluation mission. It is our sincere wish that this evaluation exercise will be of help to all stakeholders to best prepare the Phase 2 of this programme. FocusUP, Antwerp, Belgium, 2020.

The IUC team thanks the reviewers for thorough analysis of the IUC project progress, based on the reports and several discussions with the different project leaders. They also thank the reviewers for the overall positive evaluation of the project, for pointing out some limitations/difficulties encountered in Phase 1 of the programme but also for giving some recommendations to ensure the success of Phase 2 of the programme.

2. Executive summary

This report concerns the evaluation of the **first phase of the Institutional University Cooperation (IUC)** programme implemented at **University Moulay Ismaïl (UMI)**, in Morocco. An Institutional University Cooperation (IUC) programme is a long-term (12 years) institutional partnership between a university in the South and Flemish universities and university colleges. The programme supports the partner university in its triple function as a provider of educational, research-related and societal services. It aims at empowering the local university so it will better fulfil its role as a development actor in society. At the moment of the evaluation the programme was running the phasing out of the first five-year programme.

The evaluation was based on the OECD-DAC criteria for development evaluation (plus one additional criterion): scientific quality, relevance, efficiency, effectiveness, impact, and sustainability. The evaluation framework covered the individual, organisational and societal levels.

Methodology for data collection was based on desk review of the programme documents, and the data collection included in-depth and semi-structured interviews with Flemish and Moroccan programme coordinators and project leaders, focus group discussions, visits to research sites. The analysis and reporting are based on triangulation of data (programme and project documents, self-assessment reports, in-depth interviews).

The evaluation mission took place from 15 to 23 November 2020.

The IUC programme is composed of 6 IUC projects in total of which 5 thematic and one transversal. The IUC programme amounts for € 2,793,000 and started in 2017. The IUC met the predisposition of the UMI to play an active role in the development of the Meknès region in sectors that both constitute a regional vocation and strategic priorities identified by stakeholders in Morocco and Flanders. The programme was judged coherent with the Strategic Development Plan of UMI (2015-2018) and offer an institutional strengthening of the university through:

1. The strengthening of UMI's governance and management capacities through to a quality assessment process
2. The strengthening of training and research capacities as well as UMI's contribution to society of five Clusters of Competencies (CC) to increase their effectiveness and have genuine repercussions on the socio-economic development of the region.

The projects aimed at supporting the capacity of research and the setting of the new Master's programmes and quality improvement of doctoral studies in health, environment, water management, food industry. Projects 2 to 6 have in common the setting of clusters of competencies, consistent with the main project theme. Project 1 was generic as it contributed to strengthen the capacity of UMI in terms of research, teaching and management (quality assurance). P1 hence aimed to support the operationalisation of the 5 other projects.

The IUC programme has enabled UMI to equip itself with the means and levers to change scale in terms of scientific research. UMI is a university whose research was open on its territory but

insufficiently equipped to conduct research worthy of the international level. This scaling up has enabled UMI to acquire adequate equipment, high-level Master's-type training, and to improve the practices and results of scientific research both for doctoral students and for research teams active at UMI.

The synergy and complementarity between the 6 projects and the programme are exemplary. They were thought out from the start of the IUC programme and materialised during its implementation. The intrinsic transversality of the projects and the programme has led to cross-interventions between teacher-researchers, joint thesis supervision, exchanges of teaching practices, pooling of equipment, and connections with scientific networks. Above all, this UMI programme pursues the common goal to serve the interests of the territory, on intricate developmental themes, calling for answers multidimensional both scientific and practical, and have an economic development issue. Despite their diversity, the projects share this common goal and fully comply with the public and regional private actors' interest.

This IUC programme has been put in place in a university already powerfully rooted in its ecosystem regional, which has influenced the type of projects - and whose relevance is confirmed by the evaluation. In addition, the choice of project themes and operating methods were already anticipated prior to the IUC programme. From then on, the Flemish partners were sometimes destabilised by the context of a fairly pro-active, strategy-driven university, open on its territory and which functioned relatively well, at its scale. A period of adaptation of the North and South partners was therefore necessary for a common acculturation, both in the understanding of the Moroccan context as in that of the modes of piloting of this type of projects, very different between Morocco and Flanders.

In the end, the expected results are relatively achieved at the end of Phase 1: the Master's are operational, the laboratories and equipment are delivered and functional for the most, the doctoral students and researchers are working according to international quality standards, the scientific networks have expanded. While it is too early to conclude on the impacts, there are many signs that show an academic impact (level of research produced), institutional (structuring of the research function, piloting of training and scientific activities, modernization of management processes) and territorial (direct benefit of research results to enhance the territory's resources, create economic value).

Nevertheless, sustainability remains fragile, technically and financially. UMI with the support from the Northern coordinators considered the diversification of resources from the start of Phase 1, and show promising initiatives (such as agreements with the private sector). Sustainability remains insufficiently thought out on the maintenance and renewal of equipment, as well as on the retention of doctoral students at UMI once they graduate. However, the evaluation highlights the legacy of the increased quality of research from both academic and PhD students that contributes to the scientific capacity of UMI, its reputation and attractiveness. This legacy should be supported during Phase 2, but it is a robust outcome after Phase 1, likely to be further sustained.

Brief Summary of the assessments at programme level, main results

- **Relevance.**

- Responding to needs. The programme addressed highly relevant development issues in innovative ways, with the final aim of increasing UMI's capacity to support Morocco's rural development. All projects were designed to be complementary and needed each other to reach

better results. Regional actors were involved in every project and research findings proved to be directly beneficial for the environment and local communities. Score: Good.

- Synergy and complementarity with other actors: All projects of the IUC collaborate either with regional or Flemish stakeholders, or both. Synergies were explored by the local coordinator, with support from other actors.

Score: Good.

- Transversal Themes (gender, environment and D4D): The gender perspective was either taken into account as a thematic part of some projects or through the need of a balance in the participation to the activities. The same logic applies to environment sustainability which was conceived as a central theme of some of the projects, and taken into account in research activities.

Score: Good.

- Ownership. The IUC Phase 2 proposed several successful strategies to increase participation of UMI actors and ownership. The work and contribution of IUC to UMI objectives is recognized by the main higher education stakeholders, and IUC policies and services are both integrated and institutionalized.

Score: Excellent.

- Weaknesses / Room for improvement: more efforts in the realm of including transversal themes in the program, could have been made, especially concerning D4D.

- **Efficiency**

- Link between Inputs and Outputs. The results concerning the relevance and efficiency of expenditures are so far, satisfying. However, the high expenditures in investment, as well as the costs for the common lab-platform and for consultancy still need to be fully assessed.

Score: N/A.

- Delays: Overall, there were no significant delays in executing the activities and the final inputs were not hardly affected. Yet, financial invoices have most of the time been sent late to the Flemish coordination, making it particularly difficult to identify and correct issues on time. A majority of activities and communication remain local, which does not allow to have a general view of the developments and thus, to solicit partners.

Score: low.

- Programme Management: Most of the information was shared and discussed between partners and the local coordinator brings regular support to the project teams. The local IUC coordination is in close collaboration with the management and globally, the planning was well followed during the projects.

Score: Good.

- Weaknesses / Room for improvement: information needs to be shared more thoroughly with the North coordination. Flemish project leaders could sometimes be more well-informed of the activities.

- **Effectiveness**

- Specific Academic Objectives. In Phase 1 all projects achieved their respective objectives. After the end of the Phase 1, UMI is strengthened in research, education and service to society thanks to the results of the multidisciplinary research and institutional projects. There is evidence (internal regulations, new services, etc.) that the programme has supported the development of changes at institutional and academic level. Individual and institutional academic capacities were reinforced.

Score: Good

- Specific Development Objectives. The programme has contributed to the foreseen specific development objectives, achieving an interesting impact in the Fes-Meknes regions, and always considering local and national priorities. There are several examples of how the UMI supported the implementation or development of changes in the involved stakeholders (see Analysis of Impact at Society level in 2.4). It enhanced UMI's overall brand by positively contributing to its perceived image and brought about substantial change by establishing close ties with external stakeholders.

Score: Good

- **Impact**

- Academic Impact. There are several examples of academic impact in the Phase I, as for instance, the improvement of the research capacities and infrastructure on campus, the increased capacity to obtain R&D funds and strengthening of UMI internationalisation.

Score: low.

- Institutional Impact. UMI had a good performance with regards to different institutional indicators as its development of educational capacities and relevant & innovative research, and its ability to attract external funding. The components will be capitalised on within the Competence Clusters to set up by the IUC programme. The programme allowed a better steering of UMI, the professionalization of processes. Thus, institutional impact has been high in the case IUC.

Score: Good

- Development Impact. The programme contributed to improving the food security, water management, local income, stability and competitiveness of the agro-ecosystems and, thus, the overall livelihood situation of the local population through identification and remediation of key agronomic, socio-economic and environmental constraints of Morocco. For example, IUC promoted the involvement of researchers with the local actors, which had a direct impact on their day-to-day activities.

Score: Excellent

- Weaknesses / Room for improvement: Main difficulties in this area are coming from the problems with the precarity of PhD students (no salary or scholarship), having to take side jobs and not encouraging the students to stay involved in the programme.

- **Sustainability**

- Academic Sustainability. The IUC-UMI project allowed involvement of regional actors from the very first stage which helped taking over research and education results. .

Score: Good

- Institutional Sustainability. The programme created the main conditions to preserve the results and positive effects already obtained during IUC such as the change in the way of thinking related to scientific research by the team members and university community.

Score: Low

- Financial Sustainability. The project will likely sustain financially due to: 1) the new Master's programmes will keep running, 2) The collaboration with local actors is present and increases their performance, 3) project leaders attracted other sources of funding.

Score: Good

- Weaknesses / Room for improvement: Moroccan partners, and the coordinator, are very proactive and independent locally, and it is very good for the academic progress. However, in

daily communication and division of tasks, this results in unbalanced distribution of tasks, where Moroccan partners organise themselves independently and mostly communicate on final results and decisions. Problems as well as opportunities are not often reported to the North coordination, creating a distance and making it difficult to really collaborate in a win-win context. There is therefore room for improvement in terms of communication. In terms of equipment, the correct working and maintenance of equipment remains an issue since there was no training for the installation and maintenance of the new tools which needs more financial and human resources for that.

3. Introduction

3.1. Structure of the evaluation report

The evaluation report is subdivided in four chapters. In the introduction chapter a background is provided, including the general objectives of an Institutional University Cooperation (IUC) programme, its Theory of Change (ToC) and the objectives of the evaluation. The Evaluation Methodology includes the evaluation framework, criteria, methodology, and limitations of the evaluation. In this part is also included a description of Morocco, its higher education context and the University Moulay Ismaïl (UMI). This introductory chapter finishes with a description of the different components integrated in the IUC with UMI.

In the second chapter the results at programme level and project level (6 projects) are presented. A SWOT recapitulating the main results of the 6 projects has been included. A brief analysis of the evaluation covering the individual, the organisational and the societal impact then is presented.

In the third chapter a summary of the main conclusions and lessons learned is included. Finally, in the fourth chapter the evaluators provided recommendations for the IUC UMI and also for VLIR-UOS.

3.2. Background

3.2.1. General Objectives and guiding principles of IUC

An Institutional University Cooperation (IUC) programme is a long-term (12 years) institutional partnership between a university in the South and Flemish universities and university colleges. The programme supports the partner university in its triple function as provider of educational, research-related and societal services. It aims at empowering the local university as to better fulfil its role as development actor in society.

The objectives and content of an IUC partnership between one partner institution in the South and Flemish universities and university colleges are outlined in a *partner programme* (sort of technical and financial file). All IUC programmes combine objectives of institutional strengthening and strategic thematic capacity building (linked to both institutional priorities and developmental priorities in a specific

country). Each partnership consists of a coherent set of interventions (projects) geared towards the development of the teaching and research capacity of the university, as well as its institutional management. The IUC programme is demand-oriented and seeks to promote local ownership through the full involvement of the partner both in the design and implementation of the programme. At level of change, the concept is such that through a programme approach greater synergy, added value and institutional impact can be achieved than through a set of individual different IUC projects. Apart from internal synergy, the IUC programme is also looking at synergies and complementarities with other local development initiatives. Although the identification of the fields of cooperation is demand-initiated, as it concerns a partnership, the match with the available interest and expertise for cooperation at the Flemish side is crucial.

The IUC cooperation with a partner institution covers a period of approximately 12 years with 2 main programme phases –Phase 1 and Phase 2- covering a combined 10 years of project execution time. The end of Phase 1 should result in the preparation of a follow-up plan.

The IUC partner programme is subdivided in a number of constituting projects (research, capacity building and extension related) which are composed of a number of interlinked activities to be realized in the framework of a partner programme phase. At programme level the IUCs are coordinated by a local academic coordinator –with the support of top university management- and a Flemish coordinator, appointed by VLIR-UOS, and with him a coordinating Flemish university. The identification, formulation and implementation of each project is managed by project leaders: academics from both the Southern and Flemish Higher Education Institutions. Flemish project leaders are designated by VLIR-UOS on the basis of an open competition.

3.2.2. Subject of the evaluation – Theory of Change of an IUC programme

Every Institutional University Cooperation (IUC) programme is subdivided in a number of synergetic/complementary projects (research, capacity building and extension related) which are composed of a number of interlinked activities to be realized in the framework of a partner programme phase. These different projects all have their individual results framework and underlying Theory of Change. An IUC is more than the sum of its projects: through programme level management, the scale of the total programme, transversal (institutional strengthening) projects, the interlinkages between the different projects, the support given by the programme support unit and the critical mass of capacity created, an IUC has the potential to empower the local university as a whole to better fulfil its role as development actor in society.

Project level Theory of Change

Every Institutional University Cooperation (IUC) programme consists of a number of ‘classic’ projects and two or three ‘transversal’ projects, which in this case were organised in 3 Clusters. The classic projects primarily contribute to development changes at impact level, and indirectly also contribute to the institutional performance of the Higher Education Institutes (HEI) and the role of the HEI as a development actor. The transversal projects aim at improving internal services or systems of HEI. This can be in various areas: ICT services, research management, etc. This not only contributes to the different (‘classic’) projects but also strongly contributes to an improved institutional performance of the HEI.

Classic projects

At the **output level** VLIR-UOS supports interventions producing different types of deliverables (E.g., deliverables related to education improvement, research deliverables, strengthening research or education capacities, infrastructure and equipment, deliverables related to extension). All these deliverables are achieved in partnership with HEI in Flanders and a partner country. *These outputs are considered as being within the sphere of control of the project.*

At **outcome level** (specific objective) we can identify 3 typical outcomes (Improved research practices, improved education practices and New knowledge, applications are created + uptake by relevant stakeholders). These outcomes are *identified as specific objectives* and can be considered as “use of outputs”: They imply changes in performance, behaviour, etc. *These outcomes are no longer within the sphere of control but are within the sphere of influence of the project.*

At **impact level** the main change envisaged is always a developmental objective (long term). Implicitly it is also about a changed role of the local partner as an actor of change (medium-term). Through a successful achievement at the outcome level, the local actor will inherently become an agent of change for the society. With this change, and the achievements at the outcome level, there will be a sound contribution to development changes. This “change” will relate to the (external) effects of increased research performance/practices (internal) and/or the (external) effects of improved education practices/performance (internal) and/or the effect of uptake of new knowledge/applications/services (i.e., the effective (external) use). For this mid-term evaluation, the changer process is ongoing, leading to incomplete emergence of impacts.

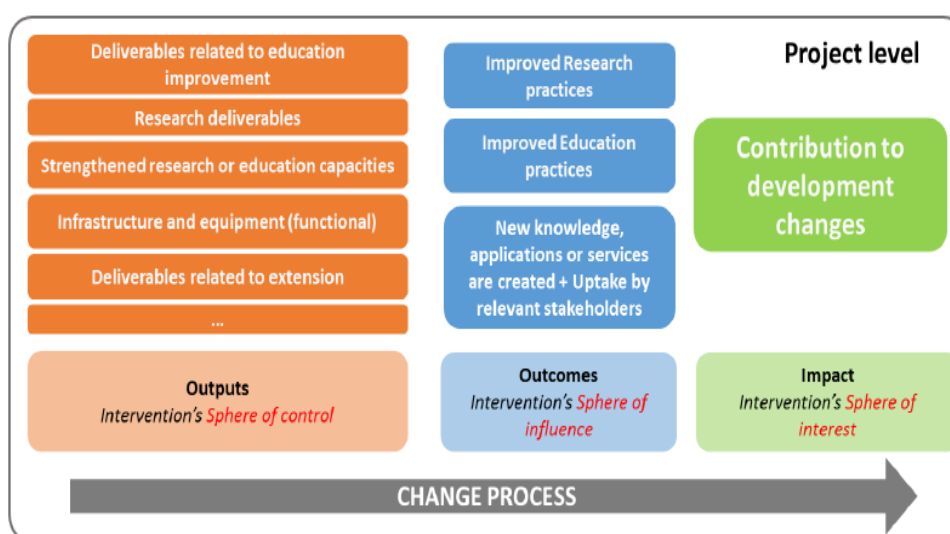


Figure 1 - Theory of Change IUC project

Transversal Projects

In an IUC programme, there is always one or more 'transversal' project (at UMI, the programme, and also the project 1). These are projects that have a slightly different Theory of Change. Transversal projects always focus on strengthening organizational capacities in areas such as internal service delivery (e.g., ICT services, research management, etc.), external service delivery (e.g., extension services), managerial capacity. These projects realize several outputs with the aim to improve internal performance. This improved internal performance will contribute to institutional changes, and will also

contribute to the other projects of the IUC (e.g., improved internal ICT performance will also benefit the other projects. A simplified illustration of possible ToCs of transversal projects is provided below.

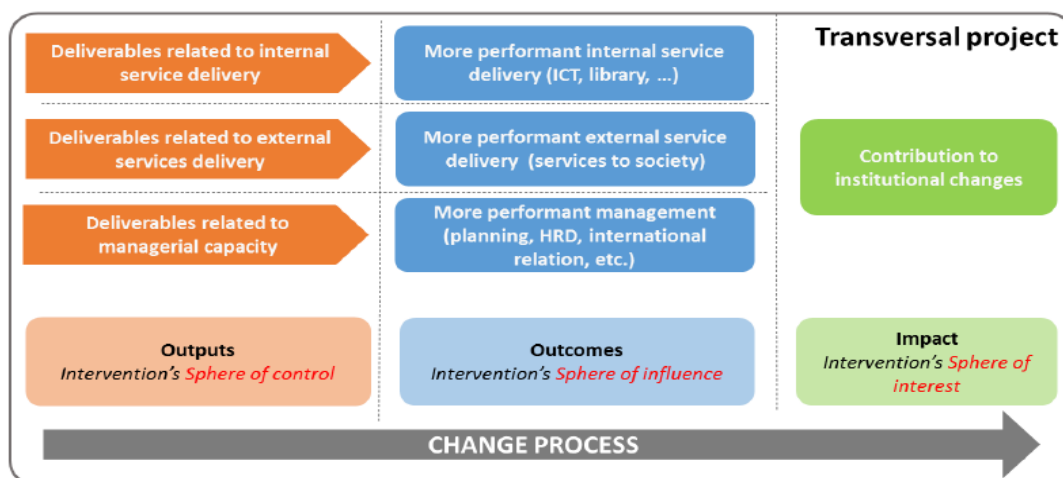


Figure 2 - Theory of Change IUC transversal project

Programme level Theory of Change

The primary impact envisaged by an IUC is to contribute to development changes through the development results of the different projects. A second intended impact is (a) the contribution to an improved performance of the HEI and (b) a changed role of the university as a development actor (strongly related to development changes). This is the programme level impact sought for. A generic and simplified ToC for an IUC programme as a whole is presented below.

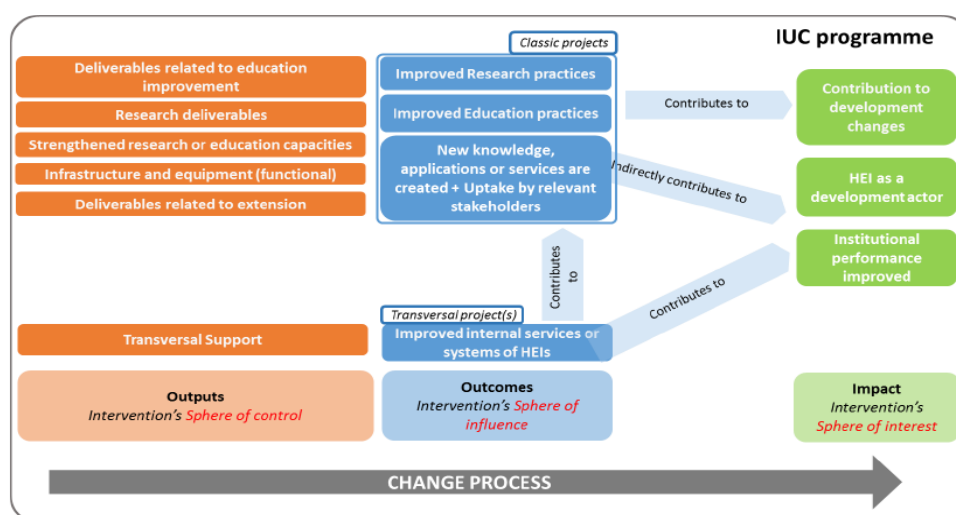


Figure 3 - Theory of Change IUC programme

3.2.3. Objectives of the Evaluation

The mid-term evaluation's primary objective is to evaluate the performance of the IUC (programme level and project level). This is the basis of every IUC evaluation. Next to this objective, IUC evaluations also analyse the prospects for the post-IUC period, namely, the performance of the IUC needs to be evaluated on the basis of the OECD-DAC criteria for development evaluation (+ one additional criterion): **scientific quality, relevance, efficiency, effectiveness, impact, and sustainability**. For this mid-term evaluation, a particular focus needs to be given to sustainability and effectiveness (progress towards the achievement of specific objectives. Cf. evaluation criteria below.

In addition, the evaluation specific objectives were the following :

1. What activities (consultation, dissemination) involving the final beneficiaries should be planned for the Phase 2 of the programme to generate an impact outside the university environment?
2. What qualitative and quantitative impact indicators to define and monitor at the individual and institutional level, both inside and outside the university environment, taking into account the different types of beneficiaries? What in the intervention made it (or not) work to achieve the intended and observed impact?
3. What specific mechanisms should be established to exert an influence on existing relations between the sexes and on equal opportunities in order to further strengthen the contribution of the CUI program in the advancement of women?

These objectives are addressed in section 4.7.

3.3. Evaluation Methodology and process

3.3.1. Evaluation Framework

Overall Evaluation Framework: individual, organizational and societal level

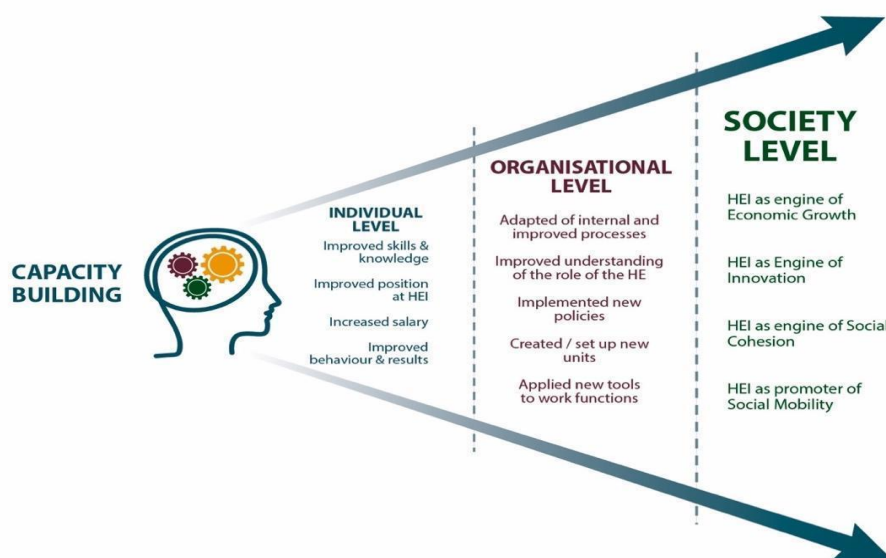
Following Baser and Morgan (2008)¹, there are three level of capacity:

- A micro or individual level, where for instance skills acquired by formal education, training or other forms of learning could be included.
- A meso or organisational level, which could comprise institutional building via efficiency of processes.
- A macro or society level, including any activity which could affect the enabling environment (policies, etc.).

The conceptual framework applied to this evaluation is represented in the next figure. This figure help to explain the overall evaluation framework of the programme logical intervention and results. This is a simplified model, not pretending to include all potential elements affecting this type of intervention. The basic idea is to identify the relationships between:

- The logical and expected cause-effect relationships between inputs, outputs, outcomes and impact (Theory of change IUC project figures/reference).
The effects at different levels of the programme/intervention.

¹ Baser, H., & P. Morgan (2008). Capacity, Change and Performance Study Report. (ECDPM Discussion Paper 59B). Maastricht: ECDPM



There are different levels of impacts/benefits of Higher Education, and there are also different levels of capacity development that could be applied in this evaluation framework:

- At the individual level the effects are related with improved knowledge, increased management skills and improved behaviour/results applied to Higher Education. As a consequence, beneficiaries are able to improve their individual performance, including social skills and networking.
- At the organisational level, beneficiaries may apply their new knowledge in improving either the units organisational structure and/or its organisational processes. This results in better internal coordination, as well as increased and improved relationship with their local environment. Enhanced interaction with the local environment basically allows achieving more relevant teaching and research for the socio-economic ecosystem.
- At the societal level, universities are expected to materialise this more relevant teaching and research with specific agreements and contracts with the local industry and/ or society, on placements for students or applied research that meet the needs of the enterprises and other stakeholders. The impact at societal level / long-term would include aspects like social cohesion or its role as engine of innovation and promoter of economic growth.

3.3.2. Criteria

According to the ToR the following criteria must be evaluated at programme level as well as at project level: scientific quality, relevance, efficiency, effectiveness, impact and sustainability. We decided to subdivide each of these criteria:

Criteria	Sub-criteria
Scientific Quality (project level)	Quality of Research Quality of Education
Relevance (programme & project level)	Responding to needs Synergy & complementary Transversal Themes Ownership
Efficiency (programme level)	Link between inputs and outputs

	Delays Programme management
Efficiency (project level)	The Intermediate results have been delivered Relationship between objectives, results and means Project management
Effectiveness (programme and project level)	Specific Academic Objectives Specific Development Objectives
Impact (programme level)	Academic Impact Institutional Impact Development Impact (impact on society)
Impact (project level)	Individual Impact Academic & Institutional impact Developmental Impact (impact on society)
Sustainability (programme and project level)	Academic & Institutional sustainability Financial Sustainability

According to the ToR each of the (sub-) criteria should be scored using the scores: excellent, good, low, poor. We developed a generic scoring system which can be found in the table below. A full description of the criteria can be found in annex 4.1. From the table below, it is shown that the scores are directly linked to recommendation. The lower the quality, the lower the score, the more important the recommendations are. For each of the criteria, the number of the recommendations refers to the recommendation formulated at the beginning of the report. This allows us to demonstrate directly the link between the analysis, the scoring and the recommendations.

Scores	Definition Scores
4 – Excellent	The overall (Criterion) is of excellent quality. Additional measures are not needed.
3 – Good	Minor room for improvement exists, however with minor effect on (Criterion).
2 – Low	Major room for improvement exists, with a potential of major effects on (Criterion) of the Program/project.
1 – Poor	The (Criterion) is of poor quality and extra necessary measures are urgently needed to realize the (Criterion).

The evaluation team indicated N/A when the scoring was not accurate. Scoring some criteria might have been irrelevant and not informative enough.

The orange-score refers to low level of achievement. The evaluation team has used this scoring when UMI had made progress but there was still room for improvement, and when recurring problems pointed out in the past, remained. The orange colour is meant to highlight the necessity for UMI to take action and further improve. It does not mean the level of achievement is low because UMI has ignored the criteria.

3.3.3. Methodology

The evaluation was conducted by Focus Up team, namely Fabrice Hénard (as international evaluator, in France) and Abderrahmane Lahlou (as local consultant, in Morocco).

The Southern interviews were conducted by Abderrahmane Lahlou, on site at UMI. The Northern interviews were conducted by European consultant Fabrice Hénard, exclusively remotely, due to the pandemic. Fabrice Hénard participated in several rounds of interviews with the Moroccan informants, away from Paris. UMI had an efficient videoconferencing system available. It turns out, however, that remote discussions is relatively limited for assessing the programme with nuance. In a nutshell, the evaluation process was designed and implemented as follows :

- The evaluation was integrated into the project (programme) theory (both ToC and logical framework);
- The self-assessment process was carried out on the basis of a broad participatory approach;
- The mid-term evaluation was organized in close cooperation with UMI and based on focus groups (teachers, doctoral students and stakeholders).

Methodology for data collection

The methodology is based on **desk review** of the following documents:

- Programme and project documents
- Self-assessment reports

Data collection used mainly the following methods :

In-depth and semi-structure interviews with Flemish and Moroccan programme coordinators and Flemish and Moroccan project leaders. The interviews were based on a topic list (see scoring methodology and questions). In-depth interviews were organized with other stakeholders as well.

Mission plan

A detailed agenda of meetings with Flemish and Moroccan informants can be found in the Annex.

3.3.4. Limitations of the evaluation and remediation

At first, the evaluation team considers the evaluation process ran smoothly and independently. All stakeholders had a chance to discuss freely with the evaluators, without any pressure or interference from other parts within UMI.

The Southern interviews were conducted by the Moroccan consultant, Abderrahmane Lahlou, on site at UMI. The Northern interviews were conducted exclusively remotely due to the pandemic, by the European consultant, Fabrice Hénard. Fabrice Hénard participated in several rounds of interviews with the Moroccan partners. UMI had an efficient videoconferencing system available. However, remote discussions have limitations to assessing the programme as nuances are difficult to grasp.

The evaluation encountered limitations that the evaluators sought to remedy.

- The proposed criteria were well suited to a mid-term evaluation but were not necessarily relevant at the end of Phase 1. It was thus difficult methodologically to distinguish the achieved results from the impacts. For this reason, many scores are light green (good) rather than dark green (excellent) as evidence is missing to confirm the highest score on the grid.
- The programme is particular due to the university's many external partners, who participated in the development of the projects and their implementation, as well as having a direct interest in their success. Also, the evaluators had to make a selection, and be satisfied with several external

parts (between one and four) for each project. This is not representative, but made it possible to have perceived results and possible impacts on the part of partners external to the university.

- Interviews in Morocco were organised by block, according to the programme and projects. Each block included an interview with the coordinator and possibly technical assistance, teacher-researchers, doctoral students and employers or other stakeholders, depending on their availability. This method made it possible to bring together, in a coherent manner, the informants concerned by each project and the programme. However, the time devoted to each project (between three and five hours for each block), made it difficult to deal with all the evaluation criteria for each of them. In addition, the Northern interviews, which took place during and after the week of interviews at UMI, also served as a complement for the themes that had not been addressed during the Southern interviews.
- It was not possible to carry out case studies on specific initiatives or cross-cutting aspects. It turns out that the projects produced results, but none offered sufficient information to go deeper to form a case study. This also explains why the impact part is described more in the form of illustrations than tangible evidence.
- Most self-assessment reports were not as analytical as expected in this kind of exercise. Many examples and illustrations were presented with limited analysis of achievements. Very few highlighted challenges, drawbacks and/or failures, or passed off the responsibility to UMI as such or the IUC programme. Nevertheless, the evaluation confirms the scoring overall made by the coordinators. No noticeable discrepancies were found.
- The triangulation of the information gathered was based essentially on the analysis of the self-assessment reports and the interviews. The online survey of beneficiaries was not retained during the inception phase of the evaluation. Interviews with external stakeholders turned out to be extremely useful in judging the relevance and impact of the IUC programme, particularly at societal level. However, these interviews took place at the UMI in the presence of the Southern coordinators or other UMI staff. This might have created a bias on the side of the stakeholders, who unanimously appreciated the programme, and perhaps there was a lack of judgmental distance. The interviews with the Northern partners helped rebalance the opinions and come to a fairer assessment.

3.4. Context

3.4.1. Morocco

Morocco is a country with a population of approximately 35 Million inhabitants (2020), of whom 13,5 lived in rural areas in 2018, a consistent figure for a decade. 16,5% of its population is also aged between 15 and 24 years old². Morocco is a country of Northern Africa, located in the Maghreb area. A major part of its territory is composed of desertic zones such as the Sahara and of mountainous ones, such as the Atlas. It has access to both the Mediterranean Sea and the Atlantic Ocean. Morocco is divided in twelve regions and its capital city is Rabat.

² <http://uis.unesco.org/country/MA>

The development of Morocco is deeply unequal between its different zones. Apart from its big cities (Casablanca, Rabat, Marrakech, Fès, Agadir, Tanger) which gather development projects and investments, the rest of the country, which is in majority composed of rural areas, still waits for development perspectives.

In 2017, the Moroccan Human Development Index (IDH) was of 0,67, an increase of 46% compared to its 1990 level. In 2018, Morocco had the 5th highest GDP in Africa, in terms of volume. The same year, its GDP/habitant was of \$3494, which represents a 24% increase compared to its 2009 level. Despite a small recession in 2015, the GDP has indeed tripled since 2000 and its part of the population under the poverty line was about 4.8% in 2013, compared to 16.3% in 1998)³. In contrast, the increase was only of 6% during the same period in African countries with intermediate revenues. The growth of the GDP was of 4,2% in 2009 and maintained itself through the decade as it was of 4,1% in 2017. Yet, in 2018, the growth rate decreased to 3% ⁴. Despite such an economic growth, Morocco still faces employment issues, especially concerning the youth and women. If the national unemployment rate was of 9,8% in 2018, it was indeed of 26% for the youth, compared to 18% in 2009. Women are also more concerned by unemployment as less than one out of four of them is employed.

The country has few energetic resources available which makes it very dependent on other countries for its energy demand and supply. It has however made considerable investments to provide access to electricity to its citizens throughout the whole territory and to improve its production capacity. The agricultural sector stands for 15% of the Moroccan GDP and gathers 46% of the working-age adults, as it is the first sector of employment, nationally.

Morocco got its independence from the French protectorate in 1956. The sovereign Mohammed V with his son Hassan II have then maintained a grasp on power for more than forty years. The sovereign Mohammed VI who accessed power in 1999 modernized the image of Morocco and its royal regime.

The country has two official languages: Standard Arabic and Amazigh/Tamazight (or Moroccan Berber). Moroccan Arabic is spoken by most of the population and French is used administratively.⁵ Spanish can also be used. The majority of Moroccans are Sunni Muslims.

According to the African Bank for the Development, in 2019 32% of the Moroccan population was still illiterate and the quality of instruction, inadequate. Yet, according to the UNESCO, the Moroccan population is one of the most literate in Africa with 73.8% of those older than 15 years old, and 97.7% of the 15-24 years old knowing how to read and write, in 2018⁶. Amongst the youth who is working, many have to work within the informal sector, and take jobs with low productivity. Giving the youth the skills and ability to have an occupation with a good revenue is a national priority. Efforts have for example been made to provide equal access to education to boys and girls. The schooling rate in primary, secondary and higher education has reached 78,2% in 2019 and the rate for girls exclusively has increased from 59,2% in 2009 to 75,4% in 2019. So, although women are underrepresented in the literacy rate, with only 64.6% of them being literate in all ages, the country has managed to reduce the gap between men and women in terms of literacy among the youngest population.

³ <https://data.worldbank.org/country/MA>

⁴ Revue synthétique des résultats 2019 Maroc, Groupe de la Banque Africaine de Développement, 2019.

⁵ <https://www.cia.gov/library/publications/the-world-factbook/geos/mo.html>

⁶ <http://uis.unesco.org/country/MA>

3.4.2. Higher education context

Both primary and secondary education in Morocco are mandatory and free of charge from six to fourteen years old. In 2009, Morocco contributed 5.3% of its GDP to education. In 2010, only 14.6% of the same cohort was enrolled in higher education. There are currently more than 2.9 million adults aged 18 to 22 enrolled in higher education, which corresponded to an enrolment ratio of 38.5% in 2019. This shows a significant increase in the university population. In 2019, for the first time there were also more women than men enrolled in university. Yet, women make up only 33.8% of Moroccan researchers.

Morocco's higher education system is centralised and is relatively selective even though it has been democratised in the last few decades. It offers several types of diplomas at various levels of degrees, but the system is mainly based on the LMD cycle in which course units are taught during semesters. Recently, the government has enacted policies to reinforce the system by encouraging and facilitating the mobility of students, researchers and staff; promoting the access of Moroccan graduates to the European labour market; developing the professionalisation of higher education and facilitating the equivalence of diplomas.

Morocco has currently thirteen public universities that are recognised by the State, as well as two hundred and seven private institutions, that need accreditation to be recognised. In 2012, the State intensified the certification of these private higher education institutions in order to promote the creation of new courses and training programmes.⁷

The Ministry of Education, Vocational Training, Higher Education and Scientific Research oversees the higher education sector. Recent reforms have reinforced the coordination and regulation of the higher education system and created new institutions, such as the National Commission for Coordination of Higher Education (CNCES), the Coordination Board (CC), the Coordination Commission for Private Higher Education (COCESP) and the National Agency for Evaluation and Quality Assurance of Higher Education and Scientific Research (ANEAQ). Reforms also aimed to set up an Institutional University Council, develop cooperation between universities and research institutions, and establish a new status for universities making them a legal entity, as well as giving them pedagogic, administrative, and financial autonomy. Finally, the Ministry has tried to standardise the Moroccan system according to the Bologna Process, by promoting the renewal and updating of pedagogical methods as well as the granting of autonomy to universities.

A new programme was also launched by the CNRST within the national scope for development and research. It aims at guiding governmental strategies in these areas, reinforcing scientific coordination among research operators, fostering synergy between research organisations, promoting mobility and a multidisciplinary approach. Within the scope of the 2015-2030 vision of the Superior Council for Education, Training and Scientific Research, as well as of the strategy of the Moroccan Ministry of Education and Research, the "Ibn Khaldoun" programme was launched in May 2018. It constitutes a call for tender in human and social sciences. It aims to foster the development of superior quality

⁷ National Report on the Moroccan Education System By the MERIC-Net. http://www.meric-net.eu/files/fileusers/National_Report_MERIC-Net_Morocco_EN.pdf

research, support collaborative projects between universities and socio-economic actors.⁸ Three projects proposed by UMI have been retained.

The major current challenges of Moroccan higher education are to respond to the market demand of trained professionals, improve the competitiveness of Moroccan private businesses and its public administration, as well as foster the youth's professional integration and sustainable employment, nationally and internationally. In 2015, the unemployment rate among 15 to 24 years olds was 22.2%.⁹ To help bring graduate students into the professional world, the Moroccan sovereign established six recommendations to improve the higher education system:

- Rethink mechanisms and public support programmes for youth employment, to increase their effectiveness and adapt them to youth's expectations.
- Give priority to pathways that facilitate finding work and establishing an effective system of course guidance two or three years prior to the Baccalaureate.
- Re-assess the pathways of professional training so that they better meet the needs of businesses and the public sector.
- Set up practical mechanisms to improve the effectiveness of plans encouraging the youth to create small and medium-size businesses.
- Set up new mechanisms to integrate part of the informal sector into the formal sector.
- Set up, in every institution, a compulsory three to six month programme that would help increase the comprehension level of foreign languages among students and interns.

These recommendations were developed to adapt training programmes to the needs of the socio-economic sector and facilitate the integration of graduated students into professional life.

The Internationalisation of Moroccan Higher Education is another priority for Morocco and the Ministry. Universities strive to reinforce their recognition and cooperation with foreign institutions to promote exchanges among students, researchers and staff. Morocco has thus been promoting equivalences of qualifications with foreign higher education systems, mainly through the 2001 decree establishing the conditions and procedures to grant such equivalences.

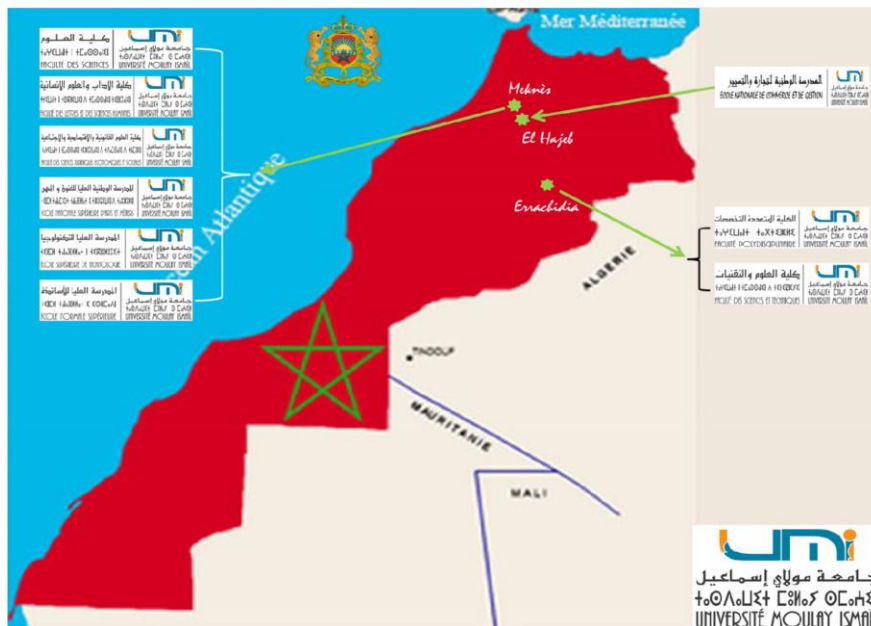
3.4.3. Institutional context

The University of Moulay-Ismaïl was created in 1989 within the scope of a national decentralisation policy. Its institutions, consisting of nine educational establishments, are located in two regions: seven in Fez-Meknes; two in Drâa-Tafilalet. They offer different types of training programmes in social sciences, legal sciences, economics and management, technical sciences, technologies and engineering. Six of the campuses are located in Meknes. The following map shows where the UMI are located in Morocco.¹⁰

⁸ Territorial Integration of UMI in the Fez-Meknes region

⁹ <https://data.worldbank.org/country/MA>

¹⁰ Assessment of UMI's activities, 2018-2019



During the 2018-2019 academic year, these institutions welcomed more than 69 000 students, of whom more than 21 000 were newcomers. Yet, 143% of the university's capacity is being used leading to issues regarding space and infrastructure. As the UMI headcount has consistently increased over the years, the issue at stake for the university is to maintain academic training and a good quality research environment while accommodating more and more students within its various institutions. To do so, some recommendations were formulated at the end of the 2018-2019 academic year:

- Modernise its administration
- Redefine the vocation of its pathways
- Innovate pedagogically
- Increase its accommodation capacity
- Gear its activities towards the socio-economic sector
- Ensure the development of a fundamental research institution of excellence, the diffusion of knowledge, the swift professional insertion of its graduated students, the socio-economic development of the country.

To better promote and contribute to the socio-economic development of Morocco, UMI has tried to forge partnerships with other universities and institutions, in order to improve the universities' response to the local, regional and national needs of the socio-economic sector. For example, a partnership was established in March 2019 between the four universities of the Fez-Meknes region: the University Sidi Mohamed Ben Abdellah, UMI, University Al Akhawayn of Ifrane and University Euromed of Fez, to strengthen their cooperation in the areas of training, scientific research and innovation.¹¹

Moreover, three organisations have been created in order to reinforce the links between UMI and the private business sector:

¹¹ Territorial Integration of UMI in the Fez-Meknes region

- A Centre for Innovation and Technology Transfers (CITT) in charge of contributing to the innovative development of research, favouring technology transfers within UMI's research organisations and with the business sector, strengthening regional competitiveness.
- An ANAPEC agency forging a partnership between UMI and ANAPEC through which both institutions are compelled to promote the services offered to their partners and encourage businesses to use them.
- A business incubator established in partnership with ANAPEC, AFEM, ADS and APEFE to promote the entrepreneurship spirit of students, develop research and training offers on entrepreneurship and marketability.

An example of UMI's efforts to meet the needs of the regional and national socio-economic sector can be found in their willingness to support the market of renewable energy as an opportunity of "green employment" and a means to promote economic development. The university's efforts in this realm can thus be seen through the participation of twenty of its students, doctorates and researchers in the Solar Decathlon Middle East in Dubai. The "Solar-Ution" team incidentally won a prize at the Solar Decathlon Africa in 2019, as well as third prize in the Solar Decathlon and the first prize for sustainability. This led to "Solar-Ution" being the only African team selected to compete at the EXPO2020 and the Solar Decathlon Middle East.

3.5. Short description of the IUC with UMI

3.5.1. General presentation

Programme	
Title:	Institutional University Cooperation with the University Moulay Ismaïl (Phase 1)
Partner:	University Moulay Ismaïl (UMI), Meknès-Tafilalet
Budget	€ 2.793.000
Summary	<p>The IUC meets the predisposition of the UMI to play an active role in the development of the Meknes region in sectors that both constitute a regional vocation and strategic priorities identified by stakeholders in Morocco and Flanders. The programme is coherent with the Strategic Development Plan of UMI (2015-2018) and offers an institutional strengthening of the university through:</p> <ol style="list-style-type: none"> 1- The strengthening of UMI's governance and management capacities through to a quality assessment process 2- The strengthening of training and research capacities as well as UMI's contribution to society of five Clusters of Competencies (CC) to increase their effectiveness and have genuine repercussions on the socio-economic development of the region.
Project 1	<p>The first project aims at reinforcing the UMI's governance and management capacities. It is a threefold project:</p> <ol style="list-style-type: none"> 1) <u>The administrative governance:</u> improving organizational and operational aspects of the management and administration services 2) <u>The academic governance:</u> taking into consideration the evaluation and integration of ICT (e-learning) 3) <u>The research governance:</u> strengthening the organizations and mutually sharing means of research. <p>These three workshops will be led within the scope of a quality assessment process and a digital strategy.</p>
Project 2	<p>The second project has three components:</p> <ol style="list-style-type: none"> 1) <u>Research:</u> risk analysis of the exposure to carcinogenic pesticides, creation of a matrix of environmental and health indicators to serve biomonitoring and to detect premature effects on the population (doctorate thesis). 2) <u>Training:</u> setting up of a cross-university Master's degree programme and of continuous training programmes in environmental health. 3) <u>Contribution to society:</u> creation of platforms fostering participation and of tools guiding decisions and contributing to the Regional Plan in Health and Environment.
Project 3	<p>The third project aims at reinforcing the university's capacities within its training and research missions, as well as in its contribution to society in the realm of food-processing sciences and the health security of food. It has three components:</p> <ol style="list-style-type: none"> 1) <u>Training:</u> setting up professional, evolutive and well-suited training sessions 2) <u>Research:</u> mastering the preservation process of foodstuff. 3) <u>Contribution to society:</u> fostering innovation and technology transfers between regional stakeholders.
Project 4	<p>The fourth project is based on the work of a multi-disciplinary team whose members are part of the UMI's various institutions. It enlists strategic partnerships including the Sebou Hydraylic Bassin Agency (ABHS), the Provincial Directions of Agriculture (DPA), as well as the National Direction of Meteorology (DMN); and local agencies. It aims at developing training and research capacities as well as UMI's ability to contribute to society through a Cluster of Competencies in the Integrated</p>

	<p>Management of Water Resources (GIRE). It strives to contribute to the conception of effective and practical application mechanisms of the GIRE and initiatives able to promote it at a local scale. To do so, three axes of work have been identified:</p> <ol style="list-style-type: none"> 1) Management of water-related risks 2) Tools and informational system on water in partnership with the SAWIS. 3) Monitoring indicators assessing the realization of GIRE-related objectives at the hydraulic bassin scale.
Project 5	<p>The fifth project aims at reinforcing the institutional capabilities of UMI and guiding regional actors in terms of ownership and the integration of sustainability tools. It has three components:</p> <ol style="list-style-type: none"> 1) Research: a programme of doctoral research axed on the elaboration of analysis and evaluation tools 2) Training: a multi-disciplinary Master's degree programme and continuous training programs 3) Contribution to society: platforms and interfaces to network with society, with the objective of creating a Cluster of Competencies.
Project 6	<p>The sixth project is meant to guide, support and reinforce the capacity and attractivity of UMI's organizations in terms of management, sustainable use, and the promotion of derivative products, through activities of training and research, the development of a technical analysis and transformation tools as well as the reinforcement of platforms of regional participation. The project has four components:</p> <ol style="list-style-type: none"> 1) An academic one aimed at reinforcing the teaching staff's pedagogical and technical competencies as well as the mobilization of relevant human resources. 2) A training one supported by the creation of fundamental training sessions (professional license, specialized Master's 1, an engineering pathway, e-learning and continuous trainings) 3) A research and multidisciplinary one supported by doctorate theses and in co-ordination with Flamers partners. 4) A component dedicated to UMI's contribution to society promoting information and knowledge transfers between stakeholders of each pathway.
Project 7	<p>Finally, the seventh project consists in the management of the programme thanks to a management committee (CdG).</p>

3.5.2. Overall and specific objectives of each project

Project 1	
Title	Reinforcement of UMI's governance and management capacities within the scope of a quality assessment process.
Sector	Education policy and administrative management (11110)
Partner and promoter (South)	University Moulay Ismaïl, Hassane Sabbi
Partner and promoter (North)	Universiteit Hasselt, Jean-Michel Rigo
Overall objective	The Moulay Ismail University's institutions are reinforced and its active role in the development of the Meknes region is improved. The training, research and contribution to society offer is enriched and diversified in 5 realms of priority competencies.

Specific objective	The administrative, pedagogical and research governance of UMI is improved. Its partnership, evaluation, information management and communication capacities are strengthened.
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Project 2	
Title	Setting up and reinforcement of training, research and contribution to society capacities of an Environmental Health Cluster of Competencies (CC-SE).
Sector	Health policy and administrative management (12110)
Partner and promoter (South)	University Moulay Ismaïl, Samir El Jaafari
Partner and promoter (North)	KU Leuven, Lode Godderis
Overall objective	The Moulay Ismail University's institutions are reinforced and its active role in the development of the Meknes region is improved. The training, research and contribution to society offer is enriched and diversified in 5 realms of priority competencies.
Specific objective	Research, training and contribution to the society capacities are reinforced and capitalized in an Environmental-Health Cluster of Competencies.

Project 3	
Title	Adapting the training offer and reinforcing research and contribution to society capacities of a food-processing and foodstuff health security Cluster of Competencies (CC- AGRO).
Sector	Food aid/Food security programmes (52010)
Partner and promoter (South)	University Moulay Ismaïl, Hassan Hajjaj
Partner and promoter (North)	Universiteit Gent, Geert Haesaert
Overall objective	The Moulay Ismail University's institutions are reinforced and its active role in the development of the Meknes region is improved. The training, research and contribution to society offer is enriched and diversified in 5 realms of priority competencies.
Specific objective	Training, research and development capacities of a food-processing and foodstuff health security Cluster of Competencies (CC- AGRO).

Project 4	
Title	Setting up and reinforcement of training, research and contribution to society capacities of a water-resource integrated management Cluster of Competencies (CC-GIRE).
Sector	Water resources conservation (including data collection) (14015)
Partner and promoter (South)	University Moulay Ismaïl, Ali Essahlaoui
Partner and promoter (North)	KU Leuven, Anton Van Rompaey
Overall objective	The Moulay Ismail University's institutions are reinforced and its active role in the development of the Meknes region is improved. The training, research and contribution to society offer is enriched and diversified in 5 realms of priority competencies.
Specific objective	The training, research and contribution to society capacities of a GIRE Cluster of Competencies are reinforced.

Project 5	
Title	Setting up and reinforcement of training, research and contribution to society capacities of an environmental and territorial development Cluster of Competencies (CC-EDT).
Sector	Legal and judicial development (15130)
Partner and promoter (South)	University Moulay Ismaïl, Abdelilah Baguare
Partner and promoter (North)	Universiteit Hasselt, Bernard Vanheusden
Overall objective	The Moulay Ismail University's institutions are reinforced and its active role in the development of the Meknes region is improved. The training, research and contribution to society offer is enriched and diversified in 5 realms of priority competencies.
Specific objective	The training, research and contribution to society capacities of an environmental and territorial development Cluster of Competencies are reinforced.

Project 6	
Title	Setting up and reinforcement of training, research and contribution to society capacities of a Cluster of Competencies in the valorisation of natural and synthetic compounds of regional plant resources and their therapeutic effects (CC-PAM).
Sector	Agricultural research (31182)
Partner and promoter (South)	University Moulay Ismaïl, Abdelhamid Zaid
Partner and promoter (North)	Universiteit Hasselt, Jerome Hendriks
Overall objective	The Moulay Ismail University's institutions are reinforced and its active role in the development of the Meknes region is improved. The training, research and contribution to society offer is enriched and diversified in 5 realms of priority competencies.
Specific objective	The training, research and contribution to society capacities of the CC-PAM are reinforced.

4. Stock-taking of the programme and projects implementation

The tables below feature the results of the programme and the 6 projects, including the baseline and target values. UMI completed these tables, which have been updated as of January 2021.

* cumulative values (e.g. value year 2 = sum of realisations year 1 & 2)									
Research	Project	Baseline	Value Year 1	Value Year 2*	Value Year 3*	Value Year 4*	Value Year 5*	Target value	Comments on progress (e.g. number of articles submitted, number accepted for publication but not yet published)
1. Number of articles published in international peer reviewed journals (through the support of the project)	P1		0	1	1	1		4	
	P2		1	2	3	5		5	1/ Berni et al. (2019) ; 2/ Khouchoua et al. (2019) ; 3/ Berni et al. (2020) ; 4/ Menouni et al. (2021) 5/ Berni et al. (2021)
	P3		1	2	5	8		6	1/ Ben aziz M , Moulis L, H Fulcrand H, Douieb H, Hajjaj H. 2017. Phenolic compounds astringency and bitterness of press wines: Influence of fining agents and micro-oxygenation treatments. Food Science and Technology. 78:143-151. 2/ Ziyat H, Naciri Bennani M, Hajjaj H, Mekdad S, Qabeqous O. 2018. Synthesis and characterization of crude hydrolyzed thymol adsorption. Research on Chemical Intermediates 44 (7) : 4163–4177. DOI 10.1007/s11116-018-0003-0 3/ M. Ben Aziz, F. Garcia, L. Moulis, H. Fulcrand, H. Hajjaj. 2019. Proanthocyanidins and anthocyanins contents, antioxidant properties of red grape pomaces from morocco. Journal of Food Measurement and Characterization. 13(3): 413-424 4/ H. NAIT MBAREK, B. TAIDI, T. SMAOUI, M. BEN AZIZ, A. MANSOURI, H. HAJJAJ. 2019. Isolation, screening and characterization of ligno-cellulolytic fungi from northern central Morocco. Biotechnologie, Agronomie, Société et Environnement (BASE). 23(1): 217-227. 5/ A. GOMAA, H. NAIT MBAREK, H. HAJJAJ, T. GLEZ. 2019. Molecular Cloning and Expression of Candida Antartica Corynebacterium genus. Microbiology and Biotechnology Letters. 47(4), 546–554. 6/ Hasna NAIT MBAREK, Mohamed BEN AZIZ, Hassan HAJJAJ. 2020. Cellulolytic fungi from central Morocco: comparison of enzyme activities, in silico prediction of physico-chemical properties and molecular docking. Research Journal of Biotechnology. 15(5) :50-60. 7/ Hamid ZIYAT, Mohammed NACIRI BENNANI, Hassan HAJJAJ, Omar QABAQOUS, Said ARHZAIF, Soumya MEKDAOUI. 2020. Adsorption of the thymol onto natural clays of Morocco: kinetic and isotherm studies. Hindawi. Journal of Chemistry. doi.org/10.1155/2020/4926809. 2020:1-10. 8/ HASNA NAIT MBAREK, SOUKAINA ARIF, BEHNAM TAIDI AND HASSAN HAJJAJ. 2020. Consolidated bioethanol from olive mill waste: wood-decay fungi from central Morocco as promising decomposition and fermentation biocatalysts. Biotechnology Reports. 28, e00541. Article sous presse : 1/ Hamid ziyat; Mohammed Naciri Bennani; Safae Allaoui; Jamal Houssaini; Hasna Nait Mbarek; Soukaina Arif; Hassan Hajjaj. In vitro evaluation of the antifungal activity of Ghassoul- based formulations with oregano and thyme essential oils against Aspergillus niger sp. Hindawi. Journal of Chemistry. Articles soumis et en révision pour publication: 1/ A. BRAHIMI, S. LANDSCHOOT, B. BEKAERT, L. HAJJI, H. HAJJAJ, K. AUDENAERT, G. HAE-SAERT, H. MAZOUZ
	P4		0	1	4	5		8	1) Assessment of the best management practices under a semi-arid basin using SWAT model (Case of Mdez watersheds). Springer Nature Journal, Pre-print (article accepté) 2) Mohammed El Hafyani *, Ali Essahlaoui , Jean Poesen , Anton Van Rompaey Assessment of the growth of Urban Heat Islands and their impact on water consumption in Mediterranean climates. (Article soumis à Environments, MDPI Journal) 3) Mohamed Ben-Daoud, Badr El Mahrad, Ismail Elhasnaoui; Aniss Moumen.; Ahmed Sayad; Gabriela Adina Morosanu; Essahlaoui, Samir Eljaafari, Mohamed El bouhadioui, Houssaine El mezouary, Integrated water resources management framework for water management system assessment (a case study) (Article Soumis à Journal Environmental Challenges) 4)Fouad Moudén , Abdelhadi El ouali , Ali Essahlaoui , Mohammed El Hafyani , Youssef Brouzine, Diachronic mapping and evaluation of soil erosion rates using RUSLE in the Bouregreg River Watershed (Morocco) (Article soumis à Earth Syst. Environm.) 5) Abdennabi ALITANE, Ali ESSAHLAOUI, Ann VAN GREINSVEN, Hydrological modelling of the R'Dom watershed (North of Morocco) by using SWAT+ (Article en cours de rédaction) 6) Safae IJLIL, Ali ESSAHLAOUI et Anton VAN ROMPAEY , Evaluation de la vulnérabilité à la pollution de l'aquifère de Ghassoul utilisant les RNA et Machine learning (Article en cours de rédaction)
	P5		0	1	2	2		6	A paper entitled "The value of peri-forests for the recreation of city-dwellers in a developing country " has been submitted to an international peer reviewed journal but not yet accepted for publication. 1- U n Article intitulé "The recreational value of urban forest in Morocco: an application of the travel cost Method in developing world" est en cours de publication de Urban Forestry & Urban Greening Auteurs : comité de thèse de Hajar Lamhamedi. 2- Un article intitulé "Measuring rural sustainability with a composite indicator:an application to the agricultural sector in Fes-Meknes Region" a été soumis à une publication.; auteurs: comité de thèse de Nabil BENAYAD
	P6		0	1	3	7		5	Articles publiés 1. Hicham Mohti, Maria Fernanda Taviano, Francesco Cacciola, Paola Dugo, Luigi Mondello, Abdelhamid Zaid, Emilia Natalizia Miceli. 2019. Silene vulgaris subsp. macrocarpa leaves and roots from Morocco: assessment of the efficiency of extraction techniques and solvents on their antioxidant capacity, brine shrimp toxicity and phenolic characterization. Biosystems - An International Journal Dealing with all Aspects of Plant Biology Official Journal of the Societa Botanica Italiana ISSN: 1126-3504 (Print) 1724-5575 (Online) Journal homepage: https://www.tandfonline.com/loi/itpb20 2. Rachid Akki,* Nada Fath, and Hicham Mohti. 2020. COVID-19: Oxidative Preconditioning as a Potential Therapeutic Approach. ACS Chemical Neuroscience. 2020, 11, 22, 3732-3740 (Review) Publication Date (Web):November 5, 2020DOI: 10.1021/acschemneuro.0c00453 3. Koufan M., Mazri M.A., Essatte A., Moussafir S., Belkoura I., El Rhaffari L., Toufik I. 2020. A novel regeneration through micrografting for Argania spinosa (L.) Skeels, and confirmation of successful rootstock scion union by histological analysis. Plant Cell Tiss Organ Cult. 142, 369–378. 4. S. Fahim, L. El Rhaffari. 2019. Labels of Traditional Food Products from Southeastern Morocco and Consumer Usage. International Journal of Science and Research (IJSR) ISSN: 2319-7064. Volume 8 Issue 9, September 2019 5. M. Bammou - E.D.T. Bouhlali - K. Sellam - L. El-Rhaffari - J. Ibijben - L. Nassiri. 2020. Evaluation of the Antioxidant and Antibacterial Activity of the Aqueous Extract of Leaves and Flowers of Bituminaria bituminosa (L.) Stirt. Phytother. Res. 34(10):3166-3172 6. Koufan M, Mazri MA, Essatte A, Moussafir S, Belkoura I, El Rhaffari L, Toufik I (2020) A novel regeneration system for micrografting for Argania spinosa (L.) Skeels , and confirmation of successful rootstock scion union by histological analysis. Cell Tiss Organ Cult.142: 369–378. Articles soumis 1. Loubna El Fakir, Mohammed Bourhis , Laila Benbacer, Tajelmolk Alaoui, Abdelhamid Zaid. 2020. Phytochemical analysis and repeated dose 60-day oral toxicity assessment of Berberis hispanica in Wistar rats. Articles soumis. Référence: 10.1016/j.phytol.2020.105444
2. Number of articles published in national peer reviewed journals (through the support of the project)	P1		0	1	3	5		4	
	P2		1	1	1	1		2	
	P3		0	0	0	0		2	Nous avons changé d'option pour publier dans les journaux nationaux et nous avons opté pour des publications internationales
	P4		0	1	1	1		3	pour nos publications scientifiques , nous avons opté le choix des journaux internationaux et indexés
	P5		0	0	0	1		2	Un article intitulé "What contributions of the Covid-19 to the quest for a new development model in Morocco? A été publié dans le journal "Mediterranean Journal of Development"
	P6		0	1	1			1	

Education	Project	Baseline	Value Year 1	Value Year 2*	Value Year 3*	Value Year 4*	Value Year 5*	Target value	Accredited? Yes / No	Names of programmes/courses
3.a Number of new or substantially updated Master programmes developed (curriculum) through the support of the project	P1		0	0	0	0		0		
	P2		0	0	1	1		1	YES	The master program (Bioactives, Health and Environment) has been accredited and the first cohort has been recruited (27 students). In the second half of the year, students will select the option they want to follow. 13 students are selected for the Health and Environment specialty.
	P3		0	0	1	1		1	Yes	The Master program (Food Science and Bioproducts) has been opened during the 2019-2020 academic year. A cohort of 20 students were selected
	P4		0	0	1	1		1	YES	Un Master spécialisé en Sciences de l'environnement (MS-S2E) est accrédité. la première promotion a démarré cette année 2020-2021 avec un effectif de 20 étudiants Notre Projet P4 a eu aussi l'accréditation d'une filière de Licence Professionnelle en Géoinformation et modélisation du territoire . cette année un effectif de 24 étudiants sont suivent cette formation professionnelle les membres du projet P4 interviennent aussi dans les autres masters SAB du P3 et BASE d du P2 et P3; certains modules sont en communs entre les 3 masters accrédités
	P5		1	1	1	1		1	yes	The Master program(Sustainable development of territories), developed through the support of the project 5 , has been opened for the second cohort durant the 2018-2019 academic year , and the third cohort durant the 2019-2020 academic year
	P6		0	0	1	1		1	Yes	The master program (Bioactives, Health and Environment) has been accredited and the first cohort has been recruited (27 students). In the second half of the year, students will select the option they want to follow. 14 students will be selected for the Bioactives and Health specialty
3.b Number of students that have effectively participated in the new or substantially updated Master programmes developed (curriculum) through the support of the project	P1		0	0	0	0		0		
		Add rows if needed								
			0	0	27	13		50		Master BASE
	P2									
		Add rows if needed								
	P3		0	0	20	20		50		Master SAB (M1 and M2)
		Add rows if needed								
	P4		0	0	0	44		50		20 étudiants sont inscrits au Master Sciences de l'eau et de l'environnement 24 étudiants sont inscrits à la licence professionnelle en Géoinformation et modélisation du territoire
		Add rows if needed								
	P5		24	48	72	72		96		The number of new students enrolled in the Master's program durant the 2019-2020 academic year is 24 students
		Add rows if needed								
	P6		0	0	27	27		50		Master BASE
		Add rows if needed								
4a. Number of new courses developed through the support of the project	P1		0	0	0	0				
	P2		12	18	18	18		18		18 courses of the Master BASE
	P3		0	18	18	18		18		The 1st Semester: 6 courses
	P4		0	18	18	27		18		les dix huit Modules font partie du programme de la formation master spécialisé en sciences de l'eau et de l'environnement (avec 6 modules pour lessemestres S1, S2 et S3) En plus, cette année, avec l'accréditation de la licence professionnelle, nous avons développé aussi 9 modules pour les 2 semestres d'enseignement (S5 et S6 de la licence pro)
	P5		12	18	18	12		18		The two-year Master's program is structured as follows:-The 1st Semester: 6 courses; the 2nd Semester: 6 courses; 3rd Semester: 6 courses; the fourth Semester is totally dedicated to the preparation of Master's theses.
	P6		0	18	18	18		18		certaines cours en commun avec les 2 masters BASE et SAB ont déjà commencé cette année 2019

4.b Number students that have effectively participated in new courses developed through the support of the project	P1		0	0	0	0				
		Add rows if needed								
	P2		2	3	5	5		5		Doctorants
			0	0	27	27		50		Master
		Add rows if needed								
	P3		0	6	7	8		20		Doctorants
			0	0	20	20		50		Master
		Add rows if needed								
	P4									en 2020 : 20 étudiants du master Sciences de l'eau et de l'environnement et 24 étudiants de la licence professionnelle en géoinformation et modélisation du territoire
			36	50	87	121		100		
			2	3	4	6		6		Doctorants
	P5									
			24	48	72	72		96		
		Add rows if needed								
	P6		4	8	8	8			8	Doctorants
			0	0	27	27			50	Master
		Add rows if needed								

Extension	Project	Baseline	Value Year 1	Value Year 2*	Value Year 3*	Value Year 4*	Value Year 5*	Target value	Comments (if any)
5.a Number of (non-academic) extension/outreach activities realised (presentations, trainings, sensitisation activities) through the support of the project. Target groups can be communities, governments, civil society or private sector)	P1		2	8	16	20		20	Scénarisation et création des MOOCs / Gestion des Ressources Humaines / Rédaction administrative / Culture entrepreneuriale / Démarche Qualité et Norme iso 9001 version 2015-niveau sensibilisation / Gestion et sécurité informatique
	P2		3	11	16	20		20	4 ARSE organisés en 2019 + Initiation d'une enquête auprès des professionnels + Préparation du lancement de la plateforme Mysignal pour les médecins de travail + Formation continue
	P3		3	6	14	12		10	1/ Diagnosis and promotion of the beekeeping sector in the Boulemane region. March 14, 2019. A cause de la situation de la pandémie COVID-19, les membres du projet 3, il y a eu une organisation et participation à plusieurs webinaires durant l'année 2020. Il y a eu aussi des formations en ligne au profit des masterons et doctorants. 2/ Development of rosaceae in mountain areas in Elmers. July 25, 2019. 3/ 1st International Congress on Human Health & Natural Oasis Resources (CI-SHRNO, October 16-18, 2019, FST Errachidia). 4/ Promote the integration of climate change into the local development of oasis areas. In partnership with the Belgian development agency - Enabel, Rabat, December 12, 2019 5/ Training for beekeepers in Boulemane. 1) Co-organisation d'une conférence internationale de Management de l'Environnement, des Ressources Naturelles et de la santé à la faculté des sciences et techniques, 24-25-26 Juin 2020, Errachidia, Maroc. 2) Diagnosis and promotion of the beekeeping sector in the Boulemane region. 2020 3) Promotion and development of the onion sector in the Fès-Meknes region. 2020
	P4		2	5	10	16		25	1) participation à la conférence internationale de Management de l'Environnement, des Ressources Naturelles et de la santé à la faculté des sciences et techniques, 24-25-26 Juin 2020, Errachidia, Maroc. 2) Participation à la Conférence Internationale sur l'Innovation et la science appliquée moderne dans la technologie et la gestion (CIMAS'8- Poitiers France., 3) Participation à la 4th edition of international conference on "IT, Geospatial Technologies and Water Resources in Mediterranean region", March 11 & 12, 2020, ENSAH, Al Hoceima, Morocco. 4) Organisation d'une Formation sur le WEBMAPPING (participation des membres du projet, Doctorants, partenaires et gestionnaire) 5) Mise à jour des documents et des informations sur le Site web du Projet P4 6) Suite au confinement du à la situation de la pandémie COVID-19, les membres du projet et les Doctorants ont participé à plusieurs webinaires et des formations en ligne
	P5		2	6	9	2		15	1- Workshop for regional reporters' capacity building in the field of reporting and advocacy for envirnment and sustainable development issues, November 20-22, 2019. 2-Contribution to setting-up continuous training courses for elected representatives of local authorities in the Fez-Meknes region. 3- Heritage day: the Handcrafts: a tool of territorial sustainable development, Décembre 17, 2019. 1- Webinaire sur les indicateurs du développement durable, le 24 Novembre 2020. 2- Organisation d'une journée Patrimoine (par les étudiants du Master DDT), le 17 décembre 2020 à la FSJES de Meknès.
	P6		9	11	11	13		15	

5.b Number of persons reached through (non-academic) extension/outreach activities realised (presentations, trainings, sensitisation activities) through the support of the project. Target groups can be communities, governments, civil society or private sector)	P1		80	187	230	270		300	
	P2		80	150	220	260		300	ARSE : Professionnels de la santé, Doctorants, professeurs, acteurs associatifs, acteurs locaux / MAROCOVID
	P3		50	112	240	270		250	1) Co-organisation d'une conférence internationale de Management de l'Environnement, des Ressources Naturelles et de la santé à la faculté des sciences et techniques, 24-25-26 Juin 2020, Errachidia, Maroc. 2) Diagnosis and promotion of the beekeeping sector in the Boulemane region. 2020 3) Promotion and development of the onion sector in the Fès-Meknes region. 2020
	P4		5	10	84	110		150	1) Organisation d'un atelier de formation de 4 jours sur le WEBMAPPING et ses applications dans la gestion des ressources en eau 2) Organisation d'un Webinaire sur la Géomatique au service de la gestion des risques (sanitaire, hydrologique, sécheresse, désertification, feu de forêt, dégradation des sols). 3) les 2 projet P3 et P4 ont organisé un webinaire sur la Filière Oignon au Maroc : Patrimoine, Ressource en eau, Stockage et Valorisation.
	P5		100	170	270	370		300	
	P6		14	25	42	62		50	Personnel des cooperatives accompagnées par le Programme CUI, 42 membres de coopératives dont 14 responsables.
6. Number of training module packages developed through the support of the project	P1		1	7	12	15		20	
	P2		2	3	7	7		10	
	P3		0	6	15	15		12	10 modules were delivered as part of the training "quality, environment and food safety" in S1 and S2 in Fès-Meknès region
	P4		4	5	8	10		15	*/ Atelier de formation sur le WEBMAPPING et aussi lors des webinaire*/ Une application en ligne pour le suivi de COVID-19 (ArcG
	P5		0	0	6	7		10	6 continuous training courses have been developed within the framework of partnership with the Regional Council. The target audience is made up of the elected representatives of local and regional authorities in the Fez-Meknes region. Organisation d'un Atelier de formation des élus de la Prefecture de Meknès (11 & 12 Mars 2020) sur la thématique du développement durable.
	P6		1	13	15	25		4	

HRD	Project	Baseline	Name of Master / PhD students supported by the project	Sex	Start (mm/yyyy)	Name of programme (Master) / Title of thesis (PhD)	Graduated (Y/N)?
7. Master students directly (financially) supported by the project, contributing to the objectives of the project	P1		0				
	P2		27 Master students are supported	M&F	09/2019	Master BioACTifs, Santé & Environnement (Master BASE)	N
	P3		20 students will be supported	M&F	09/2019	Master spécialisé en Sciences aliments et bioproduits (SAB)	N
	P4			M&F		l'encadrement scientifique sur le terrain de plusieurs étudiants du Master, LP et LEF de notre département (mission de terrain, mission d'échantillonnage) */ 4 Master spécialisés en Géosciences appliquée du Dpt de Géologie; */ 10 étudiants de la licence professionnelle LP Géoinformation et modélisation du territoire (LPGMT) */ 5 Etudiants de la licence Fondamentale (LEF) */ 6 PhD students malheureusement cette année 2020, suite à la pandémie COVID-19, aucune mobilité à l'étranger n'est réalisée (toutes les mobilités des professeurs et des	Y
			25 étudiants LPGMT, LEF, Master et Doctrat		sept-19		
	P5		Training and research stay at UHasselt for a month: EL Mehdi AMHAOUCHE & Jihane EZZAHER; Training and research stay at UHasselt for a month: EL Amrani Zineb & Sanae Amroufi. En raison de la pandémie Covid-19 le séjour (29 Février-14 Mars 2020) des deux étudiantes Master a été interrompu.	M&F	09/2017	Sustainable Development of Territories	Y
	P6		27 Master students are supported	M&F	09/2019	Master BioACTifs, Santé & Environnement (Master BASE)	N
	Add rows if needed						
	PROG		Target value: Total number of Master students (directly supported by the programme & contributing to the objectives of the programme to graduate by the end of the programme				
8. PhD students directly (financially) supported by the project, contributing to the objectives of the project	P1		Mohammed ALLAOUY	1M	2017	La gouvernance universitaire et le développement régional : quelle Synergie ?	2021
			Noura TOUZRHAR	1F	2017	formation professionnelle continue au	2021
	P2		Imane BERNI	F	Prior to the project	Environmental monitoring of pesticides in groundwater in Meknes	Yes
			Aziza MENOUNI	F	2017	Parental pesticides and Offspring Epigenome study : DNA methylation and oxidative stress	2021
			Noura ZOUINE	F	2018	Pesticides exposure and preterm birth effect of fungicides and essential oils on fungal growth and ochratoxin A production by <i>Aspergillus niger</i> <i>ananas</i>	2022
	P3		Adil LAAZIZ	M	Prior to the project		Yes
			Hasna NAIT MBARK	F	2016	Caractérisation et valorisation d'enzymes ligno-cellulolytiques fongiques isolés des céréales et du bois pourri	2020
			Abdelhakim BOUDBOUD	M	2017	Maîtrise des procédés de séchage et utilisation d'extraits végétaux pour la conservation de fruits séchés (abricots et raisins	2021
			Amal BRAHIMI	F	2017	Caractérisation de la diversité génétique et valorisation des écotypes d'oignon <i>Allium Cepa</i>	2021
			Noussair ELFIHRI	M	2017	Extraction et valorisation des pectines issues des co-produits de l'agro-industrie	2021
			Soukaine ARIF	F	2018	Caractérisation et extraction des molécules d'intérêt issues de l'hydrolyse des co-produits de l'agro-industrie par les enzymes ligno-cellulolytiques fongiques	2022
			Samia BOULAAGINE	F	2018	Optimisation des procédés d'extraction et de valorisation du lycopène à partir des déchets de tomate	2022
			Taoufik BOUDDINE	M	2018	Caractérisation de la qualité du miel du Moyen Atlas et valorisation des produits apicoles	2022
	P4		Mohammed EL HAFYANI	M	2017	Spatio-temporal monitoring of land use and its relationship with water consumption in the Oued Boufekrane basin	2021
			Abdennabi ALITANE	M	2018	Assessing the vulnerability of water resources in Mikkis watershed (Morocco) using SWAT Model	2022
							2022
	P5		Safae IJLIL	F	Janvier 2019	Development of a geoplatform of water res	
			Hajar LAMHAMED	F	2017-2018-2019	Territory and environment : analysis and assessment of the cost of environmental degradation-case of the Moroccan region Fes-Meknes	2021
			Nabil BENAYAD	M	2017-2018-2019	Territorial sustainable development : setting-up a questioning and evaluation tool	2021
			Mohamed NAJIH	M	2017-2018-2019	Cadre juridique et pratique des études d'impact environnemental dans la région Fès-Meknès	2021
			Amale LAAROUCSI	F	2019	Assessing the impact of Energetic Transition of Renewable Energies on Territory development: The case Noor-Quarzazate	2021
	P6		Hicham MOHTI	M	2015	Etude des propriétés protectrices contre le cancer de la peau des extraits d'une plante marocaine	2020
			SALHI Nadia	F	2018	Valorisation des extraits de Plantes Aromatiques et Médicinales en Agroalimentaire et Cosmétique	2022
			BEN YAHYA Hamza	M	2018	Elaboration de préparations actives à base de plantes antiprurigineuses et anti-allergiques	2022
			HALMOUNE Asma	F	2018	Valorisation des Plantes Aromatiques et Médicinales en Agroécologie	2022
			EI FINOU Hamza	M	2019	Etude phytochimique et évaluation des activités biologique d'extraits naturels	2023
			SAIBARI Zine laabidine	M	2018	ETUDE DE L'ASSOCIATION DES PLANTES AROMATIQUES ET MEDICINALES	2022
			RIOUHI Hajar	F	2019/2020	Etude de l'effet protecteur des extraits de plantes contre les irradiations	2023
			Khifl Khaled	M	2020	Etude de la dynamique de population de la cicadelle africaine <i>Jacobiasca lybica</i> entre vignobles et agrumes ainsi sa gestion intégrée	2024
			SLIMANI Amina	F	2016	pollinoses et traitement par les PAm	2021
		BENDIF Loubna	F	2016	Etude de l'activité anticancéreuse des PAM de la région MT	2021	
PROG		Target value: Total number of PhD students (directly supported by the programme & contributing to the objectives of the programme to graduate by the end of the programme					30

5. Evaluation

The evaluation section is organised according to the following:

- Evaluation of the programme level
- Evaluation of each of the 6 projects
- Impacts of the 6 projects at a glance
- Cross-cut analysis of impacts at the individual level
- Cross-cut analysis of impacts at the institutional level
- Cross-cut analysis of observed impacts at society level
- Answers to specific evaluation questions

5.1. Evaluation of the programme level

The programme level has been evaluated independently from the 6 projects. However, some criteria refer to the projects to highlight their complementarity and provide evidence on their contribution to the programme objectives. For this reason, projects have been quoted where relevant, in the scoring grid of the programme level.

The scoring grid is the following:

Excellent	Good	Low	Poor	Non accurate
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The following table summarises the scoring of each criterion at the programme level. N/A means “not applicable”. Blank reflects the absence of criterion.

Relevance	Efficiency	Effectiveness	Impact	Sustainability
Responding to the needs	N/A	Specific Academic Objectives	Academic Impact	Academic Sustainability
Synergy and complementarity with other (Belgian) actors	Delays	Specific Development Objectives	Institutional Impact	Institutional Sustainability
Link with transversal themes of Belgian development cooperation: gender, environment and D4D	Programme management: quality of a programme		Development Impact	Financial Sustainability
Ownership, Demonstration of effective commitment of all partners in the programme				

5.1.1. Relevance

<p>1.1. Responding to needs</p> <p>Score: Good</p>	<ul style="list-style-type: none"> • The programme addresses highly relevant development issues in innovative ways, with the final aim to increase UMI capacity to support Morocco's rural development. • The programme has been designed based on an in-depth analysis of the socio-economic situation of the regional environment of UMI and lessons learned from previous projects and cooperation with local actors. • The programme was designed in a way that all projects are complementary and rely on each other for better results (i.e., enhanced governance, as well as training and research capacities at university level). Common lab infrastructure has been installed, common Master's programmes (and common modules) are in place, and the design of all logical frameworks follow the same structure, so it facilitates interdisciplinary actions, monitoring and collaboration. • There is a clear-cut complementarity between capacity enhancement at programme level (that was meant to permeate and hence enrich the projects' interventions) and at project level (for instance projects like P1 shared similar objectives in terms of managerial capacities). No replication has been observed, rather complementary of action, thanks to the well-designed programme and projects. • Regional actors are involved in all of the projects from the start, and the research findings are directly beneficial for the environment and communities. • The six projects have been designed in coordination with the programme and contribute to achieving the programme's objectives, in addition to their project-specific objectives. UMI staff involved in the six projects are familiar with the programme and know how each project is likely to contribute to the fulfilment of the needs identified through this programme.
<p>1.2. Synergy and complementarity with other (Belgian) actors</p> <p>Score: Good</p>	<ul style="list-style-type: none"> • All IUC projects collaborate on different aspects (Master's programmes with common courses, trainings, use of common lab equipment) and P1 organises trainings for all projects. • P2: there are external collaborations with other regional universities, Min Ajliki, ARES-CCD, APEFE Maroc (for entrepreneurship in the health sector), the Centre Innovation & Transfer Technologique. • P3: other collaborations with VLIR-UOS (SI project), MOUNAF project (Erasmus+) and local cooperatives. • P4: collaborates with regional stakeholders (water management agency, etc.) and with other Flemish stakeholders through a VLIR-UOS project. • P5: there are synergies with ARES, CAPE and APEFE, and regional synergies with local agencies. • P6: mostly collaborates with regional cooperatives. • Synergies are intentionally explored by the local coordinator, with support from other actors depending on the opportunity to foster synergy. Several contacts have been established via the IUC network with new partners and have led to new projects (MOUNAF, CORETEV, regional calls, collaboration with other IUC's and other VLIR-UOS projects in Morocco).
<p>1.3. Transversal Themes (gender, environment and D4D)</p> <p>Score: Good</p>	<p>Gender:</p> <ul style="list-style-type: none"> • Gender balance in participation is taken into account in the different activities (Master's, PhD students, etc.) open to female students and soliciting female teachers, where possible. There is a clear effort to mobilise and elicit female participants (both students and teachers) into the programme activities. • Gender is also a thematic part in P2 (pregnant women). P3 collaborates with female cooperatives and P6 with female cooperatives.

	<p>Environment:</p> <ul style="list-style-type: none"> • Environmental sustainability is taken into account in research activities. • Sustainable development is also inherent in the theme of water management (P4). Environment is a central theme of P5, and in P6, they work with female cooperatives active in biodiversity and ecology.
<p>1.4. Ownership</p> <p>Score: Excellent</p>	<ul style="list-style-type: none"> • The evaluation confirms the programme is highly integrated within the university, at central level and within the faculty. There is a clear understanding by the project leaders and teaching staff involved in each project of the programme's objectives. Projects are not stand-alone components of the IUC cooperation. • The IUC proposed several successful strategies to increase participation of UMI actors and ownership through consultation and by eliciting their contribution to the design and implementation of the activities. As discussed in the project level analysis, there was always a participatory approach to project development. • The main signs of successful ownership have been: 1) the recognition of the work and contribution to UMI objectives of several project activities by the main higher education stakeholders; 2) the integration and institutionalisation of different IUC policies (e.g., research) and services at UMI. • Thus, the evaluation considers that stakeholders demonstrate effective commitment and that the various UMI actors have a real interest in being part of the programme. The initial interest observed at the outset of the programme remains high at the mid-term evaluation and the launch of Phase 2.

5.1.2. Efficiency

<p>2.1. Link between Inputs and Outputs</p> <p>Score: NA</p>	<p>At this stage of the mid-term evaluation, it is acknowledged that it is still too soon to evaluate if the high expenditures in investment are relevant and efficient. Evaluating the efficiency of these costs for the common lab-platform, for example, will be needed. However, so far, the results are satisfying according to the self-assessment report and confirmed by the informants that were met.</p> <p>Likewise for the costs for consultancy (trainings, creation of processes and guides by external experts)</p>
<p>2.2. Delays</p> <p>Score: low</p>	<ul style="list-style-type: none"> • At programme level, the evaluation confirms that a majority of the activities and communication remains locally organised, and only final decisions, results and documents are shared with the Northern coordinators. This makes it difficult for the Northern coordinators to act in a timely manner and to have a global vision of the activity implementation progress. This hampers the Northern coordinator from being more active than they would like. • On the financial side, the evaluation confirms the challenge for the North to keep track of the financial implementation and invoices. There is a missed opportunity for the Northern and the Southern cooperation to address financial discrepancies and overcome delays. Consequently, it remains difficult for the Northern coordinator to assess the relevance of costs, to estimate and use the balances efficiently (high spending pressures in November/December), as well as to consult and inform the Flemish project teams so that they can react accordingly, etc. The communication flow could have been organised better between the Northern and the Southern cooperation. • All in all, despite the delays in executing the activities, the final outputs were not decisively affected.

	<ul style="list-style-type: none"> Some managerial issues could however be tackled for smoother implementation and to continue strengthening mutual trust amongst the Northern and Southern partners.
2.3. Programme Management Score: Good	<ul style="list-style-type: none"> The local coordinator effectively supports the programme and project teams and interacts with them frequently, so that information can be collected seamlessly. At project level, the situation is more contrasted. Information circulates well with the north for P2, P6 and P3, but less with the other projects. Most of the information was shared and discussed between partners, although decisions were mostly made by Moroccan partners, with minimal input by Flemish project leaders who do not always know what activities take place in Morocco and how to play a role. The local IUC coordinator operates in close collaboration with UMI management. The Vice President for Academic Affairs is co-project leader of P1. As from 2019, the project leader of P6 has become Vice President for research, and the local coordinator, Vice President for collaboration. As a result, there is a group of senior decision-makers at UMI who know about the IUC project and how it is managed and who is responsible. In most projects, the planning was well followed, sometimes beyond expectations, which provides very good academic results. The Joint Steering Committee and Flemish Steering Committee are more informative, as many activities in Morocco occur independently, with a very pro-active Moroccan team. Strategic discussions at coordination level were initiated through north/south coordination. Within some projects, there is much collaboration between the project leaders and the steering committees while in others the role of the Northern project team is less clear. The programme procedures were clear and transparent overall but some points led to different interpretations or did not fit in VLIR-UOS vision and guidelines and had to be clarified.

5.1.3. Effectiveness

3.1. Specific Academic Objectives Score: Good	<p>In Phase 1 all projects achieved their respective objectives.</p> <ul style="list-style-type: none"> At the end of the first phase, UMI is strengthened in research, education and service to society thanks to the results of the multidisciplinary research and institutional projects. There is evidence (internal procedure, management manual, new services, etc.) that the programme has supported the development of changes at institutional and academic levels. Both individual (knowledge, skills) and institutional (structures, resources) academic capacities have been reinforced with the IUC.
3.2. Specific Development Objectives Score: Good	<ul style="list-style-type: none"> The programme has contributed to the foreseen specific development objectives, achieving an interesting impact in the Fez-Meknes region, and always considering local and national priorities. There are several examples of how the IUC supported the implementation and developmental changes in the involved stakeholders. The programme enhanced the university's overall brand by contributing positively to its perceived image thereby becoming a key territorial player. The programme brought about substantial change by establishing close ties with key external stakeholders and creating more convergence and synergies between them.

5.1.4. Impact

<p>4.1. Academic Impact</p> <p>Score: Low</p>	<p>The main impacts of the programme by phase at academic level are the following:</p> <ul style="list-style-type: none"> • Improvement of the research capacity of UMI actors. • Improvement of education and research infrastructure on campus. • Increased capacity to obtain more R&D funds, strengthening of UMI internationalisation. • Creation of the clusters of competencies. • Updating and development of ICT facilities and services. • Thus, academic objectives were accomplished. <p>However, the IUC programme also faced some adversities that prevented the expected academic impact at UMI to be generated:</p> <ul style="list-style-type: none"> • The programme had difficulties as the PhD students involved do not receive any salary or scholarships. Consequently, the students take on side jobs and have less time to devote to their research work. • In addition, PhD students lack the incentive to stay involved in the programme, as there are no hiring opportunities at UMI once they complete their thesis.
<p>4.2. Institutional Impact</p> <p>Score: Good</p>	<p>The impacts on the development of educational capacities and curriculum are tangible:</p> <ul style="list-style-type: none"> • Setting up new Master's programmes • Increased capacity building of staff to design and implement innovative curriculum • The strong regional relevance of new programmes confirms the positioning of UMI as a regional entity supporting skills and economic development. <p>Development of relevant and innovative research:</p> <ul style="list-style-type: none"> • With strong involvement of regional actors in research and its application (applied research to benefit SMEs, for instance) • Directly answering local needs and impacting communities (SME working to provide goods and services to the population of the region) • With much interaction and complementarity between projects (so that the six projects and the programme boost the university's capacity) <p>Enhanced ability to attract external funding:</p> <ul style="list-style-type: none"> • Regional funding (local calls for regional development) • International funding (e.g., Erasmus+) • Growing network of UMI with donors (foundations, bilateral cooperation with potential philanthropic organisations, etc.) <p>All the components will be capitalised on within the Competence Clusters to be set up by the IUC programme:</p> <ul style="list-style-type: none"> • In the first phase, the cluster pillars capitalise on existing structures outside the university, for example the CHU Fez, the Agencies and Delegations of the Ministries and other actors (e.g., the agropole's industrials in P3). In the second phase, the Clusters will be transformed into GIPs (Public Interest Groups) under the 08-00 law. • Better guidance for the university, professionalisation of the processes (e.g.: digitalisation).

	<p>The involvement of students in the implementation of the IUC programme, demonstrated the capacity of UMI to mobilise the young forces and rely on their enthusiasm and commitment to generate more impacts than initially foreseen through the programme and the projects. Students have accelerated the impact at institutional level. This is demonstrated through the following examples (the list is long and the most impactful student engagement has been noted below):</p> <ul style="list-style-type: none"> • Activities in coordination with local actors and students: presentations, organisation, workshop facilitation (PhD student from ISPITS nurses who have participated in ASE-CUI workshops and completed their training in Belgium, have organised activities with doctoral students. Their leadership enabled health modules to be introduced into the ISPITS programme. • Joint pitches were organised by the doctoral students on the progress of the projects' doctorates. • The doctoral students contributed to identifying external stakeholders in the P3 and P6 projects. • In one of the ESA workshops the team advocated for the pending SE programme to be resumed. This led to the recent release of a ministerial note to restart the National Health and Environment Plan. <p>Considering this framework and the analysis performed during this exercise, the evaluation concludes that the IUC had a high institutional impact.</p>
<p>4.3. Development Impact</p> <p>Score: Excellent</p>	<ul style="list-style-type: none"> • There is evidence that the programme impacted the populations, the ongoing and future workers, the expansion of skills required by regional employers. These impacts are the results of the dedication to the development of the regional territory that started far before the launch of the IUC programme, and which benefited from this programme's structuration (e.g., through the clusters) and acceleration (e.g., aligning the research capacity of the researchers and PhD students to international quality standards). • More specifically, the programme contributed to improving food security, water management, local income, the stability and competitiveness of the agro-ecosystems and thus the overall livelihood of the local population through identification and remediation of key agronomic, socio-economic and environmental constraints of Morocco. • Research capacity building was undertaken in collaboration with local actors, from the start. Researchers have used local companies, regional institutions and community organisations as their research field, their results have, in turn, increased the performance of these actors. This close collaboration allows UMI to offer relevant and modern service delivery and directly impact regional development. • UMI has also become a key player in the regions' academic environment, instigating common academic initiatives and platforms, with other universities, for regional development. <p>The evaluation considers that the development impact has been overall high.</p>

5.1.5. Sustainability

<p>5.1. Academic Sustainability</p> <p>Score: Good</p>	<ul style="list-style-type: none"> • The VLIR-UMI programme allowed capacity building in terms of research, education and institutional management. However, this capacity needs to be complemented in the future with institutional commitment and funding, in order to ensure its continuation. • The involvement of regional actors, from the very beginning (even during development), makes the programme highly relevant in terms of integration and use by the researchers. The research results are quickly taken over, and education results should have a long-term effect once the Master's programmes have their first graduates.
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	<ul style="list-style-type: none"> Many PhD students in Morocco combine their research with other jobs in the university or elsewhere, which is sometimes a problem for the quality of their research and sustainability of the acquired expertise. An internal policy at UMI is needed to have more professor position openings.
5.2. Institutional Sustainability Score: Low	<ul style="list-style-type: none"> The programme created the main conditions to preserve the results and positive effects already obtained during the IUC, such as the change in the way of thinking related to scientific research by team members and the university community. Moroccan partners and the coordinator are very pro-active and independent, which is very good for the academic progress. However, in daily communication and the division of tasks, this results in the unbalanced distribution of tasks where Moroccan partners organise independently and mostly communicate on final results and decisions. Problems as well as opportunities are not often reported to the Northern coordinator, creating distance and making it difficult to really collaborate in a win-win context. There is therefore room for improvement in terms of communication. In the longer term, there is a slight but existing risk that the relationship with the Northern and Southern partners fade away. Lessons need to be learned and capitalised from the Phase 1 in terms of management of such projects: should UMI cooperate with other partners on international and European projects and even take the leads of the projects, the university will have to reinforce its managerial skills, monitoring and evaluation mechanisms and align its <i>modus operandi</i> with that of the international partners. This is a sine qua non condition to enhance partnerships and hence obtain funds, and start a virtuous circle (enhanced capacity leads to increased reputation and trust), that stimulates new partnerships.
5.3. Financial Sustainability Score: Good	<p>The results of the project will likely be sustained financially because:</p> <ul style="list-style-type: none"> The new Master's programmes will keep running, and funds are secured . The collaboration with local actors is ongoing, increasing their performances, in turn benefiting the university (recruitment of graduates, joint research, delivery of services, consultancy). Several project leaders have attracted other sources of funding, to some extent thanks to the IUC. Lab equipment: there has been huge investments in equipment, but the satisfactory working condition and maintenance of the equipment remains an issue. Some tools require specific training or installation and maintenance, and UMI does not seem to currently have the financial and human resources required. Both partners (North and South) should explore remediation, especially during Phase 2. The financial sustainability of the maintenance costs is an issue, but being already discussed at UMI.

5.2. Evaluation per project

5.2.1. P1. Strengthening UMI governance and management capacities in a quality approach (GOV Project)

The specific objectives of were to improve the administrative, pedagogical and research governance within the UMI and strengthen its partnership, evaluation, information management and communication capacities, as part of a quality approach. In this respect, P1 has a transversal objective that is likely to benefit the five other projects and complement the programme.

The scoring grid is the following:

Excellent	Good	Low	Poor	Non accurate
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Relevance	Efficiency	Effectiveness	Impact	Sustainability	Scientific Quality
Responding to the needs	The intermediate results have been delivered	Specific Academic Objectives	Individual Impact	Academic & Institutional Sustainability	Quality Research of
Synergy and complementarity with other (Belgian) actors	Relationship between objectives, results and means	Specific Development Objectives	Academic & Institutional Impact	Financial Sustainability	Quality Education of
Link with transversal themes of Belgian development cooperation: gender, environment and D4D	Project Management		Development Impact N/A		
Ownership, Demonstration of effective commitment of all partners in the programme					NA

SCIENTIFIC QUALITY

1.1. Quality of Research Score: Good	<ul style="list-style-type: none"> Digital transformation to improve its administrative, academic and research management has enabled the university to be more efficient. Research produced by this project is innovative and relevant for the Moroccan context, as confirmed by the external stakeholders and the teaching staff. Research outputs contributed to national strategies for environmental protection and socio-economic development. Various subjects addressed during this phase are coming to maturity and several works will be capitalised on in the form of publications, patents and communications.
1.2. Quality of Education Score: Good	<p>Main examples of the improvement in quality education are:</p> <ul style="list-style-type: none"> Training of teachers from other projects on scripting online courses Training on the development and evaluation of study courses Training on the evaluation of teaching Training on university pedagogical engineering Sharing education outputs with local stakeholders (companies, farmer associations, etc.) who confirmed that their expectations matched the level of the students/graduates. <p>There is consensus from both Northern and Southern partners that the level of teaching has much improved in terms of steering the programmes, using innovative approaches, self-training the teachers, adapting the learning strategies to the students to modern research and academic training. There</p>

is a still a need at UMI to provide arrangements enabling continuous improvement of teaching skills, including supervision of theses. The IUC programme helped and raised the need and awareness of continuous quality improvement for academic pedagogies.

RELEVANCE

2.1. Responding to needs

Score: Good

- The evaluation confirms that the project made it possible to support the university in the implementation of its strategic development project. This project is designed to use digital technology to help transform UMI overall.
- The project has met UMI's needs in digital transformation to improve its administrative, academic and research management.
- The IUC programme confirmed the analysis of UMI was adequate in terms of managerial skills and governance arrangements. There was a need to ensure UMI's capacity to implement an ambitious strategy to serve the community and train future workers, according to the needs of the region.

2.2. Synergy and Complementary

Score: Good

- There is a deep complementarity/synergy between P1 and other projects of the IUC programme.
- P1 was designed to improve UMI's ability to implement and follow up all training and research activities, as well as services to the communities. This component is the foundation of UMI's global reform to become a developmental driver in the region, along with the socio-economic sectors. Hence, UMI needed support to further enhance the capacity of its administrative, academic and research staff.
The evaluation confirms the interplay among the various training courses organised within this project:
 - Training of teachers from other projects on scripting of online courses
 - Training on the development and evaluation of study courses
 - Training on the evaluation of teaching
 - Training on university pedagogical engineering

2.3. Transversal Themes (gender, environment and D4D)

Score: Low

Limited evidence has been found on the transversal aspects. On gender: Support for women and business start-ups and incubation of their projects at the UMI, several female members of the IUC project.

2.4. Ownership

Score: Good

- This project is the cornerstone of UMI governance and management reforms. The coordinator ensured that the activities were open to a wider range of participants, communicated with the teaching and administrative staff on the relevance of such a project, and included them in the activities (e.g., evaluation of the trainings). The evaluation confirms the high level of adherence of the teaching profession for this project and from the other projects as per the value of P1. There is a good level of ownership.

EFFICIENCY

<p>3.1. The intermediate results have been delivered</p> <p>Score: Excellent</p>	<ul style="list-style-type: none"> • The results as observed, correspond to the resources allotted to the project. Overall cost-efficiency is confirmed. • P1 is UMI's "core business", as a pillar to support the governance and management in administrative, academic, and research changes. UMI therefore positioned a VP in charge of academic affairs as a coordinator, a high-level position, ensuring the consistency with all other projects and the programme. Consequently, P1 benefited from political support and impetus from the UMI's upper management, a thorough coordination among actors and an investment by all those targeted (teachers, PhDs, administrative staff), who wanted to join the activities. Hence, efficiency is high and scored green- excellent.
<p>3.2. Relationship between Objectives, results and means</p> <p>Score: Good</p>	<ul style="list-style-type: none"> • There is no evidence that more resources would generate more results. The evaluation confirms that the project's financial resources are important, however UMI's sharing its resources with the other partners enabled the project and university's objectives to be reached. • The evaluation confirms that, along with the mobilisation of internal resources, the alignment of objectives and resources enabled the university's digitalisation implementation strategy to progress. • The IUC programme brought in expertise that UMI would have been unable to mobilise internally. • There is thus a clear balance between the value of the Northern partners in terms of skills and knowledge brought to UMI, and the capacity of UMI to support the integration of these new skills and knowledge to be diffused across the academic and administrative staff.
<p>3.3. Project Management</p> <p>Score: Low</p>	<ul style="list-style-type: none"> • The evaluation confirms that the working relations between the programme coordinators and the project members were satisfactory. • The team members are involved in the financial, operational and strategic planning of the project, based on the agreements and commitments set out during the project's design. • However, there is still a misconception on managerial practices between UMI and the Northern partners. All acknowledge the need to better share how project implementation is carried out in Morocco, although they are different from Belgian common practices. Despite much communication among partners, there are still cultural gaps in the way activities are steered, organised, and financially implemented and how results are reported to the Northern partner. • Eventually, the project succeeded in its implementation but many meetings and exchanges were needed to understand each other. Progress has been made, as discussions occur more frequently and regularly between the Northern and the Southern partners (monthly meetings, at least).

EFFECTIVENESS

<p>4.1. Specific Academic Objectives</p> <p>Score: Good</p>	<p>Specific academic objectives were achieved, and the quality of the outputs is satisfactory, for example:</p> <ul style="list-style-type: none"> • Capacity building of teachers (15 teachers participating in the scriptwriting training course) • Financing of some equipment for the audio-visual studio set up at the UMI by the IUC project (three studios in total, one financed by VLIR) • Teachers who were trained in scripting online courses were able to create their courses, which are available to students (MOOC, Meet, Zoom)
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	<ul style="list-style-type: none"> • The studio was set up, making it possible to produce other online courses, particularly for the streaming. • Developing Arabic and English learning modules for A1 levels (literacy, communication, grammar). • Setting up a training course on developing and evaluating a study course for course leaders has helped teachers change their approach to developing new courses whereby students are their main concern and the focus is on the skills that students must acquire. • UMI's training platform is now operational • The Centre for Innovation and Technology Transfer's platform quality has been improved. <p>The evaluation confirms there is an array of tools and equipment, enabling the digitalisation of UMI, that are currently used and already show promising results on the way programmes are designed and implemented to be more relevant and interactive. Above all, the evaluation highlights UMI's capacity to guide the various activities so they do not disappear but are used consistently and thus contribute to the overall impact (increased academic teaching for students).</p>
4.2. Specific Development Objectives Score: Good	<p>There are several examples of how P1 supported the implementation and development of changes with and for the involved stakeholders:</p> <ul style="list-style-type: none"> • Setting up an online course recording studio (MOOC). • Creating a virtual visit platform of UMI institutions, highlighting the different laboratories and equipment and enabling future students to become familiar with the university, to better choose their courses. • The IUC project has contributed financially to the acquisition of software, which has helped improve UMI's financial management. • The training courses carried out within the framework of the IUC project enabled the UMI team to set up a new e-Tasjil platform through which pre-registration, registration and re-registration can be managed. • The electronic solution, "E-talib" at the FSJES, to manage applications, editing and delivery of students' administrative documents is available. • The email management platform is operational. <p>UMI and the Northern partners recognised, as the evaluators, that these results are likely to generate the expected impacts, although currently they provide the conditions allowing the impact to occur in the coming years (i.e., better governance, steering and monitoring).</p>

IMPACT	
5.1. Individual Impact Score: Good	<p>The evaluation confirms that there are signs of the following impacts:</p> <ul style="list-style-type: none"> • Teacher capacity building (training on university pedagogy and scripting online courses). • Teachers who have undergone training on scripting online courses have created their courses, which are available to students. • The UMI training platform was created with the financial support through the training courses that helped UMI staff, students and their parents, who visit this platform to obtain information on the training courses offered by UMI and, in particular, training course access, content and outlets. • Carrying out ongoing training courses for UMI staff (skills development, performance assessment, database creation). • Training courses for statistical managers to improve the quality of feedback information to institutions, the presidency and the Ministry.

<p>5.2. Academic and Institutional Impact</p> <p>Score: Good</p>	<p>There is evidence that there are already impacts on training and research governance at UMI.</p> <ul style="list-style-type: none"> • Through training, work and awareness sessions in Morocco and Belgium, UMI staff have taken ownership of and committed to the use of computer science solutions that have improved the effectiveness and efficiency of the services provided by UMI (software for improving financial management, the registration management platform and mail management). • Financing of some equipment for the audio-visual studio set up at the UMI by the IUC programme. • Setting up an online course recording studio (MOOC) enabled the training of a few teachers to create online courses, which subsequently changed the attitude of teachers, leading to a trend among other colleagues. • Online courses are available to a large student body. • A student-centred approach has gained momentum among the teaching community. • The platform bringing together all of UMI's scientific publications has created a dynamic among researchers who are now more inclined to share their research work, whereas previously it was difficult to obtain a list of their publications. • UMI has registered the IUC as a programme that should develop a synergy with ERASMUS. The monitoring of the mobility and capacity building programme shows that UMI is a very dynamic partner (7th place in the ERASMUS programmes and 16 European countries) especially as project coordinators and not just participants. • The evaluation considers that impacts have not yet emerged on quality assurance aspects. This is still nascent at UMI, and informants expressed their need to learn more and implement other quality assurance instruments. The evaluation confirms there is a clear need to reinforce the international quality assurance system at UMI.
<p>5.3. Development Impact (Impact on Society)</p> <p>Score: N/A</p>	<ul style="list-style-type: none"> • Ongoing project with the Drâa-Tafilalet region to promote learning the techniques to create video documents and virtual visits of regional monuments. • As anecdotal, the scoring is rated N/A

SUSTAINABILITY	
<p>6.1. Academic & Institutional Sustainability</p> <p>Score: Low</p>	<ul style="list-style-type: none"> • There are reliable assumptions that the results of the project will be continued and enriched as they are in synergy with the objectives of the university's development project. • The quality of communication within the project and with other projects has been regular with the aim of developing good synergy between the different projects. • It is essential to continue reinforcing the monitoring and evaluation of P1. This project should provide the foundations for UMI governance and management reform, permeating all aspects of the university's activities and in connection with its institutional strategy. Better SMART indicators are needed, as well as a range of KPIs, so that the university is able to better guide its activities in Phase 2 and prepare to assess the impacts on teachers and students. Some tools require more development, such as student destination surveys, feedback surveys from companies who supervise interns and recruit graduates, as well as mechanisms to evaluate teaching. This leads to the conclusion that UMI's internal quality assurance system needs to be reinforced for the next phase. Currently, the university lacks basic monitoring tools and is unable to self-assess the outcomes of

	its activities. There is limited structures (e.g., quality unit), and tools available. The internal quality culture is uneven among the teaching community.
6.2. Financial Sustainability Score: Low	<ul style="list-style-type: none"> The evaluation considers that it might be difficult to sustain continuous teacher professional development as it is costly to support and requires pedagogical engineering and a training course catalogue, as well as a strategy to bring on board as many teachers as possible. So far, UMI might have sufficient resources to invest in quality teaching-specific provisions. At the same time, there is consensus that UMI should continue to improve training quality and update student learning strategies.

5.2.2. P2. Institution and capacity building for training, research and service to society of an Environmental Health Competence Cluster at UMI

The specific objectives of P2 were to strengthen research, training and service capacities at the UMI, capitalising on a Health-Environment Skills Cluster.

The scoring grid is the following:

Excellent	Good	Low	Poor	Non accurate
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Relevance	Efficiency	Effectiveness	Impact	Sustainability	Scientific Quality
Responding to the needs	The intermediate results have been delivered	Specific Academic Objectives	Individual Impact	Academic & Institutional Sustainability	Quality of Research
Synergy and complementarity with other (Belgian) actors	Relationship between objectives, results and means	Specific Development Objectives	Academic & Institutional Impact	Financial Sustainability	Quality of Education
Link with transversal themes of Belgian development cooperation: gender, environment and D4D	Project Management		Development Impact		
Ownership, Demonstration of effective commitment of all partners in the programme		N/A	N/A	N/A	N/A

SCIENTIFIC QUALITY	
1.1. Quality of Research Score: Good	<ul style="list-style-type: none"> • The research produced by this project is innovative and relevant for the Moroccan context. • The project has contributed to the publication of one scientific article in international journals. This is a good start for the team involved, and an impetus to progress further in terms of scientific quality. • The involvement of the main stakeholders (doctors, hospitals, government, etc.) through P2 has strengthened the team's technical skills in response to local health needs and challenges. • Research outputs are likely to contribute to national strategies for health and environmental protection, as well as socio-economic development. UMI capitalised on this project for national and regional health and environment strategies. • However, the functioning and likely extension of the laboratory remains a challenge due to the lack of technical expertise and human resources to ensure satisfactory maintenance. Too few academics are able to maintain the laboratory hence rendering sustainability precarious and could impact the quality of research in the future, should the laboratory lose its capacity to produce high quality scientific results.
1.2. Quality of Education Score: Good	<p>P2 indicates satisfactory quality of education, in the field of health and environment. Examples are:</p> <ul style="list-style-type: none"> • A Master's degree in Health-Environment has been accredited • Two theses defended; three theses launched • Exchanges of high-level expertise between Moroccan and Belgian partners • Start of fieldwork and data collection, compliant with international quality standards • Nine regional workshops in health and environment (number attained in third year) aiming to establish a regular meeting for local actors, as well as health and environment professionals to discuss issues at the regional level.

Relevance	
2.1. Responding to needs Score: Good	<ul style="list-style-type: none"> • The project is the result of the needs analysis for the university to improve its research capacity in the health and environment fields. The project was designed to respond to the needs of local stakeholders (socio-economic actors who are facing these issues due to their activity and/or are operating in this sector). At the same time, the project should also help the national and regional authorities to better address the health and environmental issues and their correlation. The project had thus multiple objectives, with three main targets: academics, socio-economic actors and public authorities. The first condition was to weigh the capacity of research through the quality of the scientific work, and the quality of equipment. • The subject of health and environment is politically sensitive in Morocco. Through P2, there is scientific evidence on the correlation and steps that could be taken to preserve nature and protect the population. P2 enables the exploration for alternatives for decision-makers. In that sense, P2 is relevant as a response to needs, often implicit or hidden, to address these issues more extensively and with more transparency. • The evaluation confirms the consistency of the project's various components, that are anchored in a set of strategic documents, indicating high relevance: • The priority areas of cooperation with Morocco identified in the national

	strategy of VLIR-UOS: national programmes and priorities; regional challenges including the Fez-Meknes Regional Development Plan, UMI's development plan.
2.2. Synergy and Complementary Score: Good	<p>The evaluation confirms the extent to which the coordinators of P2 sought to explore any possible synergy within the IUC programme along with other projects, supported by other donors (Belgian or national actors). The self-assessment report confirms a vast array of complementarity and synergy, that were not ad hoc but specifically sought after at the outset of the P2 (during the diagnosis phase of the IUC programme). For instance:</p> <ul style="list-style-type: none"> • The formulation laboratory (P2, P3 and P6) was visited by the actors of the Min Ajliki 2.0 programme, which welcomes project leaders to be trained in developing new products from aromatic and medicinal plants. • P2 has actually enhanced the synergies that exist with the ARES SEBIO Project at UMI (service to society, work with local actors) and with APEFE-Morocco (digital entrepreneurship in the field of health). • P2 has undertaken a programme with UHasselt to promote student entrepreneurship. • The post-graduate Master BASE course (Bioactives, Health and Environment) has been developed by the two CUI projects, P2 and P6, with 2 specialisation courses. It has been validated by UMI authorities and accredited by ANEAQ and the Ministry of the Environment. It was first launched in 2019. • The PRSE relaunched in 2019 is a field that promotes synergies between the P2 and health actors in the Fez-Meknes region. <p>The evaluation highlights the satisfactory coordination among multiple P2 actors who are connected to these different projects (joint meetings, sharing information, stock taking made by the local coordinator on the various projects connected to P2, etc).</p>
2.3. Transversal Themes (gender, environment and D4D) Score: Good	<p>Gender:</p> <ul style="list-style-type: none"> • The evaluation confirms that P2 promoted gender equality through the involvement of women and the activities undertaken: 80% of the doctoral students are women. There are some gender-specific research themes, such as the theme of "Pregnant women's health" and its effect on the child, which has become an important focus of the project. • The workshops organised within the project have a very high participation of women and young people. • The Health-Environment Master's degree includes 21 women and six men, i.e., gender mainstreaming with a female participation of more than 50% (initially planned for the project). • The evaluation, however, highlights that health and environment is internationally studied by women and UMI has not made specific efforts to boost female participation. Gender is addressed here through female involvement, and not necessarily on the question of gender itself. <p>Environment:</p> <ul style="list-style-type: none"> • The project intrinsically deals with environmental health: all its components and activities deal with health and the environment interdependently. It aims to contribute directly to reducing the environmental impact of chemical inputs through the results of the research programme on the environmental and health risks of pesticides and the planned service to societal actions in favour of local actors. Likewise, the training, communication and consultation workshops generated interest in the environmental aspect of P2. • The evaluation notes that several activities undertaken under P2 have raised awareness for a healthy environment among farmers, pregnant women and professionals involved in the field. The topic is therefore not only of interest for the academics involved, but also for all the communities. The ARSE are not only a platform for exchange between professionals but also a means of popularizing research results

2.4. Ownership Score: Good	<ul style="list-style-type: none"> • The evaluation confirms the P2 team's capacity to be fully engaged in the project throughout its implementation. It, however, doubts the capacity to ensure maintenance and continuous reinforcement of training for consultation and participation. At IUC level, this question might be too early to address, but there is a clear need to further engage the P2's team to monitor the remaining activities, update the equipment and maintain high quality premises and, above all, ensure that they are functional. The evaluation points out the efforts made by the Northern and Southern coordinators to further engage the academic community, with some results (interest raised on the follow up of the P2, the acquisition of new equipment and its maintenance). As a result, the scoring is considered good.
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EFFICIENCY	
3.1. The intermediate results have been delivered Score: Good	<p>The intermediate results have been achieved overall. Some examples are:</p> <ul style="list-style-type: none"> • The consortium of partner institutions in Fez and Meknes with their complementary expertise. • The partnerships and participation platforms have been developed (ARSE established). • The potential for training, research and expertise is now strengthened in Meknes and Fez as a direct result of the project. • Young researchers have been trained over the project's five years (five undergraduate theses). • Field studies and sampling campaigns have been conducted: Actions with farmers and their families for blood samples, drinking water samples. PhD students are involved in bio-monitoring activities. The results are now published. • The Master's programme is operational, with 13 students in "Parcours 1" and 14 students in "Parcours 2". They have been selected out of around 1000 applicants, which indicates the regional and national attractiveness of the Master's programme.
3.2. Relationship between Objectives, results and means Score: Good	<p>There is a good correlation between the expected results and the means mobilised in the P2 implementation (from Northern and Southern partners).</p>
3.3. Project Management Score: Good	<ul style="list-style-type: none"> • All team members are actively involved in various aspects of the project (financial, operational and strategic). They are invited to be involved in supervision activities (theses, Master's degrees), in scientific events, and in pedagogical activities. • Team members have been sufficiently involved in the activities, especially in the phases where the UMI was looking for external partners and needed to collect organisational and strategic information. Team members also contributed greatly to the ARSE workshops, particularly on bio-monitoring, for instance they helped find speakers, experts and partners for the workshop. Team members were even involved in the acquisition of the equipment (selection, installation). • The evaluation confirms that the experience of the local project leader (30 years of cooperation projects with international and local partners) has helped establish constructive cooperation working methods among the P2

team as well as with the Belgian partner.

- The P2 team however highlighted the challenges in coping with UMI's internal regulations, which complicates the project's management. Clearly, the P2 team and Northern partners called for more stability in the decision-making process and administrative regulations, which tend to change fast and unexpectedly. Despite such complaints, the project managed to produce expected outcomes and thus has been rated good.

EFFECTIVENESS

4.1. Specific Academic Objectives

Score: Good

The evaluation confirms that the level of achievement of expected outputs and outcomes is high regarding the academic objectives. The main results are:

- Support an existing research centre at the university by purchasing scientific equipment and training young people in laboratory techniques (chromatography, spectrophotometry, etc.).
- Support of two doctoral theses through local financial and technical support and internships in Belgium in order to finalise their doctoral research and defend their theses.
- Support of three doctoral theses through internships in Belgium and co-supervision in order to refine the field work protocol and master the tools for biomonitoring analysis and exposure assessment.
- Accreditation of a Master's degree in Health and Environment by the university's authorities and by the supervising ministry/ANEAQ (National Agency for Evaluation and Quality Assurance).

4.2. Specific Development Objectives

Score: Good

- The project has been designed to strengthen skills and resources through doctoral programmes: material resources invested locally, training for doctoral students, internships carried out to date, documentation, participation in international and national events, making available to doctoral students, co-supervision, integration of research work into professional structures (Hospitals in Meknes, Health Delegation, Anti-poison Centre, etc.). The project was designed as part of an ecosystem on health and environment, with multiple actors, through which UMI could play a key role in producing high quality and evidence-based knowledge on these topics.
- There are several examples of how P2 supported the implementation and/or development of changes for the involved stakeholders:
 - Strengthened capacities of the local team for a better research management at the regional level (support for the development of the PaPOE study, information on the basics of bioethics, environmental monitoring of water, dermal exposure, training in scientific writing, etc.).
 - Carried out field surveys and sampling campaigns.
 - Information regarding the project at regional and national levels by organising communication and/or thematic workshops, involving both university and non-university actors (workshops for the development of guides).
 - Platform for exchange (regional health and environment workshops) to establish a regular meeting point for local actors and professionals in the health and environment sector to discuss regional issues.
 - Launched the work on developing the PRSE/PPSE with local regional actors.

IMPACT

5.1. Individual Impact

Score: Good

- The evaluation confirms there has been signs of impact: Some young researchers (Master's and PhD students) have the ability and the means to improve their research capacity. Currently there a Master, a lab and equipment that were missing prior to P2. The change agent was P2, without which the situation would have remained with some researchers operating in the health sector, with limited outreach and opportunity to serve the public, and the incapacity to build up a critical mass of researchers in these fields.
- P2 encouraged PhD and Master's degree students to reinforce their capacities through complementary training (soft skills, English, etc.), especially remotely: implementing an evaluation tool (an online questionnaire) prior to each training course. This skills assessment is comparable to the assessments of curricular training modules, also used to train with PhD students.
- P2 provided a manual of "Guidelines for preparing a thesis" and encouraged them to write detailed research protocols.
- The doctoral students and teacher-researchers of the P2 project team developed their abilities to gain acceptance (with scholarships) at international congresses and to communicate their research result, formulate multidisciplinary and multi-actor projects and mobilise partnerships.

5.2. Academic and Institutional Impact

Score: Good

- The evaluation confirms there has been signs of impact:
- Tangible consideration of the opinion of UMI's Biomedical Research Ethics Committee (CERB). CERB was created as part of P2 to monitor the rights of those involved in medical studies. It is made up of statisticians, hospital doctors, lawyers, sociologists, representatives of the Ministry and the Higher Council of Ulemas (Religious Sciences).
 - Communication with local health and environment actors and to participate in territorial programmes in these fields (Regional Health-Environment Plan, Health-Environment Workshops, Sentinel Platform for the identification of environmental risks, MAROCOVID Study).
 - Reinforcement of the membership of other teacher-researchers and other disciplines through accreditation and the launch of the BASE Master's degree.
 - Development of transversal links between training, research and service to society and the adoption by teachers, doctoral students and partners of approaches that promote synergies between these three pillars of the IUC programme of VLIR-UOS. e.g., the subject 'Impact of pesticides on health' taught at Master's level, which is also a subject of doctoral student research. Ten environmental health workshops have been organised.
 - The evaluation points out, however, that the quality of the research, in terms of publications especially, still needs improvement. Individuals have gained skills, but there is no critical mass in the health and environment sectors at UMI. Currently, there is an inversed pyramid with more teacher-researchers at the top and a narrow basis of PhDs (who should become UMI's research potential). The scoring is therefore good, as impacts are observed, but this does not mean that the impacts have been achieved in terms of academics.

5.3. Development Impact (Impact on Society)

- The evaluation values the ability of the P2 team to position itself at the national level in terms of research on aspects related to environmental health. Evidence indicated that team members are regularly invited to present research results at regional and international events (International Congress of Toxicology in Rabat, Taroudant Scientific Days in Taroudant, African Health Days in Rabat, etc.).
- Conversely, UMI has gained greater credibility i research networks. The P2

Score: Good

team invited national experts and mobilised health professionals from different backgrounds (Professional Association of Occupational Doctors, delegations from the Ministry of Health, environmental protection associations, farmers' group, etc.), more than before the project was conducted. Clearly, P2 reinforced the legitimacy of the P2's teams and thus its capacity to attract prestigious speakers and experts to their events and activities.

- In addition, P2 offered the opportunity to strengthen links that were already existing with local health and environmental actors in regional programmes and activities. Today, UMI is recognised as a unique player in research and able to contribute to, or join, for instance: the Regional Health-Environment Plan (PRSE), Health-Environment workshops, Sentinel platform for the identification of environmental risks, MAROCOVID Programme or CERB: committee members. This has been made possible also because the local health and environment players in the Fez-Meknes region have been involved in programmes initiated by the P2 project, specifically the Master BASE by participating in teaching and supervision. P2 has been a win-win attempt to co-build an institutional and developmental response, as well as a reflexion platform for health and environmental issues. This platform will be essential to putting the results of research at the service of stakeholders and informing decision-making tools developed within the P2 framework.
- As stated earlier, the P2 was initially designed as a response to the needs of national and local authorities and to address their difficulties in tackling the sensitive issues with regards to health and environment. Many political and economic issues are still at stake for many stakeholders. Today, these stakeholders are able to communicate with authorities, thanks to the mutual engagement of the P2 team with the vast range of players (experts, decision-makers, companies, as well as civil society). The following example demonstrates the level of commitment of national authorities: The Delegation of the Ministry of Health (through the ARSE) is now able to participate in the support of regional public policies in Health-Environment. The ministerial note published on 1 April 2019, inviting local health actors to implement regional and prefectural health-environment plans, provided a favourable framework for working with our partners to achieve this result.
- The evaluation shares the interest of regional stakeholders in the first products/results of P2 (drafting of composite indicators, assessment of the costs of environmental degradation, essential and continuous training, awareness-raising activities).

SUSTAINABILITY

6.1. Academic & Institutional Sustainability

Score: Good

The evaluation points out the willingness of the P2 team to build on the observed results, and specifically on:

- A local interdisciplinary team mobilised around the research and service to society components of the project, made up of permanent staff from public entities and doctoral students. These young researchers, through their connections to the institutional structures at UMI, will continue to intervene after the project's termination.
- The links with local actors (doctors, nurses, government, hospitals) are likely to contribute to strengthening the technical skills of this team in response to local needs and challenges. There are not yet institutional public actors, which should be part of the cluster.
- The project is also based on physically and operationally established structures through which the UMI takes ownership of its project and develops links with the partners: Master BASE, Health-Environment research team, Laboratoire BASE; ARSE workshops, etc.

	<ul style="list-style-type: none"> • The foreseen creation of a critical mass of researchers and actors set up around the project will most likely contribute to reinforce the sustainability of best practices and effects generated by the project. • The enhanced quality of research should open new connections and reinforce the scientific networks with whom UMI is already associated. • There is an expected demand for continuous training from national/regional authorities and employers for their staff. This constitutes a high potential for the P2 team and UMI to consider (albeit to be materialised, which might not be the case for several years). It is important for the P2 team to continue serving on networks and in reflexion platforms, and to join health and environmental sectors and prepare to provide the appropriate answer (studies on demand, lifelong learning programmes, etc.) • The evaluation considers these assumptions as valid enough to ensure the realistic sustainability of P2. There is a solid connection between the local and national players and all require scientific work to progress further on health and environment that will attract interest in the near future, as well as pressure from the civil society and the unexpected factors such as the pandemic, which require a regional response to overcome the crisis. • Nevertheless, building a critical mass of researchers of high quality requires time. Phase 1 allowed the right conditions to be set to progress further, and much remains to be done: more PhDs, better skilled, able to publish in international journals, and a fully operational lab. Phase 2 should be seen as a five-year period to consolidate assets, make the lab fully operational, recruit PhDs for tenured positions, strengthen links with national/regional public authorities and advocate for health and environment causes, (e.g., via engagement with civil society). There is little awareness raising and the possibility to offer continuous training might not be feasible in the coming years, but perhaps later. As a result, it is highly recommended to identify the actions of Phase 2 that will consolidate the outputs and outcomes of Phase 1 and avoid disappearance or prevent over-ambitious activities. A Step-by-step approach would be recommended. • To illustrate with the Deming circle, the P2 focused much on "Plan-Do" in Phase 1. Focusing on "Check-Act" in Phase 2 is essential.
<p>6.2. Financial Sustainability</p> <p>Score: Good</p>	<ul style="list-style-type: none"> • The evaluation highlights the efforts of P2 to diversify the sources and ensure financial stability of the activities, especially the Master's programme. • The financial viability of the entire project would most likely improve by the end of the project and in parallel with the structuring and development of the "Health-Environment skills cluster", responding to the potential demands of public and private health and environment stakeholders (training, studies, service provision, public-private partnerships). The evaluation therefore recommends setting up the cluster during Phase 2, in order to clarify the responsibilities among the various partners (and UMI is unique in terms of expertise and skills to provide). Thus, it would be recommended to identify who could financially contribute and how, over the longer term. It is key to mobilise the P2 team and other academics and support staff, to estimate the running costs of the cluster.

5.2.3. P3. Adaptation of the training offer and reinforcement of the research and community service capacities of a cluster of competencies in agro-food and food safety at the UMI (CC- AGRO)

P6 had as specific objectives to strengthen training, research & development capacities of a skills Cluster in agri-food and food safety.

The scoring grid is the following:

Excellent	Good	Low	Poor	Non accurate
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Relevance	Efficiency	Effectiveness	Impact	Sustainability	Scientific Quality
Responding to the needs	The intermediate results have been delivered	Specific Academic Objectives	Individual Impact	Academic & Institutional Sustainability	Quality of Research
Synergy and complementarity with other (Belgian) actors	Relationship between objectives, results and means	Specific Development Objectives	Academic & Institutional Impact	Financial Sustainability	Quality of Education
Link with transversal themes of Belgian development cooperation: gender, environment and D4D	Project Management		Development Impact		
Ownership, Demonstration of effective commitment of all partners in the programme					

SCIENTIFIC QUALITY

1.1. Quality of Research

Score: Good

- The Moroccan PhD students were able to adapt to the research methods in Belgium. After an adaptation period, they transformed after the internships in Belgian universities. The internships had a definite impact on the quality of their research.
- P3 shows that research outputs contributed to national strategies for environmental protection and socio-economic development.
- The evaluation points out that there are still improvements to be made in terms of compliance with the highest international quality standards. Various subjects addressed during this phase are coming to maturity and several works remain to be capitalised on in the form of publications, patents and communications.

1.2. Quality of Education

Score: Good

- There is evidence that the quality of education for PhDs has improved substantially, and that P3 contributed to this change, as acknowledged by the teachers. One of the most important aspects of P3 for its team (coordinators, teachers and students who were met) is the support for structuring PhD student research activities. The teachers and researchers at UGhent brought specific skills for supervising doctoral students and developing agri-food sectors. Therefore, P3 helped reinforce the volume and the quality of doctoral student training through scientific research.
- The Master's programme is considered as one of the most relevant to the sector, in the whole region and beyond. Since its introduction, the Master's programme in Food and Bio-product Sciences has received 750 applications for its first term.
- The evaluation also notes the quality of training offered to the communities, in addition to that of students. Continuous training and support for socio-economic actors (improving the administrative and financial management of cooperatives), technical training to ensure compliance with norms and standards, support in obtaining approvals and labels to market products, support in creating new products, etc.
- The quality of education is furthermore confirmed by local stakeholders (companies, associations, etc.), which either recruit graduates or supervise internships, or are involved in events within the scope of P3.

RELEVANCE

2.1. Responding to needs

Score: Excellent

- The consultation with socio-economic entities was carried out with a view to regional development and taking into account the regional agricultural and agro-industrial vocation. The development of the agricultural and agro-industrial sector is a regional and national priority, the Meknes region is home to the agropole and the Meknes International Agricultural Show (SIAM). The region is home to agro-industry leaders who release by-products that are not valued in marketable products. They are also concerned about the impact of waste on the environment (example of waste from olive oil crushing, pectin and its innovative use for yogurt, or recycling of the red pigment in greenhouse tomatoes). Other identification and valuation research for agricultural sectors such as onions has been carried out successfully. The needs are being fulfilled in a concrete manner. For example there is now a booklet on proper onion storage practices, after recommending the most rot resistant variety to farmers.
- The evaluation underlines the analytical quality of the sector's needs, and the cooperation with a multitude of stakeholders that helped design P3 comply with national priorities and regional characteristics.

	<ul style="list-style-type: none"> • P3 has a transversal vocation through the articulation of three areas (research, training and service to society). Such consistency has allowed the transfer of knowledge to fruit and vegetable associations, cooperatives and federations whose objective is to reduce territorial and social disparities in the Fez-Meknes region. • Several objectives have been achieved in relation to the actions undertaken since the start of the project, concerning several important agro-food sectors in the Fez-Meknes region (arboriculture sector, onion sector, beekeeping sector and the sector for the use of agroindustry by-products).
<p>2.2. Synergy and Complementary</p> <p>Score: Good</p>	<ul style="list-style-type: none"> • P3 was designed so that the activities could be implemented smoothly for students and more widely for the society at large. For instance, P3 aimed to strengthen UMI's governance and its capacity to bring out local training, research, service to society initiatives. In the socio-economic sector, P3 collaborated with the Professional Federation of Fruit Drying Units, the Burginia Agricultural Cooperative, the Regional Agrinova Association and the cluster of competences. • The P3 team-designed mind mapping illustrated how the projects enrich P3 and lead achieving the expected results. • The evaluation notes also the close cooperation with team members of IUC P2, P4, P5 and P6 as part of the teaching team of the Master's degree in "Food and Bio-product Sciences". The members of the P3 and P6 project teams are working together to assess the antioxidant potential of aromatic plant extracts in the conservation and preservation of foods. • The P3 team has continuously sought international cooperation with a view to increasing the quality of research and education, tapping into the available resources, including on the African continent. For instance, the team received a PhD student with a eight month grant within the framework of the Mounaf project (Intra-Africa). The P3 team has also been supporting international student exchange programmes between UGhent and UMI. In terms of the interest in agro-industry and food security, for the UMI's external university partners, there is a Master's degree in Fez as part of the IUC, which is complementary to the Master's programme at UMI. This allows for even more synergy. • The synergy between the projects P3 and SI-VLIR-UOS, the pooling of funds and resources, the sharing and dissemination of knowledge are considered by UMI to be the pillars of skills development and university expertise to serve society. As an illustration, P3 submitted and was awarded the project "South Initiatives, SI-VLIR-UOS" in collaboration with Ghent University, which falls within the framework of the management and rational use of agricultural pesticides in the Fez-Meknes region.
<p>2.3. Transversal Themes (gender, environment and D4D)</p> <p>Score: Good</p>	<p>Gender: the self-assessment report and interviews confirmed the gender balance in terms of participation:</p> <ul style="list-style-type: none"> • Coaching of women's beekeeping cooperatives, which are also involved in the organisation of P3 activities in relation to the beekeeping sector. • Five out of nine doctoral students registered for their thesis in the framework of P3 are women. • For the initial training for the specialised Master's degree in "Food Sciences and Bio-products", out of the 20 students selected, 11 men and nine women were enrolled. The same applies to continuing education (Bac+5). • Within the framework of the Mounaf project (Intra-Africa), two female candidates were selected for a thesis and one female doctoral student (from Benin) did her eight-month internship in the cluster of competences. • However, there is no tangible evidence reflecting the specific commitment of UMI and the P3 team, in particular, to change the gender approach to the sector. Women are included in P3 activities since they are present in the cooperatives or interested in PhD studies in the sector, but they are not

	<p>specifically targeted.</p> <p>Environment: P3 deals with environmental issues: crops, protection of natural resources, production of agri-food ecosystem. The international and European standards for quality, security and preservation of the environment are fully present in the Master's programme. The P3 team constantly refers to current knowledge of sanitary crises and/or ecological catastrophes that occur in the world, to draw lessons and adapt their training and how they teach PhD students and conduct research which focus on biological science and integrates other aspects.</p>
<p>2.4. Ownership</p> <p>Score: Excellent</p>	<ul style="list-style-type: none"> • The evaluation confirms the excellent level of ownership, the high and sustained motivation of the team and the willingness to change a sector for the good of the industry and society. There is a clear awareness of the role of science in the region's development, compliant with the necessity to create value and at the same time to preserve the natural resources and protect people's health. • All team members were actively involved in the financial, operational and strategic planning of the project, based on a common vision.

EFFICIENCY	
<p>3.1. The intermediate results have been delivered</p> <p>Score: Good</p>	<ul style="list-style-type: none"> • The evaluation confirms the good level of activity achievement. The intermediate results were achieved at the time of the mid-term evaluation. Some examples are: • A specialised Master's degree in "Food Sciences and Bio-products" has been accredited with about twenty students. • Continuing education, Bac+5 in "Quality, environment and food safety" and the enrolment of two student cohorts. • The P3 team also demonstrated key scientific achievements that are likely to have an impact on the food industry and security, such as: <ul style="list-style-type: none"> ○ The physico-chemical and pollen analyses undertaken within the cluster, allowed a selection of samples of monofloral honeys from cooperatives in the Boulemane region. ○ Molecular identification of onion ecotypes and selection of varieties resistant to rot and conservation. ○ The control of drying processes and the reduction, or even elimination, of sulphur derivatives for the fixation of the colour orange.
<p>3.2. Relationship between Objectives, results and means</p> <p>Score: Good</p>	<ul style="list-style-type: none"> • The evaluation confirms the adequate interrelation between the objectives and the results. The correlation between the means (budget, human resources from the Northern and Southern partners) and the observed inputs is demonstrated by the P3 team. The evaluation also confirms the managerial capacity of the P3 team to steer the project with a vast number of activities and stakeholders to deal with: create platforms and value chains, the travel and international mobility of researchers, participate in congresses at national and international level, training and support for cooperatives. • The cost-advantage analysis done with the P3 team confirmed the value for money of the project, specifically the results for the food chains in the Fez-Meknes region, such as the arboriculture, the onion, and the beekeeping sectors as well as the sectors for the valorisation of co-products of the agro-industry.

<p>3.3. Project Management</p> <p>Score: Good</p>	<ul style="list-style-type: none"> • The evaluation confirms that the P3 team has been autonomous enough in the management of the project. They have actively been involved in: <ul style="list-style-type: none"> ○ the purchase of materials, chemicals and consumables during each annual budget planning. ○ the planning of doctoral students' internships and the missions of research professors in Belgium. ○ the strategic operations of project execution and in the selection of students and Master's degrees. • After some difficulties from the Northern partners, the Northern coordinator was replaced and the working relations with the Programme Support Unit and the coordinators have improved greatly. The responsiveness of VLIR-UOS has been mentioned as highly positive by the P3 team, as a key asset of the IUC cooperation.
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EFFECTIVENESS	
<p>4.1. Specific Academic Objectives</p> <p>Score: Good</p>	<ul style="list-style-type: none"> • The evaluation notes the satisfaction of the P3 team to use performance indicators in relation to the objectives set (articles, communications, thesis defence, distinction and excellence awards, etc.). This was new to them and they adopted the KPIs to better steer the project and track the emergence of the results, specifically for the academic aspect. • There is evidence of the effectiveness of P3 in terms of the structure of research activities, e.g.: <ul style="list-style-type: none"> ○ Research themes were refined and became more focused on the real needs of the stakeholders at local and regional levels: industrialists, cooperatives, competent state authorities. ○ A clearer vision on the research objectives for each focus and a management approach for each of them. ○ The introduction in the P3 team of a results-based approach. ○ An increased awareness of the importance of communication on the results obtained in a scientific valorisation process in different forms: communications in scientific national and international congresses with dimensions, transfer of knowledge and skills to businesses. • Communication had been seen as anecdotal, or reserved only for top-notch articles authored by reputed researchers. P3 raised the attention to the teachers and PHD students on the need to publish results, in accordance with international standards, as it serves the reputation of the Master's programme, the research undertaken at UMI and ultimately reinforces relations with the economic sector.
<p>4.2. Specific Development Objectives</p> <p>Score: Good</p>	<ul style="list-style-type: none"> • Initial cooperation with the economic sector was extended during the implementation of P3. UMI is considered as a key player in the food-industry and engagement in food security (with increased attention from the regional and national regulatory bodies). The development of socio-economic partnerships was initially present and has greatly expanded as a result of the activities undertaken. • The evaluation also notes a strengthened spirit of cooperation between the research teams of UMI (P3 and other project teams engaged in P3 activities), Sidi Mohamed Ben Abdellah University (USMBA) in Fez and the Northern partner. There is a triangle of institutions that are ready to cooperate further and be part of the ecosystem around the agriculture and food-industry (the value chain from rough product to its valorisation).

IMPACT

5.1. Individual Impact

Score: Good

- Thanks to P3, PhDs and post doc students have been trained in Belgium (training courses, scholarships and post doc research stays), combining theoretical and practical learning in research, teaching and student professional practices.
- The cooperation between the research teams of UMI, USMBA and the Northern partner constitutes a favourable learning environment according to the PhD students, who can then find wider opportunities to conduct their research. Likewise, teachers mention the richness provided by the intertwined relations between the various project teams and the synergies on transversal areas (gender, digitalisation, environment and opening up to the socio-professional environment). This offers the possibility to explore new cooperation within UMI and with new academic and socio-economic partners more systematically.

5.2. Academic and Institutional Impact

Score: Good

- The structuring of the unit into an "agri-food and food safety" cluster of competences has led to improved planning, coordination and communication from UMI to the region (socio-economic and academic partners).
- The distribution of roles and responsibilities within the sector has gained clarity: research themes are better focused, the shared and clear vision on the research objectives, there is also an increased awareness among the P3 team of the importance of communicating the achieved results.
- The transfer of knowledge and skills to local societies is considered a role of the UMI.. This has been confirmed by UMI top management, and the desire to further structure the services supporting cooperation and capitalisation on research for the communities and make it available for any researcher at UMI.
- New cooperation projects, such as with USMBA in 2019, is a sign of the enhanced capacity of UMI to be part of research projects with other institutions, because it has gained expertise and a reputation. P3 strongly contributed to this change.

5.3. Development Impact (Impact on Society)

Score: Good

- There are numerous examples of enhanced cooperation with socio-economic partners that are likely to have an impact on regional development in the near future:
 - Forging of relations with industrial partners of the Fez-Meknes region through finding common interest research subjects and setting up industrial thesis subjects. PhD students are mobilised for all field research with experiments lasting several months, apart from their internship period in Belgium.
 - Capacity building for associations and cooperatives through the transfer of knowledge/skills and supervision.
 - Joining efforts with the authorities of the Ministry of Agriculture (DPA, DRA and ONSSA) to develop the heritage of local products and establish a re-regulation/specification of labelling based on a scientific approach.
 - Establishing the Boulemane region beekeeping cooperatives in the international competition organised in Brussels, Belgium (CARI) and winning gold and silver medals.
- P3 furthermore progressed on substantial scientific achievements, that might have a direct impact on the agri-production, such as:
 - As a result of controlling the drying process, the use of chemical derivatives has been reduced.
 - For the cultivation of onions, the selection of ecotypes with genetic resistance to fungal diseases will lead to a reduction in the use of chemical fungicides.

	<ul style="list-style-type: none"> ○ The study on the capitalisation on by-products rich in molecules with high added value has led to better sustainable development of plant resources and will therefore limit pollution generated by these organic molecules. ● There are some success stories showing the responsiveness of UMI to address specific requests from the economic sector. <ul style="list-style-type: none"> ○ For instance, the farmers of Midelt asked the P3 team to study the conversion of the production of fresh apricots into apricots for drying, importers of Turkish variety apricots pointed out the weakness of the Moroccan variety during drying, (100 Dhs le plant imported VS / 10 Dhs). The P3 team demonstrated the opposite through biochemical analysis and historical retrospection. Farmers were asked to avoid removing existing plants in production. The contribution of the Northern partner included the study of treating apricots during drying with natural components instead of sulphur derivatives. In addition, P5 economists are involved in the transfer of management knowledge. ○ Another example reveals the added value of doctoral student internships and visits by supervisors in Belgium. Researchers analysed the quality of honey, of which they did not know any of the properties. The analysis of the product was done in Belgian labs, and the honey was excellent and earned international accreditation, thus benefiting the beekeepers.
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SUSTAINABILITY	
6.1. Academic & Institutional Sustainability Score: Good	<ul style="list-style-type: none"> ● The evaluation confirms that the diversified network built since the start of the programme (cooperatives, federations, industry professionals, etc.) is key to the project's sustainability and is well positioned to be involved in developing platforms to capitalise on the sectors for a better transfer of knowledge in the Fez-Meknes region. ● National and international scientific congresses and popularisation sessions for associations, cooperatives and industrialists in the region have improved P3's visibility and communication in the agri-food sector. ● The cluster of competences is gaining recognition amongst the regional public and private partners and beyond (since P3 operates in a sector falling under a national priority). The intention to compete for labelling the cluster during Phase 2 is relevant. ● The resource pooling with UMI, USMBA and the Northern partner secures the availability of the human and technical resources and the possibility to progress further in the sector. Technically, there are good signs for the cluster of competences sustainability. ● The evaluation notes that the P3 team and UMI encouraged doctors to work in the industry with UMI's research partners, while maintaining courses with P3. These are then very successful teaching profiles. This was the case for the cellars of Meknes, for onion farming, in particular. However, once students graduate, they may not find a position at UMI and leave the university, affecting the cluster of competences.
6.2. Financial Sustainability Score: Good	<ul style="list-style-type: none"> ● The management of the project and the involvement of the P3 team in all aspects (budget planning, for instance), helped explore the question of financial sustainability from the outset of the project. This encouraged the P3 team to raise funds from diversified sources. The experience gained in setting up the project during Phase 1 enabled the P3 team members to be involved in other research projects of university, regional, national and international scope. Today, there are initiatives worth highlighting as a testimonial to the efforts to diversify funds, including from the private sector. For instance, a project has been developed in partnership with the company

"Les conserves de Meknes" for the extraction of lycopene from the by-products of tomato processing. An industrial contract was signed (framework agreement and specific agreement between the UMI and "Les conserves de Meknès" on 2/1/2020-1/1/2023) for a funding period of three years.

5.2.4 P4. Institution and capacity building for training, research and service to society of a CC in Integrated Water Resources Management (IWRM)

P4 had as specific objectives the strengthening of training, research and service to society capacities of an IWRM Competence Cluster.

The scoring grid is the following:

Excellent	Good	Low	Poor	Non accurate
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Relevance	Efficiency	Effectiveness	Impact	Sustainability	Scientific Quality
Responding to the needs	The intermediate results have been delivered	Specific Academic Objectives	Individual Impact	Academic & Institutional Sustainability	Quality of Research
Synergy and complementarity with other (Belgian) actors	Relationship between objectives, results and means	Specific Development Objectives	Academic & Institutional Impact	Financial Sustainability	Quality of Education
Link with transversal themes of Belgian development cooperation: gender, environment and D4D	Project Management		Development Impact		
Ownership, Demonstration of effective commitment of all partners in the programme					

SCIENTIFIC QUALITY

1.1. Quality of Research

Score: Good

- The evaluation underscores the expansion of the quality of the P4 field publications. The project has contributed directly to the publication of five scientific articles in international journals. This has fostered UMI student and researcher confidence to publishing in renowned journals. This has also raised their level of quality requirements: publishing in international journals is not an easy and requires specific methods and approaches. The P4's value was to show the way to publish in international journals so as to gain international recognition and raise the confidence of local and national public and private stakeholders in the quality of the research produced at UMI.
- To a certain extent, the research outputs contributed to national strategies for environmental protection and socio-economic development.
- The participation from the Northern partners was key in the training and awareness-raising workshops, the use of the data installed at the UMI (e.g., geomatic cartography), the supervision of doctoral students and the provision of funds, resources and data for research in the field.

1.2. Quality of Education

Score: Good

- There are key educational quality results, such as:
- The Master's degree course in water and environmental sciences is accredited at the UMI.
 - The P4 project has provided a favourable framework for the supervision of final dissertations with themes in line with the project's research areas.
 - The students of the accredited Master's degrees, i.e., Master BASE and SAB from the Department of Biology, in addition to the Master's degree in Applied Geosciences from the Department of Geology, followed the lessons of the GIS and Remote Sensing Module.
 - Continuous training is set up at the UMI integrating managers to deal with environmental issues in water management.
 - The education outputs were also shared with local stakeholders (companies, association of farmers, etc.) who confirmed their interest.

RELEVANCE

2.1. Responding to needs

Score: Good

- Each project addressed relevant issues for the Moroccan context. The analysis was undertaken in consultation with local and national authorities and in accordance with the current and upcoming legislation related to environmental protection, which, for example, has an impact on the use of water.
- Project development had a participatory approach and responded to the needs of the stakeholders, as well as their changes in the development context.
- The analysis revealed the need for scientific measurements and robust analysis to make better decisions and design the right strategies for the region. P4 was then designed as a sustainable response to the issues concerning water management through:
 - Constitution of a critical mass of professors and PhD students forming a cluster of competences in the field of water and its integrated management.
 - Analytical measures of water quality to solve a local drinking water problem, as well as water used in agriculture, with a view towards the health of the population.
 - Expertise in digital mapping and geospatial data processing.

	<ul style="list-style-type: none"> ○ Acquisition of the hardware/software necessary for geomatic research which is a tool for decision-making in water management (the software acquired has been helped researchers to carry out their work).
2.2. Synergy and Complementary Score: Good	<ul style="list-style-type: none"> • The evaluation confirms that P4 promotes interaction with all the other thematic projects by developing multidisciplinary approaches, pooling resources (creation of a common analysis centre, common core modules, etc.) and developing a common approach to the management of water resources. • The project should contribute to strengthening university governance and its capacity to launch local initiatives such as training, research, service to society, particularly in the field of integrated water resources management. • The evaluation highlights the intrinsic relationships with other projects and the implication of teachers in the Master's programme and research activities. The coordination of P4 made sure synergies were sought systematically, in close cooperation with the Northern and Southern programme coordinators and P1. • The project brought about new linkages within departments. Water management is pluri-disciplinary by nature. • The two coordinators were from different disciplines, which helped set up and foster interlinkages from different perspectives on water management. The two broke down walls between disciplines, including in Flanders (where for instance, geographers are in the art department and were pleased to connect with the UMI faculty of sciences). The deans of the Northern partner and UMI met.
2.3. Transversal Themes (gender, environment and D4D) Score: Good	<p>Gender: P4 illustrates the participation of female students and teachers to the activities, such as:</p> <ul style="list-style-type: none"> • More than 50% of the women participated in the organised training workshops. • The Master's in applied Geosciences currently open to the Geology Department, female students represent almost 42% of the total student body. • Three female students for fieldwork missions. • More than three female teachers on the pedagogical team. <p>No specific actions have been undertaken in the gender aspects.</p> <p>Environment:</p> <ul style="list-style-type: none"> • The various field activities carried out within the framework of P4, and/or to be carried out in the future, take into consideration the state of surface and ground water quality and subsequently assess their degree of degradation and vulnerability in order to finally propose solutions for environmental protection. <p>D4D:</p> <ul style="list-style-type: none"> • P4 specifically highlights the project's value to ingrain such an aspect, which the others do not do): D4D is seen as a key factor for the transfer of research results and for the intensification of awareness-raising activities. Activities directly related are, for instance, collecting digital data, the digitisation of geo-spatial information, and the use of geomatic tools, etc.
2.4. Ownership Score: good	<ul style="list-style-type: none"> • The evaluation notes that P4 exploited the existing UMI network in order to facilitate the extension of the cooperation with key stakeholders in the field of water management. This was good optimisation of existing partnerships. • The evaluation confirms that all project members show a good level of ownership. • At the level of the UMI and its institutions, almost all the authorities are aware of the importance of the IUC programme and its added value in the areas of

	<p>research, training and services to society. As such, P4 benefited from this recognition, and the specific field in environment and water management is crucial for the socio-economic development of the region. The theme was of top priority for authorities, as well as the economic actors who are becoming increasingly aware of the necessity to protect the environment and make a better use of water in their activities. P4 appeared thus as a scientific response to problems that draw much attention, and tensions among public and private actors.</p>
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EFFICIENCY	
<p>3.1. The intermediate results have been delivered</p> <p>Score: Good</p>	<ul style="list-style-type: none"> • The evaluation confirms that the intermediate results were achieved. Some examples are: <ul style="list-style-type: none"> ○ A joint research centre with a technical department dedicated to water was set up and operationalized at the UMI ○ Systems for assessing water quality and aquifer vulnerability were developed and tested. ○ Tools for monitoring the indicators of achievement of IWRM objectives at the scale of the Meknes region were developed and tested. ○ A Master's degree course in water and environmental sciences is accredited at the UMI and the first promotion starts in the third year of the programme. ○ Continuous training on water resource management was set up at the UMI and the first promotion starts in the third year of the programme. ○ Analysis and decision support tools were made available to local IWRM stakeholders. ○ Each teacher supervised five PhD students. In total, about twenty Master's and PhD students are supervised in the programme.
<p>3.2. Relationship between Objectives, results and means</p> <p>Score: Good</p>	<ul style="list-style-type: none"> • There is no evidence of discrepancy between the objectives and the resources invested in the project. The volume and process in place allowed the project to be carried out efficiently and obtain the expected results at the end of Phase 1. • The means/inputs were justifiable and carefully thought-out for the defined outputs. Outputs (intermediate results) contributed to the project objectives, as demonstrated in the stock taking provided by the P4 team.
<p>3.3. Project Management</p> <p>Score: Good</p>	<ul style="list-style-type: none"> • The interviews with all partners led the evaluation team to confirm the efficient steering of the project. The management manual and procedures were successfully put in place, used, and known by the P4 team members, not only the coordinators. • P4 benefited from trust between the two leading projects (north and south) that was established in the project's first year. The Flemish partners actively monitored the project contributed to setting up adequate reporting guidelines that UMI and the P4 team did not have when the project started. After some adaptation, the guidelines were found appropriate by the Southern partner. • The teachers valued P4's good Southern and Northern leadership that contributed to understanding how the project was implemented and what resources could be mobilised. Project participants were involved in the financial, operational and strategic planning. This led to the awareness of the needed capacity to carry out a cooperation project, and many informants met declared they had learned a lot regarding this aspect. • The evaluation notes the difficulty for Northern partners to understand the

	<p>mechanism of designing and implementing a programme in Morocco, which is much different from Flanders and in other developing countries in which Flemish institutions operate. P4 has been a learning process for both partners, including the Flemish part. Time is required to understand the partners and the country's system (higher education system and the job market, the economy, etc).</p>
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EFFECTIVENESS	
<p>4.1. Specific Academic Objectives</p> <p>Score: Good</p>	<ul style="list-style-type: none"> • The evaluation confirms that specific academic objectives were achieved, and the quality of the outputs was judged satisfactory by the informants met (teachers, students and stakeholders), for example: <ul style="list-style-type: none"> ○ Equipment in scientific material necessary to carry out the activities. ○ Integration of three students at the two Flemish universities (KUL and VUB) through co-supervision. ○ A Master's degree course in water and environmental sciences, which has yet to be accredited.
<p>4.2. Specific Development Objectives</p> <p>Score: Good</p>	<ul style="list-style-type: none"> • There are several examples of how P4 supported the implementation and development of changes with the stakeholders: <ul style="list-style-type: none"> ○ The development of a water analysis protocol. ○ Meetings of farmers' associations relating to water. ○ Raising farmers' awareness of optimising water use and the need to share water in times of scarcity: technical and administrative steps to dig a well or borehole, the efficiency of drip irrigation. ○ The Hydraulic Basin Agency developed the water contract between the user (farmer or city dweller) and the manager (the Agency's teams, the distribution company, the Water and Electricity Office). • These examples are not anecdotal, but rather confirm the validity of P4 for the local stakeholders and public authorities such as the Basin agency. The proximity of the P4 team with the external stakeholders guaranteed the utility of the activities for the direct benefit of the territory and the population. Likewise, private actors who use water for agriculture sector found the P4 results relevant based on scientific investigation. Civil society, through NGOs, also used scientific results in their communication and interactions with the public authorities and private sector.

IMPACT	
<p>5.1. Individual Impact</p> <p>Score: Good</p>	<ul style="list-style-type: none"> • One of the main inputs of VLIR-IUC programmes is the number of PhDs students and post doc trained in Belgium (trainings, scholarships and post doc research stays), usually including theoretical and practical learnings in research, teaching and students' professional practices. • In the past, the research was more case study-oriented, without the equipment and more limited to local studies and not innovative enough to be relevant to become an international body of knowledge. The research was relevant for very local communities, but not at global level. Thanks to P4, the PhDs will operate at a higher level. • There are examples that after the training workshops were organised, the PhD students, stakeholders, socio-economic actors, water managers are now looking for ways to integrate geomatics concepts and tools into their work. • Above all, for P4 coordinators, PhD students, who have benefited from the

	<p>mobility and co-supervision within the project, are experiencing a major attitude change towards more targeted scientific research. This is of great value for their career as researchers, should they get a position at UMI or in another university.</p> <ul style="list-style-type: none"> • The P4 project team has encouraged and mobilised managers to participate in the project's planned interventions. This raised the capacity of multiple staff on the design and implementation of a cooperation project. All who were met confirmed their increased awareness of the conditions to be met to ensure a smooth implementation and an impactful development project. The culture of project management has improved, at least at the level of individuals engaged in P4.
<p>5.2. Academic and Institutional Impact</p> <p>Score: Good</p>	<ul style="list-style-type: none"> • Now conditions are favourable for carrying out robust research in the field of environment and water management, as P4 contributed to: <ul style="list-style-type: none"> ◦ Equipping a centre dedicated to water research with scientific equipment. ◦ Acquiring appropriate software for data entry, analysis, processing and visualisation of geospatial data concerning water. ◦ Creating a multidisciplinary team on the theme of water within the university and encompassing almost all of UMI's departments (i.e., a fully transversal approach to water management), such as ENSAM (for data processing and prediction software machine learning, Faculty of Science and Technology of Errachidia: Hydrogeology and student supervision, Polydisciplinary Faculty Errachidia (Geology), Faculty of Arts and Humanities (Physical Geography). ◦ Establishing a team of young researchers (PhD Students) working within the framework of the P4-IUC. ◦ Publishing five high-quality scientific articles by the PhD students (indexed journals with a good impact factor). • The evaluation confirms that there has been a shift from local to international level research. Prior to P4, research was essentially for local and regional purposes, without any international perspective (no international publications). There was potential that P4 was able to steadily turn into a reality. The shift is likely to benefit local communities (and not only to add value to the UMI's international reputation and its researchers): water management is a global issue that requires an international perspective. This remains the case in all developed countries in the world. P4 offers the opportunity for local communities to harness global reflexion on water management, and enable thinking outside-of-the box and gain inspiration from international practices. • This has required the engagement of the P4 team, in connection with other IUC projects and the programme, and the continuous support from P4 and UMI leaders. This alliance with institutional commitment has contributed to integrating the results into the UMI strategy of research developed to benefit the region.
<p>5.3. Development Impact (Impact on Society)</p> <p>Score: Good</p>	<p>Many signs indicate that the impact on the region is likely to occur, should P4 be sustained in Phase 2.</p> <ul style="list-style-type: none"> • The various workshops organised within the framework of the P4-IUC, which in most cases concern themes related to geospatial tools and their use in integrated water resource management, makes much more sense as they integrate a broader objective of supporting a behavioural approach. Actors are likely to change their attitudes vis-à-vis the use of water, especially the economic actors. • The local actors and water managers who participated in workshops all felt the necessity to use these geomatic tools in the management of natural resources and in particular water resources. A follow-up will be needed to ensure that this will materialise into reality. • Cooperation with local actors in the design and moderation of the events has

	<p>been instrumental in raising awareness and responsibility of a wider range of actors, beyond the academic sphere. Organising, with SAWIS (Scientific Association for Water Information System), thematic workshops on geospatial tools and water resources and the workshop on water management with farmers' associations in the Bittit region (Meknes Region).</p> <ul style="list-style-type: none"> • There are now SIG and Remote Sensing tools available for water resource management. P4 will need to ensure that researchers and local actors are using the tools appropriately. A reflexion on the mutual sharing of equipment and tools with non-academic actors might be worth exploring in Phase 2. • The evaluation highlights that the actors in the Meknes region are motivated for lifelong learning and envisage using the skills for water management. They have the will to create a network as Meknes is more advanced with regard to alumni networks and key stakeholders. • Demonstrating the responsiveness of P4, an online application for monitoring COVID-19 (ArcGis COVID19 Hub) is being developed, as well as a hub for data collection and traceability of the evolution of COVID infections on a spatial level that will be useful to the community.
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SUSTAINABILITY	
<p>6.1. Academic & Institutional Sustainability</p> <p>Score: Good</p>	<ul style="list-style-type: none"> • The evaluation has confidence in the capacity of the P4 team to maintain the links and activities with local stakeholders and the UMI policy to support this project. The network was pre-existing to P4 and has been reinforced and expanded to multiple actors including civil society. UMI could not disengage and has no intention to do so. <ul style="list-style-type: none"> ◦ There is now shared recognition of the contribution of P4 to the socio-economic development of key stakeholders in water systems. ◦ In addition, the research lines and courses are integrated into UMI institutional policies. • It is urgent that the Master's programme be accredited to ensure the continuity of supervision and co-supervision with the Northern and Southern partners.
<p>6.2. Financial Sustainability</p> <p>Score: Low</p>	<ul style="list-style-type: none"> • Financial sustainability depends on the availability of funding agents for the specific research topic. P4 is already taking advantage of the competitive funding available at the local and regional levels. The self-assessment mentions the following opportunities: <ul style="list-style-type: none"> ◦ The rainfall project with funding from CNESTEN and CNRST, and the cooperation project with a Turkish university in Antalia with funding from CERTES and funding from the Fez-Meknes region. ◦ The scientific material acquired within the framework of the project is extensive and ensures the sustainability of the studies and the monitoring of the water resources in the region. ◦ Local expertise has been developed and will be further developed through the training of young researchers. • Nevertheless, the evaluation considers that there are some risks and Phase 2 should be devoted to diversifying resourcing and identifying the adequate strategy to do so, in cooperation with public and private actors.

5.2.5 P5. Institution and capacity building for training, research and service to society of a cluster of competences in environment and territorial development at the UMI (CC-EDT)

P5 had as specific objectives the strengthening of the training, research and service to society capacities of the UMI in the field of the environment and territorial development.

The scoring grid is the following:

Excellent	Good	Low	Poor	Non accurate
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Relevance	Efficiency	Effectiveness	Impact	Sustainability	Scientific Quality
Responding to the needs	The intermediate results have been delivered	Specific Academic Objectives	Individual Impact	Academic & Institutional Sustainability	Quality of Research
Synergy and complementarity with other (Belgian) actors	Relationship between objectives, results and means	Specific Development Objectives	Academic & Institutional Impact	Financial Sustainability	Quality of Education
Link with transversal themes of Belgian development cooperation: gender, environment and D4D	Project Management		Development Impact		
Ownership, Demonstration of effective commitment of all partners in the programme				N/A	N/A

SCIENTIFIC QUALITY

1.1. Quality of Research

Score: Good

- The project has contributed to the publication of two scientific articles in international journals.
- The Moroccan PhD students were able to adapt to the research methods in Belgium, thanks to close supervision of Flemish partners.
- The process of improving the quality of research is underway. So far, the quality of the publications has much improved and complies with international standards; this is a key result from the support from the Northern partners.
- There is, however, still a need to change the mindset of researchers who tend to publish in local journals and less at international level.

1.2. Quality of Education

Score: Good

- The evaluation confirms that the Master's programme is well-known today since three student cohorts have graduated so far and are appreciated by local stakeholders, as confirmed during the interviews.
- P5 has provided a favourable framework for the supervision of final dissertations with themes in line with the project's research areas. The selection of research topics is better streamlined and organised by the Moroccan researchers and their doctoral students (in terms of relevance for the territory and the population) and better aligned with the research areas of the P5 team.
- Today, there is continuous training that trains managers to deal with environmental issues on territorial development.

RELEVANCE

2.1. Responding to needs

Score: Excellent

- P5 has been designed with a view to supporting the process of advanced regionalisation in Morocco, which grants more power to local authorities. Regionalisation is at its early stage and P5 anticipated the needs of better skilled agents able to manage territories. The ongoing territorial reform is, in fact, strategic and an irreversible choice (constitutionnalisation, the promulgation of legislation on local authorities, regional breakdown). The tools being developed within P5 contribute to monitoring, analysing, and assessing territorial dynamics. The sustainability of the regionalisation process – which is to be developed in the future- has set a propitious environment for P5, which is seen as a response to the needs in terms of human capital development dedicated to regional development.
 - P5 is aligned with the priorities in sustainable development at the regional level: the Regional Plan for Development and the Regional Land Use Planning Scheme, as well as the interviews, carried out with the local key stakeholders, confirm such relevance. It also responds to the engagement of the Region in the 2030 Agenda (the SDGs).
 - The evaluation furthermore confirms:
 - the alignment of P5 with the country strategy of VLIR-UOS that identifies the environment and territorial development as a high priority cooperation area.
 - P5 is one instrument to address the University Development Plan that considers the environment and territorial development as critical issues.
- Beyond the alignment with the statements and plans, the evaluation points out the high interest of the stakeholders in the first outputs/outcomes of the project (drafting composite indicators, cost evaluation of environment

	<p>degradation, essential and continuous training, outreach activities) confirm that the project is undeniably relevant.</p> <ul style="list-style-type: none"> • Likewise, the involvement of some key stakeholders in the "Cluster of environment and territorial development", which is still under development, indicates that the project meets a social demand in the region.
<p>2.2. Synergy and Complementary</p> <p>Score: Excellent</p>	<ul style="list-style-type: none"> • P5 has been designed with the objective of improving the local university's visibility at the international level and strengthening its academic staff's capacity to design and submit research projects. This would lead to the more natural integration of the university into international networks and the identification of potential synergies with other cooperation projects. From the outset, P5 was meant to serve the university strategic development and positioning on the international landscape of higher education. • For that reason, P5 has teamed up with other projects to set up outreach activities and scientific gatherings: <ul style="list-style-type: none"> ◦ Cross- participation of team members in charge of P5, P2, P3, P4, and P6 in the teaching staff in the Master's programme developed within the framework of the IUC program. ◦ The co-supervision of theses is one of the cooperation aspects (P2, P3, and P5). • Actions of other Belgian organisations and initiatives undertaken in the same area by Moroccan organisations, such as: <ul style="list-style-type: none"> ◦ Participation of four members of the P5 team in an ARES project, entitled: CREPP (Centre Regional d'Evaluation des Politiques Publiques/Regional Center for public policy evaluation), started in January 2019. ◦ Synergies with the CAPE project (Centre d'aide à l'emploi étudiant/Student employment assistance Center) funded by l'Association pour la Promotion de l'Education et de la Formation à l'Etranger (APEFEE). ◦ A joint effort with the Regional University Observatory for Human Development (OURDH) to establish a regional database on human and sustainable development in the Fez-Meknes region. • In addition, the evaluation points out the partnership with the National Observatory for Human Development (ONDH) to carry out and publish a study on "The human development profile of the Fez-Meknes region"; the study was validated in 2019 and published in 2020.
<p>2.3. Transversal Themes (gender, environment and D4D)</p> <p>Score: Good</p>	<p>Gender: the self-assessment report provides the following information, reflecting the place of women as students, participants and teachers in P5:</p> <ul style="list-style-type: none"> • Five team members in charge of the project are women, one of whom is the co-supervisor of the Law thesis. • About two-thirds of the Master's programme students are women. • Two female Master's programme students have spent, as part of the Intra-Africa MOUNAF project, a six-month internship at the UJimma in Ethiopia, to prepare their Master's theses. • A female PhD student has spent a 12-month internship in Belgium to prepare for her PhD dissertation. • Five female students have taken part in field surveys, benefited from training and received allowances. • Two women journalists have benefited from building capacity workshops related to environment and sustainable development. <p>Environment:</p> <ul style="list-style-type: none"> • In research: Three PhD dissertations -two in the field of ecological economics and one in environmental law- are being prepared by PhD students from UMI • Training level: Master's programme in "Sustainable development of territories" • Social services: the launch of the "Environment & sustainable development

	<p>Club" (CE2D), a platform for networking and providing services to regional actors, especially civil society.</p> <ul style="list-style-type: none"> • A practical guide to integrating the environment and sustainability dimension by regional actors into their activities is being developed.
<p>2.4. Ownership</p> <p>Score: Good</p>	<ul style="list-style-type: none"> • The evaluation confirms that the team members were actively involved in various aspects of the project and at all stages (financial, operational, and strategic aspects). • They have been equally involved in the project activities (such as theses supervision, scientific gatherings, teaching activities, mission trips to Belgium). • As a key pillar of the development plan, the project has been embodied in the university. It is no longer an isolated component of the university, as it used to be, but an integral part of it. The alignment of P5 with the regional reforms, the university strategies, has facilitated the ownership by a wide range of university staff, from Rector, VP to deans. The theme covered by P5 is large enough to garner broad interest from multiple departments and faculties. • The P5 teams convinced that the project has generated "spill-over effects", i.e., positive effects in addition to the team members. The best practices implemented within the DDT Master's programme (field trips, teamwork, use of ICT, etc.) tend to be generalised to other Master's programmes at UMI.

EFFICIENCY	
<p>3.1. The intermediate results have been delivered</p> <p>Score: Good</p>	<ul style="list-style-type: none"> • The evaluation confirms the high level of achievements of the intermediate results such as: <ul style="list-style-type: none"> ○ Master's students in Belgium: positive examination results and student satisfaction. ○ The knowledge gained from the project has helped the team to align with international standards of writing and publishing research papers in international peer-reviewed journals. It has also strengthened the team's capacity to apply for and obtain other research projects. The Northern team provided evidence that a change has occurred in the mindset of the researchers and the doctoral students – although such an attitude needs to be sustained and expanded at a wider level than some individuals. ○ Implementation of the Master DDT & continuing education; ○ 3 theses are registered under the Moroccan-Flemish joint supervision; ○ Implementation of the CE2D Club, the development (in progress) of the practical guide aimed at territorial actors ○ Start of structuring of the cluster of competences.
<p>3.2. Relationship between Objectives, results and means</p> <p>Score: Good</p>	<ul style="list-style-type: none"> • In P4 there was an adequate interrelation between the objectives and the results. The resources mobilised helped attain the expected results on time. • The support from the UHasselt contributed to the implementation of the actions and the expected results. The expenses incurred were directly related to the activities undertaken within the project to achieve the intermediate results: the coordination highlighted the direct causality between actions and results. It is worth noting that some activities have been partly funded by UMI (e.g., spending related to training) and by local stakeholders (e.g., scientific meetings). This also shows the level of commitment of UMI in P5 and predicts the sustainability of the project. • It is worth noting the investment of the Northern partners to recruit and supervise the doctoral students in Belgium. Their levels and behaviours required dedicated coaching and constant support. Cultural differences are immense as regards methodology and attitudes (scientific rigour, ethics,

	<p>plagiarism, etc). Connecting the students with the international environment of research and today's quality requirements has been a challenge (the high global competition, the impact of "publish or perish" on careers, the necessity to publish in top-notch journals, etc.). Northern experts have invested enormously, and there are likely to be many more students coming to Belgium.</p>
3.3. Project Management Score: Low	<ul style="list-style-type: none"> • The evaluation confirms that the management was guided through the VLIR-UOS guidelines, ensuring high transparency. The P5 team highlights the reactivity of the parents when it came to overcome obstacles (often from UMI bureaucratic process) • The smooth relations between the Programme Support Unit and the local coordinator were instrumental in solving many difficulties, so that activities could be implemented as expected. The P5 team regrets constant delays in the budget execution (the process by which the financial resources are made available to implement the scheduled activities) at the university administration, which severely disrupts the project's financial management.

EFFECTIVENESS	
4.1. Specific Academic Objectives Score: Good	<ul style="list-style-type: none"> • The key outcomes are <ul style="list-style-type: none"> ◦ Knowledge co-production involving researchers, PhD students, and partners. ◦ Creation of a cluster of competences aimed to improve the carrying out of the research outside academia and ensure the continuation of the project after Phase 1. • There is clearly a change in the structuration of the research in P5, and a robust number of researchers, even though it remains limited to become a critical mass. • The main challenge relates to the recruitment modality of the doctoral students, which does not allow the university to select the right student (there is a selective exam, which motivates some students to pursue doctoral studies and fail while others that may not be interested, pass). In addition, most doctoral students are not full time and have other occupations. This impact on the duration of the doctoral studies and the retainment rate (many drop out when they find a job). This is not dependent on IUC programme or P5 project but will affect the effectiveness and over the long term, the impacts of the project as well as its sustainability. • Likewise, there is a different learning environment. In Morocco, doctoral students do not have a specific office while they are part of the university team in Flanders. This is the situation for all doctoral students. Students do not often meet with their supervisor or rarely work in a team. They are apart from the university life.
4.2. Specific Development Objectives Score: Good	<ul style="list-style-type: none"> • The evaluation highlights the development of socio-economic partnerships. They existed prior to P5, but have been largely expanded thanks to the relevance of the doctoral students' research themes and the events organised with stakeholders. • The framework for the diffusion of research findings has been instrumental to disseminate the results and raise the interest of stakeholders who might not have been involved in the UMI's activities.

IMPACT

<p>5.1. Individual Impact</p> <p>Score: Good</p>	<ul style="list-style-type: none"> • There is impact on the size, the agility and proficiency of the P5 team to carry out international research, steering scientific activities and gear research topics to the needs of the territory (in the context of decentralisation, for instance). • The number of PhDs students and post doc trained in Belgium (benefiting from training courses, scholarships and post doc research stays) has improved and above all, they have been exposed to types of activities other than those at UMI: combination of theoretical and practical learnings in research, sharing teaching and students' professional practices, etc. • The self-assessment reports underscores the advent of "best practices" such as "lunch meetings," "guidelines for preparing a thesis," and research framing grid that permitted to improve the quality of thesis supervision. • The knowledge gained from P5 has helped the team to align with international standards of writing and publishing research papers in international peer-reviewed journals. • It has also strengthened P5 team's capacity to apply for and obtain other research projects. • Incidentally, P5 provided a unique opportunity to enhance the team's English skills, even though the proficiency is still lacking. It is a dimension to be considered for Phase 2.
<p>5.2. Academic and Institutional Impact</p> <p>Score: Good</p>	<ul style="list-style-type: none"> • The evaluation confirms the improvement in terms of research management, namely through project design, fund management, and reporting capabilities). • There are cross-cutting linkages between training, research, and service to society, i.e., all of these aspects are closely linked and mutually reinforce each other. Research is no longer a stand-alone strand of activity but an instrument to leverage knowledge and hence produce activity (in the perspective of fostering the knowledge society at regional level) • The Faculty of Law and Economics, and the university as a whole, has learned about monitoring relationships with the key territorial stakeholders (e.g., networking with partners, designing and implementing basic and continuous training programmes, designing and providing relevant outreach activities, showcasing the project's findings).
<p>5.3. Development Impact (Impact on Society)</p> <p>Score: Good</p>	<ul style="list-style-type: none"> • P5 has enhanced UMI's reputation as a key player in regional development. P5 allowed UMI to better engage as a part of the community and contribute to designing and implementing territorial development plans. Other projects are directly contributing to economic development or protection (health, environment). P5 operates in social sciences where impacts are not so visible and recognised by society and employers (who often think of patents, incubators, labs). It seems that the positioning of the P5 as a partner for stakeholders is gaining momentum. This contributed to the legitimacy of UMI even in fields like law and public policy. • The cluster of competences is being structured should lead to significant organisational change (for decentralised authorities for instance).

SUSTAINABILITY

<p>6.1. Academic & Institutional Sustainability</p>	<ul style="list-style-type: none"> • P5 seems to be well established in the local university through several activities, such as: providing software for teachers and PhD students in the Faculty of law and Economics; setting up scientific events and outreach activities: and conducting field surveys. • P5 has contributed to support at three levels: individual (reinforced capacities
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<p>Score: Good</p>	<p>of UMI internal actors), organisational (management and structures), and contextual (development of initiative-taking capacities and improved interaction with society). The improved know-how and capabilities ensure, to a certain extent, the sustainability of the project results.</p> <ul style="list-style-type: none"> • The network of researchers and stakeholders set up around the project will, most likely, contribute to enhancing the sustainability of best practices and affects generated by the project. Such networking would also strengthen the capacity of the local university to establish lasting partnerships. • The project accompanies the process of advanced regionalisation, which is still in its early stage. The tools being developed within the project contribute to monitoring, analysing, and assessing territorial dynamics. The sustainability of the regionalisation process facilitated that of the project.
<p>6.2. Financial Sustainability</p> <p>Score: Low</p>	<p>The evaluation takes account of many opportunities to diversify and secure P5's funding in the near future, as stipulated in the self-assessment report and discussed with the informants:</p> <ul style="list-style-type: none"> • The faculty/university could partly fund the Master's programme; • The Council of Fez-Meknes Region could fund the continuous training dedicated to the elected representatives of local and regional authorities. • The evaluation disagrees that the entire project's "financial sustainability would most likely improve by the end of the project, along with the structuration and showcasing of the cluster of competences". Exploring the diversification of sources at the start of Phase 2 is essential. There is great demand for proficient skills in territorial development and both national and local authorities will be expected to contribute to the funding. The challenge for P5 is to showcase the results and convince the stakeholders that the Master's programme and research activities must be funded. To do this, P5 must adopt a more effective M&E system, focusing on the project impacts, as evidence. External communication would also help. Advocacy should then be developed towards the decision makers, at national and regional levels. The project is gaining proficiency, and this should be an asset in terms of communication with the authorities. It is advised to seek foreign funding from donors, who support the governance and decentralisation process (French Development Agency, for instance).

5.2.6: P6. Establishment and strengthening of training, research and service to society capacities of a cluster of skills in the valorisation of natural and synthetic compounds of the region's plant resources and their therapeutic effects (CC-MAP)

P6 had as specific objectives the strengthening of academic capacity for training, research and service to society in the field of Aromatic, Medicinal and Perfume Plants (AMP, PAM in French).

The scoring grid is the following:

Excellent	Good	Low	Poor	Non accurate
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Relevance	Efficiency	Effectiveness	Impact	Sustainability	Scientific Quality
Responding to the needs	The intermediate results have been delivered	Specific Academic Objectives	Individual Impact	Academic & Institutional Sustainability	Quality of Research
Synergy and complementarity with other (Belgian) actors	Relationship between objectives, results and means	Specific Development Objectives	Academic & Institutional Impact	Financial Sustainability	Quality of Education
Link with transversal themes of Belgian development cooperation: gender, environment and D4D	Project Management		Development Impact		
Ownership, Demonstration of effective commitment of all partners in the programme					

SCIENTIFIC QUALITY

<p>1.1. Quality of Research</p> <p>Score: Good</p>	<ul style="list-style-type: none"> • New areas of research have been initiated and developed: allergy and immunity, cosmetics, food supplements, organic production, product quality and standardisation, anti-cancer substances, etc. • Creation of a lab with 18 teacher-researchers, some 40 doctoral students, three research teams in Meknes and Errachidia, with a newly acquired scanning electron microscope. • The evaluation confirms the involvement of the main stakeholders (farmers, agricultural associations, etc.) who assured the real application in the different production systems. There is a clear correlation between research results and productivity and innovation. • P6 contributed to the publication of two scientific articles.
<p>1.2. Quality of Education</p> <p>Score: Good</p>	<p>The main examples regarding quality of education are:</p> <ul style="list-style-type: none"> • Training of doctoral students through scientific research. • An operational Master's programme, open to 30 students/year. This is an opportunity for UMI to launch a vocational training module, complementary to the classic academic training courses offered. • Continuous training and support for socio-economic actors (improving the administrative and financial management of cooperatives), technical training to ensure compliance with norms and standards, support in obtaining approvals and labels to market products, support in creating new products, etc. • The evaluation highlights that P6 not only provided the equipment. The value of the support to conduct research according to international practices has been the core work of the Northern partners, specifically during the stay of doctoral students in Flanders. This support was very hands-on: how to conduct a proper experiment, how to write in English. P6 also raised the awareness of the need for UMI to increase the quality standards of the research produced locally.

RELEVANCE

<p>2.1. Responding to needs</p> <p>Score: Excellent</p>	<ul style="list-style-type: none"> • P6 has been shaped with a view to creating links in the chain to develop research, transfer know-how and contribute to the development of women's social structures (cooperatives). • P6 was should also consolidate the UMI's capacity to develop the AMP sector through the strengthening of its institutional capacities and its expertise as a service provider for society, as well as a partner of institutional actors and socio-economic operators in the Fes-Meknes region. P6 is therefore the result of a needs analysis of the economic sector, the needs to innovate on some sector (such as cosmetology, offering new development perspectives for women, distinct from traditional manufacturing or selling rough material). • P6 has taken into account the changes in the development context, as supported by the regional authorities, economic agents and other stakeholders who concerned about the future of the region. P6 seems at the forefront of a new economic era, based on innovative products, aggressive marketing, and reaching out to new markets, far beyond the Fes-Meknes region.
<p>2.2.Synergy and Complementary</p>	<ul style="list-style-type: none"> • As P6 aimed to interlink training, research and service to society, it sought to connect with other projects. P6 offers its expertise in the development of cooperatives and human development impact (group publications, such as the research on bio-active ingredients for food, the role of PAMs in the field of environment-health with P2).

Score: Good	<ul style="list-style-type: none"> • Concretely, the coordinators included researchers from many other disciplines at UMI. They used various labs to experiment with new models. • The CC-PAM is well placed to accompany APEFE, BTC and ENABEL in their actions specific to the inclusion of women, autonomy and development.
2.3. Transversal Themes (gender, environment and D4D) Score: Good	<p>Gender:</p> <ul style="list-style-type: none"> • P6 has adopted the gender approach in these actions at several levels: team members, teachers and PhD students, training (BASE), services to society (coaching, technical assistance and support for the services of socio-economic actors are offered to beneficiaries with a higher proportion of young people and women). • Competent female professors have been recruited, as well as female PhD (3/4) and BASE Master programme students (23/28). • P6 supports 10 out of 12 women's cooperatives (managed by women) working in the AMP sector, the president of one of which is a member of the P6 steering team, to benefit from continuing education activities (theoretical and practical) and the supervision of the creation of production and valorisation-processing structures with the authorisations and approvals to produce quality AMP by-products, etc. <p>Environment:</p> <ul style="list-style-type: none"> • The various field activities carried out or to be carried out take into consideration the state of surface and ground water quality and subsequently assess their degree of degradation and vulnerability in order to finally propose solutions for environmental protection. • The development of AMPs is considered among the appropriate innovations to safeguard plant cover and biodiversity. • The results of the research activities will be exploited to benefit socio-economic actors for sustainable development operating in the AMP sector.
2.4. Ownership Score: Good	<ul style="list-style-type: none"> • P6 members show a good level of ownership, intrinsic and extrinsic motivation and the willingness to change. • All team members were actively involved in the financial, operational and strategic planning of the project, based on a common vision on the role of AMP. The Northern and Southern coordination succeeded in involving all teachers in the management and implementation follow-up of the activities. This is due to a strong conviction that all should commit to making change happen in an innovative sector for regional development, which requires personal investment to succeed. • Mutual trust and joint decision-making between the Northern and Southern coordination has paid off in terms of efficiency of implementation. • The P6 team appreciated the working relationship with the programme support unit and coordinators.

EFFICIENCY	
3.1. The intermediate results have been delivered Score: Good	<ul style="list-style-type: none"> • The intermediate results were achieved. Some examples are: • There is a functional MAP platform, a joint analysis, and formulation laboratory • A win-win collaboration with Northern partners (publications, development of new lines of research, etc.) has been undertaken. • Expertise in the valuation of cosmetic and food products is available at UMI. • The sector's development is under way, exemplified by the inventory and cataloguing of endemic AMPs, the multiplication in agro-ecological mechanisms and the valuation of finished products • The setting up of continuous training for socio-economic actors is under way,

	<p>specifically for women.</p> <ul style="list-style-type: none"> • The setting up of a cluster of competences bringing together the skills of the UMI and the socio-economic actors, is coming to fruition. • The evaluation points out the difficulty for the Northern coordination and experts to understand the functioning of the economic system, especially the cooperatives. This is a challenging and difficult to tackle cultural issue. The high level of autonomy and understanding of the local communities at UMI allowed P6 to be implemented as expected. The linguistic issue was another challenge. This calls for questioning the level of added value that the Northern partners could bring in the future. With P6, they brought the equipment and the support to enhance quality of research and doctoral studies. But the connection with local communities, networking, and the know-how in economic development lies first in the hands of the Southern partners. The interplay between north and south has worked out. Questions were raised on how the north could best support the Southern partners to operate on the ground, with their stakeholders – which is a key objective of P6.
<p>3.2. Relationship between Objectives, results and means</p> <p>Score: Good</p>	<ul style="list-style-type: none"> • In P6 there was an adequate interrelation between the objectives and the results. • P6 has enabled doctoral students to carry out their research work under very favourable conditions by carrying out analyses, acquiring techniques and experience not available locally. The Northern coordinators confirmed that the local team had extensive experience and knowledge of the field, but did not have the equipment. P6 brought the equipment, the techniques to use them properly. • The field work (surveys, organic crops on site, sample collection, travel to cooperatives and support, etc.) was carried out successfully thanks to the financial resources of the project, as demonstrated by the informants met. • Administrative operations and IT development were also supported by project funding (setting up of the P6 site, printing of documents, office supplies for meetings and training of cooperatives, etc.). • The evaluation notes however that the way the budget was spent is not clear to the Northern coordination. This would call for improved M&E, and managerial skills for this kind of project with European / international counterparts to run smoothly.
<p>3.3. Project Management</p> <p>Score: Excellent</p>	<ul style="list-style-type: none"> • Management manual and procedures were successfully put in place. • Trust between the two leading P6 projects (North and South) has been established in the first year of the project • P6 recognised that the active monitoring by the Flemish partners contributed to the establishing adequate reporting guidelines. • The successful team management, based on excellent leadership at project level, is shared by all teachers engaged in P6.

EFFECTIVENESS

4.1. Specific Academic Objectives

Score: Good

- P6 provided training and support for cooperatives:
 - It has enabled doctoral students to carry out their research work under very favourable conditions by carrying out analyses, acquiring techniques and experience not available locally.
- The research work was carried out under good conditions (additional scientific equipment, reagents, small tools, current consumables, etc.) for the themes that fall within the project's scope.
- The thesis recently defended by one of doctoral students testifies to the excellent cooperation between the North and the South via internships, publications and transfer of know-how.
- PhD students who came to Belgium were able to adapt and work independently. It is challenge for the students who often have a job besides their thesis work as PhD students are not remunerated in Morocco.
- The Northern partners brought their technical knowledge in terms of research and are involved at the Master's programme and at PhD level while the Southern partners bring their local knowledge and network and take charge of the teaching (as they have knowledge capacity, language fluency, etc.)

4.2. Specific Development Objectives

Score: Good

- There are several examples of how P6 supported the implementation and development of changes with the involved stakeholders:
- Creation of networks on AMP (ANPMA, ENA, INRA, Pharmacists' Union, Bioactive products industry, etc.).
- Involvement of socio-economic and state partners in the project.
- Creation of a group of 14 cooperatives to make available to them the know-how of the CC-MAP in terms of management, organisation, practices along the value chain of the AMP sector.
- Impact on the empowerment of socio-economic actors to improve technical and technological knowledge, advocacy and finance small projects, gender mainstreaming.
- Transfer of research results (Start of valuation of results to the socio-economic actors).
- Fieldwork (opening up the university to its environment)

IMPACT

5.1. Individual Impact

Score: Good

- The evaluation confirms
 - One of the main inputs of VLIR-IUC programmes is the number of PhDs students and post doc trained in Belgium (trainings, scholarships and post doc research stays).
 - PhD students, who have benefited from the mobility and co-supervision within the project, are experiencing a major change in attitude towards a more targeted scientific research.
 - Creation of synergies with research teams interested in other themes: economic sciences, environmental health, water management, environmental sciences, etc.
 - Mutual use of existing labs made the difference: the P6 team had access to a wider range of equipment and involved more researchers from other disciplines, hence had a more comprehensive, multidisciplinary approach to their field of activity. This has had a tremendous impact on the individual researchers who had more opportunity to meet and start cooperating with other colleagues. The Moroccan doctoral students discovered how research could be so connected to so many other fields, including social sciences.

	<ul style="list-style-type: none"> ○ Transfer of techniques between Northern and Southern partners such as the training of laboratory technicians, benefited the latter. ○ Opening of PhD students to an international experience in partnership with the Northern P6 team: The IUC was an opportunity for mobility to carry out relevant biochemical experiments, set up for the research needs of students. In terms of analysis, the IUC enabled students to take advantage of the Northern infrastructures to further develop the results with new protocols, not available at UMI.
5.2. Academic and Institutional Impact Score: Good	<ul style="list-style-type: none"> ● The evaluation confirms there are new dynamics in scientific research: <ul style="list-style-type: none"> ○ The inclusion of researchers from other majors, using various labs to experiment new models. In the future, more models should be implemented locally. ○ Students learn new technics in Belgium and bring the new knowledge back to Morocco. ○ Creation of new structures in partnership with other IUC teams and sharing the means and actions: three laboratories, platforms, scientific equipment, setting up of diploma courses (Master BASE). ○ Capacity building and support for the research work of teacher-researchers and doctoral students. ○ Acquisition of expertise in research and development and opening up to socio-economic and institutional stakeholders.
5.3. Development Impact (Impact on Society) Score: Excellent	<ul style="list-style-type: none"> ● Improved networking in support of regional development is a major contribution of P6: <ul style="list-style-type: none"> ○ P6 contributed to the structuration of the AMP sector, which was disseminated throughout Morocco with multiple actors who rarely coordinate. At least in the Fez-Meknes region, UMI has the capacity to contribute to the coordination of the sector, that might encourage others to be more structured such as those from the public and private sectors who operate in AMP. ○ Supporting and/or creating networks on AMPs (ANPMA, ENA, INRA, Pharmacists' Union, Bioactive products industry): Transfer capacity to the grassroots cooperative network covers the entire value chain, from identifying production difficulties, to organising and sales, and obtaining ONSSA approval. The private socio-economic partnerships are stable. ○ Capacity of getting local actors involved and in raising funds at the local and international levels. ● This project boosted the impact on the community, by ensuring sufficient means for the team to visit cooperatives and monitor their progress, valorise and educate the girls and women, and develop products. ● Impact on the empowerment of socio-economic actors in terms of improving technical and technological knowledge, advocacy and financing of small projects, strengthening gender aspects. ● Utilisation/valorisation of the achievements of socio-economic and institutional actors and development agencies.

SUSTAINABILITY

- The IUC programme, as well as partnerships (UHasselt) and international development has allowed the acquisition of scientific equipment.
- Continuity is ensured by the trained young researchers (PhD and Master's students), the platforms set up (valorisation, development, standardisation and quality and analysis), the partnerships developed, the know-how and the structures created (CC-MAP and the BASE Laboratory).

<p>6.1. Academic & Institutional Sustainability</p> <p>Score: Low</p>	<ul style="list-style-type: none"> • In addition, researchers seem to be committed to continue the work after the end of the project. • The evaluation confirms the obstacles to its sustainability, identified by the P6 team: <ul style="list-style-type: none"> ○ There are very few positions available at UMI for PhD students after their thesis. Targeting PhD student profiles is hardly possible: current PhD students are civil servants in the Ministry of Water and Forestry, the Ministry of Health, technicians, or secondary school teachers. They are very efficient and useful because of their ability to function in different areas, their transfer of expertise, but they are not always readily available. This makes continuity difficult. Young doctoral students, free of any commitment have everything to learn but they can go further. ○ Lack of personnel to maintain (tacit) knowledge and handle the equipment: this is an issue in terms of long-term sustainability. Running the equipment is risky if no one is skilled and available enough to take care of it. This poses the question of the future of cooperation: the Northern partners cannot help UMI on a daily basis to ensure that the equipment is maintained properly. UMI must have technicians at the university to maintain the know-how on how to use the equipment. ○ The future of P6 will be to ensure the operationalisation of the equipment. It works now as a result of the IUC programme dynamics. Once the programme has terminated, there is no guarantee that the impetus will be the same, unless the deans and UMI take action. ○ Clearly, a local manager should be recruited to sustain the continuing change in mindsets and improving research skills, as initiated by the Northern partners. This cannot be done from Flanders. There are still needs for capacity building, such as how to design a poster, communicate in an international conference, raise funds, etc. • The evaluation notes that the Northern coordination is less invested today, at the end of P6. The project actually boosted the autonomy and the means to operate effectively. It is worth considering to what extent the P6 would need to be continued in Phase 2.
<p>6.2. Financial Sustainability</p> <p>Score: Low</p>	<ul style="list-style-type: none"> • The project succeeded in installing a CC-PAM by bringing equipment to complement that already existing at UMI. The team is now equipped to submit more projects for international funding. In terms of teaching, the Master's programme provides continuity. • The Southern team was able to get involved in national projects and collaborated with several partners (commune, CNRST, ANPMA). • In order to perpetuate its actions, the CC-PAM has opened up to other partners to ensure long-term viability, especially in terms of scientific research and training. • Cooperatives supported and accompanied by P6 have obtained funding for small projects and are moving towards more autonomy, granted by state and private organisations to project leaders. • There is a clear need to anticipate the international demand trends in the PAM sector. There are opportunities to build public-private partnership that are worth exploring (with cosmetics companies, for instance). This would require specific skills in marketing, exploration, law, economics, and other social science-related skills.

5.3. Impacts of the 6 projects at a glance

The SWOT analysis below recapitulates the strengths and weaknesses identified across the projects. The projects have many aspects in common, and face similar obstacles, hence the creation of a consolidated SWOT analysis.

The threats and opportunities depend on factors external to the projects (e.g., depending on UMI or national context). The projects' numbers in bold exemplify the statement.

S	W	O	T
STRENGTHS	WEAKNESSES	OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> • Relevance with national/local priorities, UMI Development plan and ongoing reforms and societal needs (environmental protection, health, and socioeconomic development (P1 - P6) • Positive education outputs and trainings: research capacities and quality improved, better equipment, creation of new platforms and modules, accreditation of Masters degrees, support of doctoral theses, development of online courses and training of professors (P1 -, P6) • Innovative, relevant and good-quality research produced and diffused (P2, P5, P6) • Strong collaboration and complementarity with regional actors, mutual trust with foreign partners (P1, P2, P3, P4, P5, P6) • Involvement and coordination of the team members and main stakeholders (P1, P2, P3, P4, P5, P6) • Governance, Management, Organisational and Administrative capacities improved : ownership of practices and financial tools (P1, P2, P3) • Capacity building of the teaching profession (P1, P2, P3, P6) • Strengthening of Master and PhD students' capacities (P2, P4, P6) 	<ul style="list-style-type: none"> • Weak integration of transversal themes (gender, D4D) (P1, P4, P5) • Delays in the budget execution (P2, P5) • Struggle in bureaucratic and constraining procedures at UMI (P1,P2) • Limited promotion of the project at the expense of its recognition and valorisation (P5) • Most of the PhD students do not have a salary nor a scholarship and are working in parallel with their studies. Few positions are available for PhD students after their thesis (P3, P6) • Cultural differences amongst Morocco and Flanders in many domains (management, functioning of the He system) and discovery of Moroccan specificities for some Flemish experts requiring mutual adaptation(P2, P5) • Quality assurance remains limited in research, training and governance at UMI. • Financial and technical sustainability will require further attention (P1-P6), 	<ul style="list-style-type: none"> • Training sessions are likely to address the Moroccan labor-market's lack of highly qualified professionals and experts (P1, P2, P3, P4) • Local actors are willing to collaborate with UMI (P1, P2, P4) • Ministries and other authorities are willing to take advantage from the universities work and cooperation (P2, P3, P5) • Project members show a willingness and motivation to change (P1, P2, P4, P5, P6) • Projects are integral parts of it, which strengthens the strategy and consistent corporate image of UMI (P3, P5) • Replicating the CC structure to other fields could trigger organizational changes and strengthen territorial development, by fostering a synergy between the stakeholders throughout the territory, creating a proper living and interacting network. (P2, P3, P5) • Networks of researchers and stakeholders set up around the project will most likely allow the sustainability of newly acquired best practices and positive effects of the project (P1, P2, P5) • Transfers of know-how and expertise are simplified and encouraged, between the North and South of Morocco, as well as with other organizations (P5,P6) 	<ul style="list-style-type: none"> • Cultural and linguistic barriers between Flanders and Morocco (P1, P4, P5) • Dependence on the project leaders' academic and institutional sustainability to continue the activities with local stakeholders and on UMI's policy to support this project (P2, P4) • Recruitment modalities of PhD prevents from selecting the most motivated (P3, P6) • Vacuum of specific staff in charge of managing knowledge and handle newly acquired equipment (P6) • time will be required to set up a critical mass of young researchers.

5.4. Cross-cut analysis of impacts at the individual level

Individually, there are impacts at three main levels: the students, the teachers, and UMI's staff.

At the student level, the PhD students, who have **benefited from mobility** and co-supervision within the project, are facing a major change in their attitudes towards a more targeted scientific research. For example, with scholarships, doctoral students of P2 were able to attend international congresses at which they were able to transmit their research results, formulate multidisciplinary and multi-actor projects and forge partnerships.

Overall, despite differences in practices and language, the Moroccan PhD students who benefited from the project's mobility were able to **adapt to the research methods** in Belgium. A manual of "Guidelines for preparing a thesis" was provided to the students, encouraging them to write detailed research protocols.

The PhD and Master's programme students were also encouraged **to reinforce their capacities through complementary training** (soft skills, English, etc.), with the implementation of an evaluation tool before each training course, in the form of an online questionnaire. These training courses have had a positive impact on the students; for example, most PhD students have gained proficiency in English in order to write scientific articles.

At the teachers' level, training on university pedagogy and the scripting of online courses have contributed to the **capacity building of the teaching profession** within UMI. For example, in P1, teachers who have undergone training on the scripting of online courses have created their own courses and made them available to students. The acquisition of some best practices such as "lunch meetings," "guidelines for preparing a thesis," and a research framing grid have enhanced the **capacities to supervise doctoral theses**.

The research produced by the six projects is highly relevant for the Moroccan context and regional development priorities. **New areas of research have been initiated** and developed, such as allergy and immunity, cosmetics, food supplements, organic production, product quality and standardisation, anti-cancer substances, etc. (P6).

The knowledge gained from the project has helped teaching staff **align with the international standards** of writing and publishing research papers in international peer-reviewed journals. Some projects contributed to the publication of scientific articles (P2, P4, P5, P6). It has also strengthened the staff's capacity to apply for and obtain other research projects. Furthermore, research outputs contributed to national strategies for environmental protection and socio-economic development.

The programme also had a positive impact on the UMI staff. In terms of project management, **good practices** were put in place, such as regular meetings to report on the progress of research work. Coordination strengthened the **spirit of cooperation** between the research teams of UMI, Sidi Mohamed Ben Abdellah University of Fez and that of the Northern partner. Other types of cooperation were created, such as the Biomedical Research Ethics Committee (CERB) which was created as part of P2 to monitor the rights of those involved in medical studies.

UMI staff **benefited from training courses** such as skills development, performance assessment, and the creation of databases, which led to the creation of a platform to obtain information on the training courses offered by the UMI and, in particular, the conditions for access, the contents and training course outlets. In P1, the training courses allowed statistics managers to improve the quality of feedback information between the institutions, the presidency and the Ministry.

Overall, the projects' individual impact level is satisfactory and there are synergies in transversal areas (gender, digitalisation, environment and opening up to the socio-professional environment) with the IUC programme project teams.

Many scholars/students/staff members have increased their knowledge and skills as the result of the project and use the newly acquired knowledge and skills. Scholars/Students/staff members from the project are embedded in society and economic life and are contributing significantly.

Individual capacities of scholars/students are improved and they are using upgraded skills and knowledge in their jobs.

Lastly, the issue of the **added value of the IUC programme for the institutional reinforcement of UMI** needs to be further explored. The increased capacity of researchers (academics and PhD students) provides a solid basis for UMI, on which further development could be envisaged for the benefit of the research, as well as reputation and attractiveness of the university. There is today a **legacy** of increased individual capacity of researchers likely to impact on the institutional capacity to develop high quality research. Even though PhDs students might not be recruited at UMI, the IUC programme has contributed to improvement of the quality of research methodology, to better connect researchers to international networks and better equip the university for conducting quality research activities. This legacy should be further exploited during Phase 2 and UMI should evaluate the institutional impact of this legacy and keep track of the progress made in quality research for the benefit of individuals and for the university as such.

The evaluation team understands the option mentioned by UMI to increase the number of positions opened for PhDs, so they can pursue their activity at UMI and hence constitute a stable pool of researchers. This is subject to the capacity of UMI to raise funds and mobilise the national authorities to keep on investing in UMI human resources and equipment. The evaluation team recalls that it is not in the IUC spirit to finance PhD students who are not part and will never be part of the university.

The evaluation team also points out the opportunity to set up clusters, that enjoy a certain level of financial autonomy in Morocco. UMI could advocate to the national authorities and may take the lead, as leading university in the regional socioeconomic development.

5.5. Cross-cut analysis of impact at the institutional level

At the academic and organisational levels, the IUC programme has participated in the **development of educational capacities** and curriculum at UMI, particularly with the creation of the new Master's programmes (e.g., Master BASE). The setting up of an online course recording studio (MOOC) has enabled teachers to train a few teachers to create online courses, which subsequently changed teachers' attitudes. The acquisition of new equipment (studio, scientific equipment, software, laboratories, etc.) also has had great academic impact (e.g., allowing more interactive teaching, project-based learning, introducing new evaluation modes or focusing on transversal skills).

In terms of **capacity building**, the teaching staff have acquired new skills through training and awareness sessions in Morocco and Belgium (e.g., computing skills: software for improving financial management, registration management platform and mail management). A training cycle on the development and evaluation of a study course has enabled teachers to change their approach to developing new courses by placing the student at the centre of their concerns and introducing the notion of the skills that the student must acquire.

The programme has enabled UMI staff to develop **relevant and innovative research** with the strong **involvement of regional actors**, in research and its application, directly **answering local needs** and with

much interaction and complementarity between projects. A platform gathering all of UMI's scientific publications was set up, making it possible to create a change of attitude among researchers by wanting to share their research work, whereas previously it was difficult to obtain a list of their publications.

With the IUC programme, UMI is now better able to **attract external funding at the regional and international levels** (local calls for regional development and Erasmus+), proving the regional relevance of the programme.

Transversal links have been developed between training, research and service to society and the adoption by teachers, doctoral students and partners of approaches that promote synergies between these three pillars of the IUC programme of VLIR-UOS.

The research and pedagogical objectives and the distribution of roles and responsibilities (among teaching staff, between departments and faculties) are more clearly defined. Staff are more aware of the importance of communication on the achieved results: communications within national and international scientific congresses, transfer of knowledge and skills to local societies. Staff have also gained expertise in research and development and opening up to socio-economic and institutional stakeholders.

In terms of management, there has been real progress regarding the management of the research (project engineering, funds management, and reporting capabilities) and in establishing **cross-cutting linkages between training, research, and service to society**. UMI as a whole has learned how to manage its relationships with the key territorial stakeholders (networking with partners, designing and implementing training programmes, designing and providing relevant outreach activities, showcasing the project's findings).

However, UMI still needs to improve its capacity to manage and monitor/evaluate projects. For example, the managing staff are also doctoral students and therefore not fully dedicated to their managerial role. The Northern universities have at times been a little reluctant and the Flemish experts have mainly been considered as scientists invested in research cooperation. Several Northern partners have expressed the desire to be more involved in the management process as well.

5.6. Cross-cut analysis of observed impacts at society level

In terms of development, **enhanced networking capacity** is one of the greatest impacts. Indeed, the evaluation has observed the creation of several networks across the projects, such as a network of AMPs (ANPMA, ENA, INRA, Pharmacists' Union, Bioactive products industry) in P6. This in turn is likely to have greater **impact on the community and on the improvement of socio-economic actors** technical and technological knowledge, advocacy and financing of small projects. The project teams visited local associations and cooperatives to monitor their progress, reinforce and educate the girls and women in the region. Local actors benefited from workshops that contributed to developing new tools and know-how in terms of natural and water resources. They gained the capacity to get involved and raise funds at the local and international levels.

The development of an online application for monitoring the evolution of COVID-19 infections on a spatial level has also been useful to the community (P4).

The evaluation notes the **results of relations with industrial partners** of the Fez-Meknes region by the concretisation of common interest research subjects and the setting up of industrial thesis subjects. PhD students are mobilised for field research with experiments lasting several months. In some projects, national experts and health professionals from different backgrounds were mobilised to explore the impact of the environment on health and the analytical and preventive measures available. In general, the partners are willing to take up and use the knowledge generated and services provided within the projects.

In some cases, the project teams managed to **involve local authorities**, thereby reaching a greater impact on society. For example, in P3 local authorities of the Ministry of Agriculture (DPA, DRA and ONSSA) were involved in the development of the heritage of local products and the establishment of a regulation/specification of labelling based on a scientific approach. However, the interest of policy makers for policy advice and development for the region remains limited at this stage, but likely to evolve in the Phase 2 of the programme.

The programme contributed to **better positioning the university as a development actor** and a key territorial player. The projects have overall enhanced the UMI's brand by contributing positively to its perceived image. The projects brought about substantial change by establishing close ties with key external stakeholders and creating more convergence and synergies between them. The clusters of competencies that are being created bring about a significant organisational change.

Overall, the evaluation points out that the collaboration has led to joint **developmental activities** or similar collaborative models at the regional level.

5.7. Answers to specific evaluation questions

Below are presented concisely, the answers to the specific evaluation questions, as stipulated in the ToRs for UMI:

1. What activities (consultation, dissemination) involving the final beneficiaries should be planned for the Phase 2 of the programme to generate an impact outside the university environment?

The evaluation team considers that the Phase 2 should concentrate on the consolidation of the activities undertaken under Phase 1 and foster their monitoring in order to make them happen. The foundations for a solid partnership have been set with the Flemish partners. The IUC programme has resulted in significant progress in terms of scientific quality and proficiency of students and academics, and opened new opportunities for further projects and networking. The Phase 2 should focus on the institutional impact in order to enhance the sustainability and further development of the outcomes already observed through Phase 1.

2. What qualitative and quantitative impact indicators to define and monitor at the individual and institutional level, both inside and outside the university environment, taking into account the different types of beneficiaries? What in the intervention made it (or not) work to achieve the intended and observed impact?

The evaluation team considers there is a need for UMI with its partners, to refine the Theory of Change (ToC) of the programme and to align it with the strategy of the university. From this ToC, it will be possible to identify which impacts are expected to occur in the 5 coming years and which indicators could be associated. This revision of the ToC is indispensable. It should be conducted

in close cooperation with the academics at UMI, the students and the local stakeholders who are already much involved and could bring value to the ToC. In a second time, once the ToC is agreed and embedded, indicators could be selected, to the extent the M&E system at UMI is strengthened and can complete the indicators and analyse their results.

3. What specific mechanisms should be established to exert an influence on existing relations between the sexes and on equal opportunities in order to further strengthen the contribution of the CUI program in the advancement of women?

The evaluation team considers that the gender dimension is taken into account already, at least numerically with a significant proportion of women as students and academics. However, UMI could explore further the gender dimension, which goes further than balancing men and women in terms of numbers. There are lots of research topics at UMI that question the societal dimension, that could actually include how gender is tackled (e.g. the distribution of power in economic spheres between men and women, the representation of men's role in scientific domains...). The evaluation team thinks UMI could set up a working group on how to best embed the gender dimensions, in all its dimensions.

6. Conclusions and Lessons Learned

Phase 1 has provided UMI with the tools to train high-level researchers in domains instrumental for regional economic development: training, equipment and scientific methods. UMI has also made progress in training and research management, thanks to the rationalisation of its processes, an assertion of coordination roles, and transversality (among disciplines, departments and faculties and between administrative and teaching teams).

The **results** are almost all achieved by the end of Phase 1. Student and external stakeholder satisfaction is high. On the one hand, doctoral students benefit from high-level support to conduct research work of international scope. On the other hand, external stakeholders are in the IUC programme to meet their challenges, bring strategic thinking to another level (less local, more international) and find pragmatic solutions. The result is two-fold. On the one hand, UMI was well aware of national priorities and the creation of a network of local, regional and even national actors. On the other hand, the IUC programme broadened this partnership and offered the opportunity to external parties to benefit, in the long term, from the higher skills of graduates, better scientific arguments, and equipment that will be useful to them.

The evaluation recognises **the programme's good level of efficiency**. The resources committed made it possible to achieve results.

It is too early to assess tangible **impacts** on the basis of compelling evidence. However, the assessment highlights the conditions, realistic assumptions and weak indicators that indicate that these impacts may be confirmed in the near future. If the training and the equipment is fully operational, there is a good chance that impacts will emerge for both individuals and the institution. The main issue is whether there is the ability to build a pool of researchers capable of continuing the activities undertaken. Currently this is not the case and there are signs that few graduates will return to UMI or to the region.

The IUC programme shows **great consistency between the programme and the 6 projects**. The project coordinators have continuously sought complementarity and synergies between projects. None were conducted in isolation. The Northern and Southern coordination also served to unite all the activities. The teachers, and even the students in some cases, are well aware of the prolificacy made possible by the connection between projects: pooling of knowledge, exchanging practices, enriching reflexions, intersecting of partner networks. We also highlight the seeking of synergy with other universities such as USBMA and projects that can complement the IUC programme. This consistency is also the result of the unwavering commitment of the coordinators, and their desire to include the IUC programme as an anchor point for the university's development strategy. We note a good integration **of cross-cutting themes** related to the environment. This link was obvious as most of the projects were related to the environment. On the other hand, the evaluation does not highlight any specific policy or initiatives concerning gender. Women are relatively well presented in the number of participants in the activities. However, the gender dimension seems only to focus on gender balance without addressing other dimensions.

The **management** has suffered delays at times due to bureaucracy and other mechanisms regulating Moroccan higher education but also those specific to UMI, which were often criticised by coordinators as excessively bureaucratic and changing over time. In this sense, it would have been useful to audit the IUC programme's upstream management mechanisms in order to check and prepare UMI, if necessary, for more efficient management. Time and tension could certainly have been avoided. Likewise, the mutual understanding of Flemish and Moroccan management rules and their operationalisation was certainly lacking, especially at the start of the programme. The fact remains that this programme has strengthened the capacity of the teams to manage an international project. This is an indirect effect for a university that seeks to strengthen its connections through scientific projects, joint training and increased student mobility. UMI still lacks internal quality assurance processes (such as provided for in the P1) to improve monitoring the implementation, report and correction in real time. In addition, it will be useful to have such tools available during Phase 2, to assess the quality of training by students and employers, the quality of thesis supervision, the management of partnerships and the follow-up of economic integration of university graduates.

The programme and project's **sustainability** was considered from Phase 1. Significant efforts have been made to diversify sources of income in almost all projects. It is a commendable effort on the part of the Northern and Southern coordinators. Prior to the start of Phase 2, there are already a number of initiatives (such as agreements with private companies or cooperation with universities) that can provide some financial security. However, the sustainability of this programme should be the subject of greater attention during Phase 2. The evaluation considers that while many results have been achieved and impact indicators are visible, several risks have been identified, which could affect the durability and prevent impacts to full deployment. The equipment and laboratories are set up and should operate at full capacity. For this to occur, a specific governance mode and processes must be envisaged. Currently, the projects have not provided sustained, dedicated resources for equipment maintenance. In addition, the teaching staff cannot ensure maintenance nor the renewal of scientific equipment. It seems that UMI's scientific policy has not yet taken this aspect into account. Furthermore, UMI does not yet have a pool of trained researchers capable of leading and developing the clusters. The number of doctoral students remains low and, above all, there is no guarantee that doctoral students will obtain teaching-research positions within UMI. Finally, the Master's degree programmes are still nascent. They should be managed and evaluated during Phase 2 in order to assess their attractiveness and their capacity to train high-level researchers and entrepreneurs. There are prospects after 2023, to renew researchers leaving on retirement, which would be an opportunity for UMI to increase the number of positions and hence retain PhDs. However, there is a

legacy of the increased capacity of researchers gained over the IUC programme, that needs to be evaluated, enriched and sustained for the purpose of the institution and hence for the sustainability of research at UMI. The sustainability of this IUC programme should not be analysed only through the lens of recruited PhDs.

Specific to this IUC programme **for Flemish universities** is the **novelty of the Moroccan context**. The evaluators found a university operating differently than those in their usual areas of intervention (mostly Africa). Morocco is an intermediate level country that has an established higher education system with all the regulatory bodies (such as the ANEAQ quality assurance agency which accredits training). The cultural integration of the Flemish side was necessary to understand the operating methods of the Moroccan higher education and research system. In addition to language that may have been a barrier, French being the language of higher education in Morocco, Flemish academics had to understand current practices that are different from those in Flanders (e.g., the methodology of recruiting doctoral students). The first years of the Flemish-Moroccan cooperation have been a mutual learning experience in terms of programming of activities, committing expenditure, monitoring, and reporting. UMI is an autonomous university in its mode of management, and did not necessarily rely on, indeed sometimes ignored, the Flemish partners. The university has dedicated staff and set up the management mechanisms, different from those existing in Flanders. Furthermore, the project culture was not unknown to the project teams and the programme coordinator. Most had been involved, as leaders or partners, in national, regional and even international projects (such as Erasmus). However, the project culture in Flanders is different and misunderstandings may have emerged, especially at the start of the IUC programme.

Furthermore, the IUC programme engaged the Flemish partners with a university that had already progressed in its **development strategy**. The programme and projects were the result of close consultations with economic players and had already been articulated with national or regional priorities (in water management for example and in economic themes to be developed such as agro-industry). In addition, the university already had strong relations with economic partners, and played a pivotal role in developing the region, according to its means - sometimes very modest - in research and training. This situation may have surprised the Flemish partners, who tried to make themselves as useful as possible. It eventually paid off but required them to adapt.

Phase 1 **set up and strengthened**, as well as structured research at UMI, in terms of staff, premises, equipment, university policy and management of scientific activity.

The first key message of the evaluation for the future would be to gear Phase 2 towards **consolidating activities, the smooth functioning of equipment and monitoring of Master's degree programmes**, rather than increasing activities. Likewise, even if UMI's managerial capacity has improved (for example, with digitalisation), Phase 2 must take into account that the achievements are still tenuous.

The 2nd key message for Phase 2 is to target the **added value that VLIR-UOS and the Flemish universities can bring to UMI**. Partners must be integrated into IUC programme's objectives, procedures are mutually understood, understanding of the two cultures has clearly progressed. Potential leverage must be explored so that Phase 2 could help obtain the objectives of the programme within the next 5 years.

Lessons learned during the evaluation

- **Starting cooperation.** This step is crucial for understanding and adapting the the IUC programme management procedures. The themes had been appropriately identified by UMI, which VLIR-UOS adapted and then validated. However, no analysis has been carried out on the capacity of the Moroccan entity to apply the VLIR-UOS project management procedures. The annual VLIR-UOS team visits, as well as the programme coordinators could not identify the conflicting issues conflicting while understanding the practices at field level. A joint piloting period during the first 6 months of the IUC programme could help build mutual trust and understand how the Moroccan entities use or not adhere to the procedures. On the Moroccan side, it is imperative to maintain and strengthen the administrative assistance required for this type of complex programme, involving frequent exchanges with the Northern and Southern coordinators and the VLIR-UOS.
 - The Flemish entities discovered the level of progress of UMI in its relations with local partners, its governance, strategy, and capacity to conduct local research. At the same time, the Northern coordinators and experts did not necessarily know Morocco and its higher education system nor its specific mode of operation (for example, the recruitment procedures for doctoral students). Finally, some from the Flemish side did not have sufficient command of the French language to communicate properly with their Moroccan counterparts, whose English could be limited. For these reasons, the VLIR-UOS should provide more support to the Northern partners before they commit to the project, so as to ensure their understanding of the situation of a middle-income country and the specificities of operation. Recruiting experts who speak fluent French seems imperative.
 - **During the life of the project.** The evaluation notes the UMI's ability to coordinate projects among themselves, so as to seek synergies and complementarities. These synergies/complementarities were anticipated during the development of the IUC programme, and they were systematically implemented thereafter. This consistency of approach, visible at UMI, does not necessarily reflect on the Flemish side. Indeed, the Northern coordinators are dispersed in different universities, and intervene on various projects and at different times of the programme. Consequently, apart from the coordinators, few Flemish speakers fully grasp UMI's strategy, which has helped modernise and transformation UMI to be a fully entrepreneurial university. It would be useful for Flemish stakeholders to have a greater understanding of the logical framework and their interventions.
 - **Within the framework of this programme,** UMI needed to build research and training capacity and the interventions of the Northern partners were perfectly adapted. This was less the case when it came to supporting UMI in its governance and management (except P1, which was specifically dedicated to this issue). The experts did not necessarily have a clear vision of the governance of a Moroccan university, and of the type of support that was needed. Northern partners should be solicited to provide guidance as they have sufficient skills and experience in governance, management and quality assurance.
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7. Recommendations

The recommendations are aimed at the proper programming of Phase 2 and its effective implementation. They suggest improvements in the management of the UIC programme in its Phase 2 as well as work themes for future projects.

7.1. Recommendation for IUC UMI

1. **Strengthen the managerial capacity of the Moroccan partners** and in particular the coordination, to implement the VLIR-UOS procedures for a seamless management of activities. Schedule virtual meetings between VLIR-UOS, Coordination North and South on a regular basis, with agenda and minutes including actionable points and systematic transfer to programme coordination North and South.
2. **Strengthen the evaluation culture and evaluation indicators.** It is imperative during Phase 2; the Southern coordinators have at their disposal a range of tools allowing them to track the results of the projects of which they are responsible.
 - **Performance indicators** (KPIs) should also be provided, making it possible to have a baseline in the 1st year of Phase 2, which will allow the final assessment on quantified indicators. These KPIs could be the subject of an activity for Phase 2, either associated to Programme 1 or to project 7 (management).
 - **Impact indicators** should be designed, according to the specific objectives of the programme and projects. They should be SMART, in a limited number, shared with each person responsible for programme and project and with the academics involved. Impact indicators might be qualitative (i.e., “descriptors”) rather than numerical. They should reflect the change (i.e., the observed evolution thanks to IUC) and might not necessarily measure the impacts quantitatively or against pre-designed thresholds. Impact indicators should derive from a revised Theory of change, to be defined prior to the design of Phase 2 and the selection of project activities.
3. **Strengthen internal quality assurance.** It is imperative that UMI equips itself with basic instruments such as student training evaluation surveys, student integration and monitoring surveys, and partnership management tool or quality assurance specific to doctoral studies . A phase 2 project could specifically relate to internal capacity building in quality assurance or be included either in programme 1 or project 7 (P7 relates to the IUC management).
4. **Initiate reflection on and envisage provisions for the technical and financial sustainability** of equipment (for maintenance) and of the Master training programmes.

The reflection may consist in helping UMI adopt an institutional strategy for sustainability and offer support for coordinators to seek sources of external funding. It may also involve helping the setting up of European research projects, developing joint programmes, identifying foundations and private partners, and building advocacy for public authorities.

- The provisions for sustainability may include mechanism aimed at capitalizing the experience and knowledge gained out of the programme and projects, by academics and
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PhD students involved, from both South and North. The purpose is to ensure the continuity of the learning process at the level of the university, in terms of teaching and research, as a continuity of the improvement observed through Phase 1 and to foster the learning curve at institutional level. By doing so, the legacy of the works engaged through Phase 1 (e.g., the impacts such as the increased research conduct proficiency of PhDs) would be retained and safeguarded at the university level, even if PhDs might not be recruited at UMI.

- UMI might consult the Ministry of Economy and finance to envisage which incentives, either financial or non-financial, might trigger the attractiveness and retainment capacity vis-à-vis the PhDs, so they would find a position and/or remain engaged at UMI, for the sake of sustainability of the IUC programme and the continuous improvement of the UMI capacity to conduct high quality research and foster the local socioeconomic regional development. Envisaging clusters with financial autonomy is another dimension for UMI to consider with the national authorities. This would be definitely a way to ensure smoother financial processes.

5. **Support the transformation of UMI to become an entrepreneurial university.** UMI has assets to become so (training, research potential, dedicated equipment, capacity for improved management). It remains to complete the link between the university and the development of activities on the student entrepreneurship and researchers, co-constructing training with employers, promoting the results of research in the region, sharing the use of equipment, establishing a university-business interface, providing guidance to students.

6. **Consider engaging UMI in certification or institutional or international accreditations.** There are several possibilities:

- The **ISO norm specific for higher education (21001-2018)** might help strengthen the process of UMI and facilitate the project management and track-keeping of the activities developed under the IUC and their associated impacts. ISO-specific experts might be devoted to assist UMI in the certification process.
 - The national quality assurance agency, Agence Nationale pour l'Évaluation et l'Assurance Qualité (ANEAQ) has called universities to identify faculties subject to **institutional evaluation** from 2021. UMI may gain benefit for this process, with a view to leveraging its internal quality assurance system and managerial capacities.
 - A twinning process might be envisaged with a Flemish university reckoned for its proficiency in quality assurance. Phase 2 might explore this possibility for exchange of practices in quality assurance and knowledge transfer. A 5-year long institutional cooperation between UMI and a Flemish institution is likely to reach international quality assurance standards. The support of NVAO (Nederlands-Vlaamse Accreditatieorganisatie, the Accreditation Organisation of the Netherlands and Flanders) is furthermore worth considering.
 - The university's commitment to the environment and themes related to sustainable development could allow a ranking in **THE Impact rankings**, which position universities according to their commitment to the 17 Sustainable Development Goals. This type of activity could be attached to P1, if it was maintained in Phase 2.
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7.2. Recommendations for VLIR-UOS

1. **Adapt administrative and financial procedures**, which seem cumbersome for the North and South partners, and which lead to misunderstandings and delays. UMI has made progress in project management and monitoring but issues remain such as delays and incomplete information (e.g., lack of consolidation of stock-taking of activities). Heterodox practices still remain (e.g., sending bulk of invoices at once, with limited information on the associated expenses). VLIR-UOS might in parallel consider how to alleviate process without compromising the compliance of financial norms and Belgian regulations.
 2. **Reinforce the information of the Northern coordinators**
 3. On the theory of change or the logic of the IUC programme in this university, so that each one has a global vision of his intervention in the IUC programme. It is key to make sure the TOC and IUC programme logics trickle down to academics from Flemish institutions engaged in the activities, so they are reminded of the key goals of the programme (i.e., to enhance the institutional capacity of UMI).
 4. On how the Moroccan higher education operates, how it ensures quality and funds the training and research system.
 5. **Diversify the profiles of Northern stakeholders to the issues and challenges of each project**, which are not necessarily scientific, but relate to governance, management, or quality assurance. Phase 2 will also involve supporting the development of a pool of researchers, so that UMI has the internal scientific resources to match the ambition of the projects. This is not yet the case, and VLIR-UOS could consider providing support for Northern experts on the planning and management of human resources over 5 years. It is also about working with national authorities through advocacy actions so that the situation of doctoral students (rarely full-time on their doctorate) is improved.
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8. Annexes

8.1. Annex 1: programme of mission at UMI

Planning pour le monitoring du programme CUI / Lieu : Présidence de l'Université Moulay Ismail

	9h – 12h	14h – 17h
Lundi 16 novembre	Niveau Programme à partir de 10h Samir EL JAAFARI : Coordinateur Sud Aziza MENOUNI : Project Manager Sud	Projet P2 - Project leader Sud : Samir EL JAAFARI Enseignants-chercheurs : Y. FILALI, M. AMANE Doctorants : I. BERNI, A. MENOUNI, N. ZOUINE, Partenaires : M. KHOUCHOUA (Délégation du Ministère de la Santé – Meknès, Plateforme Signaal) – I. LHILALI (ISPITS, Plan Régional Santé-Environnement, Ateliers Santé-Environnement) ; I. JROUNDI (CERB, Master BASE) Réunion avec les partenaires à la Présidence de l'UMI (à distance ou en présentiel) (16h)
Mardi 17 novembre	Projet P6 - Project leader Sud : Abdelhamid ZAID Enseignants-chercheurs : L. RHAFARI, Ch. SEKKAT Doctorants : H. MOHTI, N. SALHI, L. FAKIR Partenaires : M.C. BELKADI Industriel; L. BOUGMA Coopérative Amal (Azrou), Coopérative Agricole Féminine des Plantes Médicinales ; Z. CHBIHI Coopérative Dar El Kheir. Possibilité de réunion avec les partenaires à la Présidence de l'UMI ou visite sur le terrain à partir de 16h.	Projet 3 - Project Leader Sud : Hassan HAJAJ Enseignants-chercheurs : H. MAZOUZ, A. BOUSETA Doctorants : H. NAIT M'BARK, N. ELFEHRY, A. BRAHIMI. Partenaires : L. OUZAHRA (Directeur de la Société OLAE-FOOD), H. ELASRI (Président des producteurs et exportateurs des oignons de la Région d'El Hajeb). M. OUTAIT (Président National des Unités de séchage des fruits). M. ELMAHDAOUI (Président de la Coopérative apicole TADAMOUN, Région de Boulemane). Possibilité de réunion avec les partenaires à la Présidence de l'UMI ou visite sur le terrain à partir de 16h.
Mercredi 18 novembre	Férié	
Jeudi 19 novembre	Projet P4 - Project leader Sud : A. ESSAHLAOUI Enseignants-chercheurs : A. EL OUALI, M. MILI, A. NEJJARI Doctorants : M. EL HAFYANI, A. ALITANE, S. IJIL Partenaires : N. SERRHINI (Agence bassin hydraulique de Sebou, Fès) ; A. RHAZI (Agence urbaine de Meknès) ; KH. MIMICH (RADEEM, Meknès). Possibilité de réunion avec les partenaires à la Présidence de l'UMI ou visite sur le terrain à partir de 16h.	Projet P5 - Project leader Sud : Abdellilah BAGUARE Enseignants-chercheurs : M. ABDOUH, Y. ZERHOUNI Doctorants : H. LAMHAMEDJI, N. BENAYAD, M. NAJH Partenaires : H. EL KASMI (Réseau Associatif pour le Développement Participatif (RADEP), T. LACHKAR (Inspection Aménagement du territoire), H. BENHAMOU (Journaliste), A. Hamadi (ONDH) ; Asmae KHAOUJA (Commune de Meknès). Possibilité de réunion avec les partenaires à la Présidence de l'UMI ou visite sur le terrain à partir de 16h.
Vendredi 20 novembre	Projet P1 – Project leader Sud : Omar OUSSOUADDI Enseignants-chercheurs / Personnel : A. ZAID, R. MENAOUI, F. ZEDEK, Z. LAHBI, M. ALLAOUY, Doctorants : M. ALLAOUY, N. TOUZRHAR, Partenaires : K. REKLAOUI (Université Abdelmalek Essaadi); T. ABCHOUC (Injaz Almaghrib); A. GHANIMI (NEO Maroc). Réunion avec les partenaires à la Présidence de l'UMI ou visite sur le terrain à partir de 16h	Projets proposés pour un Focus sur le volet Partenariats : P3 : Coopératives et industries agroalimentaires P5 : Associations pour le développement participatif & inspection de l'aménagement du territoire, Commune de Meknès. P6 : Coopératives Plantes aromatiques et médicinales Possibilité de réunion avec les partenaires à la Présidence de l'UMI ou visite sur le terrain à partir de 15h.

8.2. Annex 2: interview schedule with the Northern informants

Coordinator				Dates retenues
Jean-Michel Rigo	UHasselt			26 Novembre à 17h
Project 1				
Jean-Michel Rigo Stéphanie Frère	UHasselt			26 Novembre à 18h.
Project 2				
Lode Godderis	KULeuven			Lundi 16 Novembre à 13h
Project 3				
Geert Haesaert	UGent			Lundi 23 Novembre 17h
Project 4				

Van Rompaey Anton	KULeuven			Mercredi 18 Novembre à 9h
Project 5				
Bernard Vanheusden	UHasselt			Mercredi 25 Novembre 17h
Project 6				
Jerome Hendriks Virginie Bito	UHasselt			Mercredi 18 Nov 17 h

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