Final Evaluation of Institutional University Cooperation with UNALM in Peru

vliruos
SHARING MINDS, CHANGING LIVES

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ACRONYMS

ANR	Asamblea Nacional de Rectores de las Universidades de Perú
BAN	National Agriculture Library
CONCYTEC	Consejo Nacional de Ciencia, Tecnología e Innovación Tecnológica de Perú
CONSUAN	Consejo de Evaluación, Acreditación y Certificación de la Calidad de la Educación Superior Universitaria en Perú
FDA	Fundación para el Desarrollo Agrario
FINCYT	Fondos para la Innovación, Ciencia y Tecnología
FSC	Flemish Steering Committee
HE	Higher Education
HEI	Higher Education Institution
ICT	Information and Communication Technologies (TICS)
INIA	Instituto Nacional de Innovación Agraria
IRDs	Regional Development Instituttes
IUC	Institutional University Cooperation
KRA	Key Result Area
KUL	Katholieke Universiteit Leuven
LFM	Logical Framework
LSC	Local Steering Committee
M&E	Monitoring & Evaluation
OLC	Open Learning Centre
OSI	UNALM ICT Service
PUCP	Pontificia Universidad Católica de Perú
PSU	Project Support Unit
SUNEDU	Superintendencia Nacional de Educación Superior Universitaria
ToC	Theory of Change
TT	Technology Transfer
UG	Universiteit Gent
UIE	Unidad de Innovación Educativa
UNALM	Universidad Nacional Agraria La Molina
VLIR-UOS	Flemish Inter University Council – University Development Cooperation

PREFACE

We wish to thank all Peruvian and Flemish participants for their transparency and 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, providing a broad vision of the impact of the project. Evaluators were overwhelmed by their commitment and passion with regards the different activities of the project, especially by the Local and Flemish leaders, Carmen Velezmoro and Eddie Schrevens.

Special thanks to the UNALM Project Support Unit and Jenny Paz for their support in the evaluation mission. It is our sincere wish that this evaluation exercise will be of help to all stakeholders to create sustainable impact at individual, institutional and societal level.

FocusUP, Antwerp, Belgium, 2019

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.

EXECUTIVE SUMMARY

This report concerns the evaluation of the **second phase of the Institutional University Cooperation** (IUC) programme implemented at **Universidad Nacional Agraria la Molina** (UNALM), in Peru. 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 phase.
The **purpose of the evaluation** was to collect information to draw lessons (learning), to collect data to account for the results towards the different stakeholders (accountability) and to formulate recommendations to support further decision making process on the IUC, including the overall policy framework (steering).

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 Peruvian programme coordinators and project leaders, focus group discussions, visits to research sites, online questionnaires and case studies in order to assess the impact at societal level. The analysis and reporting are based on triangulation of data (programme and project documents, self-assessment reports, in-depth interviews, focus groups, observations and online data).

The evaluation mission took place from 11 to 15 November 2019.

Structure. During Phase II the project was organised in 3 Clusters, including a total of 5 projects:

- **Cluster 1. Research on sustainable management of agro-ecosystems**. Including Project 1 (P1) Farming systems research and Project 2 (P2) Development of value chains for biodiversity conservation and improvement of rural livelihoods.
- **Cluster 2. Education.** Including Project 4 (P4). Educational innovation in undergraduate and graduate programs with emphasis on the sustainable management of agro-ecosystems and rural development.
- **Cluster 3. Institutional capacity building and infrastructure development.** Including Project 3 (P3), Institutional Change in Research & Innovation Management, and Project 5 (P5), Institutional support: logistics and facilities.

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 UNALM's capacity to support Peru's rural

development. The IUC had a continuous process of alignment with National policies, (especially from 2014 with the University Law 30220), and also considered the inputs of the main stakeholders for the process of programme formulation. Score: Good.

- Ownership. The IUC phase II proposed several successful strategies to increase participation of UNALM actors and ownership. IUC recognition is very high (internal and external) and the integration and institutionalisation of different programme policies (e.g. research) and services (e.g. UIE) at UNALM structure promoted a high ownership. Score: Excellent.
- Weaknesses / Room for improvement: complementarity with other Belgian actors could have been better, although this did not depend only on the will of the programme coordinators, but also on the interest of the potential counterparts (Belgian NGOs, other higher education institutions, etc.).

- **Efficiency**
  - Link between Inputs and Outputs. Most activities of the programme were implemented in a cost-efficient manner, with no major deviations on the budget. Consequently, outputs have been delivered also with a cost-efficient approach. Three external factors affected the project: 1) the decrease of budget from VLIR-UOS; 2) the New University Law (2014) and 3) the changes of UNALM authorities (4 Rectors). Score: Good.
  - Delays. Delays in activities, and specifically institutional changes, are attributed mainly to adjustments in the budget and delays in the arrival of the funding. The use of the "Fundacion" at UNALM sped up the processes and finally there were no significant delays in executing the activities. The final outputs were not decisively affected. Score: Good.
  - Programme Management. A management manual with clear procedures was developed and appropriately applied during the life of the programme. Overall coordination was good, with high commitment and fluid communication between coordinators, project leaders and PSUs. Score: Good.
  - Weaknesses / Room for improvement: lack of Belgian counterparts for some projects was reported. More communication and team building on the Flemish side could have improved the final performance at management level.

- **Effectiveness**
  - Specific Academic Objectives. In Phase II all projects achieved their respective objectives. After the end of the programme it is clear that UNALM 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. Score: Good
  - Specific Development Objectives. The programme has contributed to the foreseen specific development objectives, achieving an interesting impact in the IRDs regions, and always considering local and national priorities. There are several examples of how the IUC supported the implementation or development of changes in the involved stakeholders (see Analysis of Impact at Society level in 2.4). Score: Good

- Weaknesses / Room for improvement: The approach applied by P1 in order to successfully increase its impact with regards development objectives could have also been applied by the other Cluster 1 project (P2), which have a more modest contribution in this area.

- **Impact**
  - Academic Impact. There are several examples of academic impact in Phase II, as for instance, the set up of ICT and Library Councils, the development of a Research Coordination Office or the consolidation of UIE. Main difficulties in this area are coming from the problems in finding good PhD candidates and the policies for (PhD) staff retention. Score: Good.
  - Institutional Impact. IUC UNALM had an impressive performance with regards to different institutional indicators as its position in higher education rankings, nº of scientific articles published or nº of R&D projects (external funding). Thus, institutional impact has been high or very high, in the case of projects 3 and 4. Score: Good
  - Development Impact. The programme contributed to improving the food security, 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 small-scale family based agriculture in Peru. For example, P1 trained around 600 agriculture producers in scaling up agroforestry technologies, which had a direct impact on their day-to-day activities. Score: Good
  - Weaknesses / Room for improvement: The number of PhD students is quite low compared with similar initiatives. Also, there is no institutional policy for retaining PhD students from the programme, and only random faculty policies covering this issue. Both are issues that UNALM hierarchy has not been able to solve from the beginning of the programme. UNALM staff had no incentives to participate in PhD programmes in the framework of the project, which together with the lack of English proficiency produced these results.

- **Sustainability**
  - Academic Sustainability. Most academic activities developed by the project will continue: Training of staff (Education day, courses for beginners and advanced teachers, educational projects, etc.) or Education policies (collaboration with other offices - Accreditation and Quality Office, CAA-Library -, etc.). Score: Good
  - Institutional Sustainability. The program created the main conditions to preserve the results and positive effects already obtained during Phase I. Two crucial factors have been: 1) the change in the way of thinking related to scientific research; 2) the institutionalisation of several initiatives (e.g. UIE) coming from the IUC. UNALM has contributed with additional funding and covered some infrastructural activities derived from the creation of the units, mainly with the payment of the workforce and also infrastructure. Score: Good
  - Financial Sustainability. The continuation of the Program depends partially on the success rate in acquiring external funding. However, all research projects succeeded in attracting external funding and the Education Innovation Unit and the Research Coordination Unit have been structurally embedded at UNALM, with yearly operational budgets and assigned tenure

personnel. The same for ICT, Library and Open Learning Centre services. IRDs have been restructured, and they report to making a reasonable profit. Score: Good

- Weaknesses / Room for improvement: The VLIR-UNALM project allowed building capacities 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.

Recommendations for the IUC UNALM

- **Mid-term Evaluation Recommendations vs. Phase II.** The Mid-term evaluation proposed 11 recommendations, and UNALM proposed also different suggestions to solve the identified issues (see 1.5 for details). Four issues were not properly addressed during Phase II, as for instance the need to improve clarity and simplicity around the route to PhD candidacy or the enhancement of the English language training for academics and potential PhD candidates and UNALM staff;
- **Cultural change for Technology Transfer and Innovation Management**. A cultural change took place with IUC with regards to research at UNALM, and now it is time for another cultural change for technology transfer and innovation management. Nevertheless, this additional cultural change should be based on the R&D policies and the results achieved in the last years, and not starting from scratch or creating something isolated, because innovation will be always linked with research activities.
- **Promote English Proficiency of students/academics/researchers.** This has been reported as one of the main reasons for the low number of PhD students in the programme. Evaluators did not identify any English language teaching policy at institutional level at UNALM, which is quite disappointing, considering that this issue was identified right at the beginning of the programme.
- **Implement Human Resources policies at institutional level in order to support PhD candidates.** Evaluators only identified random faculty policies on this direction. An institutional policy in this area will be crucial for the development of research and academic activities in UNALM in the near future. Again, this issue was identified in the first steps of the programme, and no effective solutions have been provided by UNALM.

Recommendations for VLIR-UOS

- **Improve financial planning/management.** One solution could be, as other donors like the EC are doing, to implement an administrative platform that allows the project leaders to better monitor their projects financially and technically, in order to provide faster decision making, avoid misunderstandings and result in efficient time management.
- **Decrease administrative burden of the IUC reporting and management activities.** Many participants also reported the difficulties coming from the reporting obligations of the IUC, which provoked high workloads in management issues.

1. Introduction

1.1. 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 short description of Peru, its higher education context and the Universidad Nacional Agraria La Molina (UNALM). This introductory chapter finishes with a description of the different components integrated in the IUC with UNALM and their evolution during the life of the programme (include mid-term evaluation).

In the second chapter the results at programme level and project level (5 projects) are presented. Considering the fact that the analysis at programme and project level mainly focus in the analysis of the impact at organizational level, 2 specific points have been added to complement the evaluation covering the individual and the societal impact.

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 UNALM and also for VLIR-UOS.

1.2. Background

1.2.1. 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 I and Phase II- covering a combined 10 years of project execution time. These phases are preceded by a Phase In and followed by a Phase out.

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.

1.2.2. Subject of the evaluation – Theory of Change of an IUC programme[1]

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.

[1] Based on ToR, p.4-8.

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).

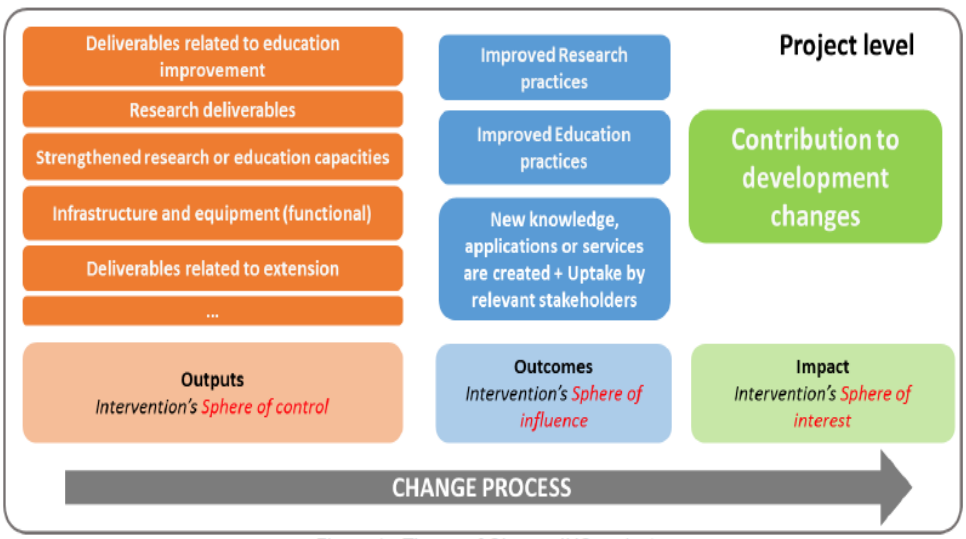


Figure 1 - Theory of Change IUC project

Transversal Projects

In an IUC programme, there is always one or more 'transversal' project. 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.

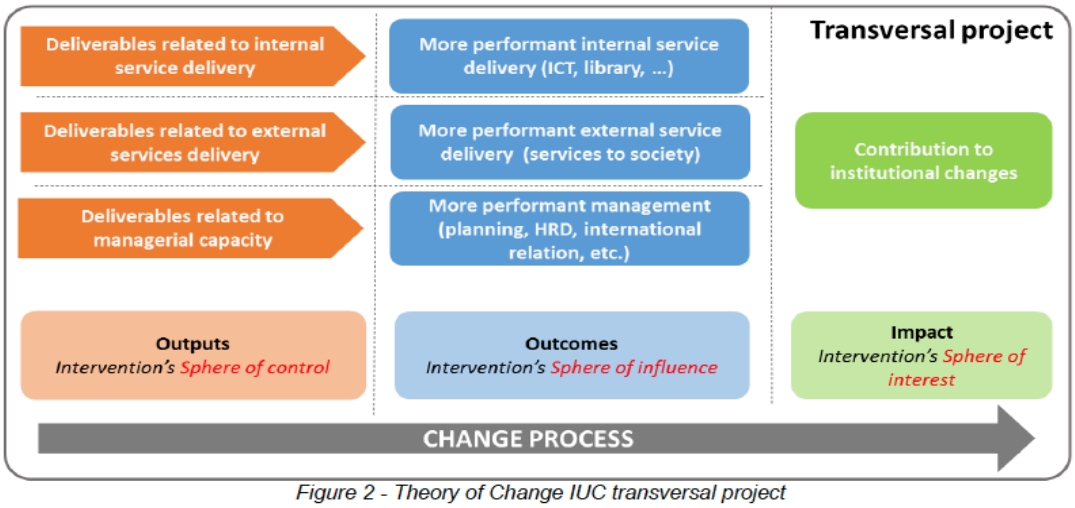


Figure 2 - Theory of Change IUC transversal project

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.

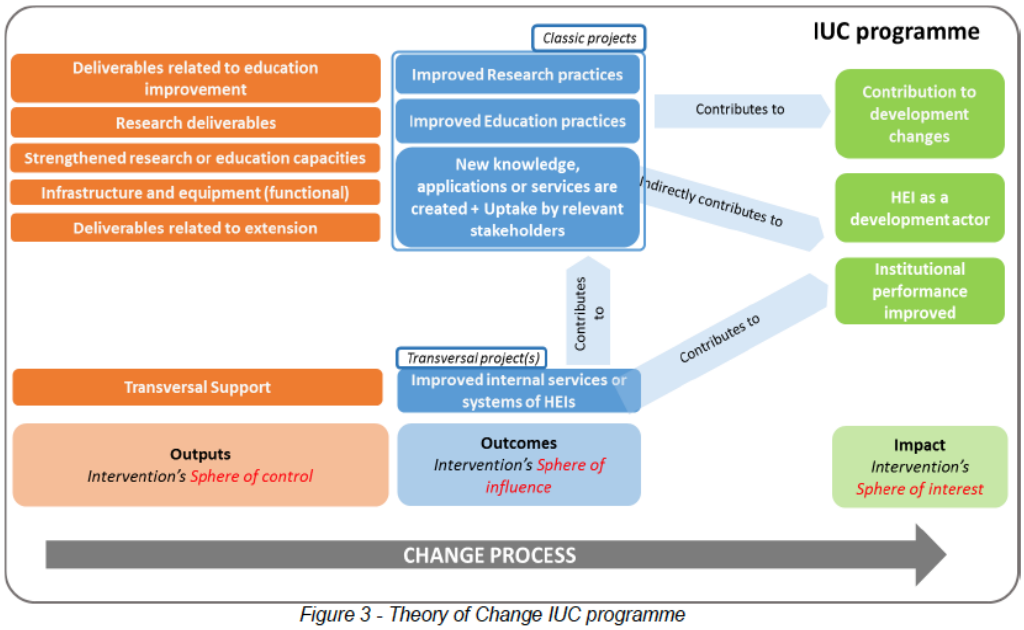


Figure 3 - Theory of Change IUC programme

1.2.3. Objectives of the Evaluation[2]

In the ToR the purpose of the final evaluation has been formulated as follows:

1. **Learning**: based on the analyses made by the evaluation team, lessons can be learned about what worked well, what didn't and why. The formulation of these lessons learned will contribute to the quality of on-going and future IUC programmes in terms of the content and management of the programme, including the overall policy framework.
2. **Steering**: based on the analyses made by the evaluation team, recommendations will be formulated to support decision making processes of the IUC (at different levels).
3. **Accountability**: by independently assessing the performance of the IUC programme (and validating or complementing the monitoring), different actors (HEI, VLIR-UOS, etc.) can fulfil their accountability requirements.

The 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, final IUC evaluations also analyze the prospects for the post-IUC period:

1. 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 evaluation, a particular focus needs to be given to sustainability and effectiveness (progress towards the achievement of specific objectives. Cf. evaluation criteria below.
2. The follow-up plan of the programme for the second phase (cf. self-assessments) is also evaluated. The follow-up plan needs to further guarantee sustainability at institutional level(and research groups), and the impact of the university in the development process in the surrounding community, province and eventually in the country.

Taking into the budget and timeframe of IUC evaluation, and the fact that it is difficult to accurately assess the outcomes of an IUC programme outside the academic context (level of ultimate beneficiaries) for the entire IUC programme (and its underlying projects), only outcomes of P1 have been assessed. Thus, this report includes an analysis of the societal outcomes/impact (outside the academic context) of project 1.

[2] Based on ToR, p.25-26.

1.3. Evaluation Methodology and process

1.3.1. Evaluation Framework

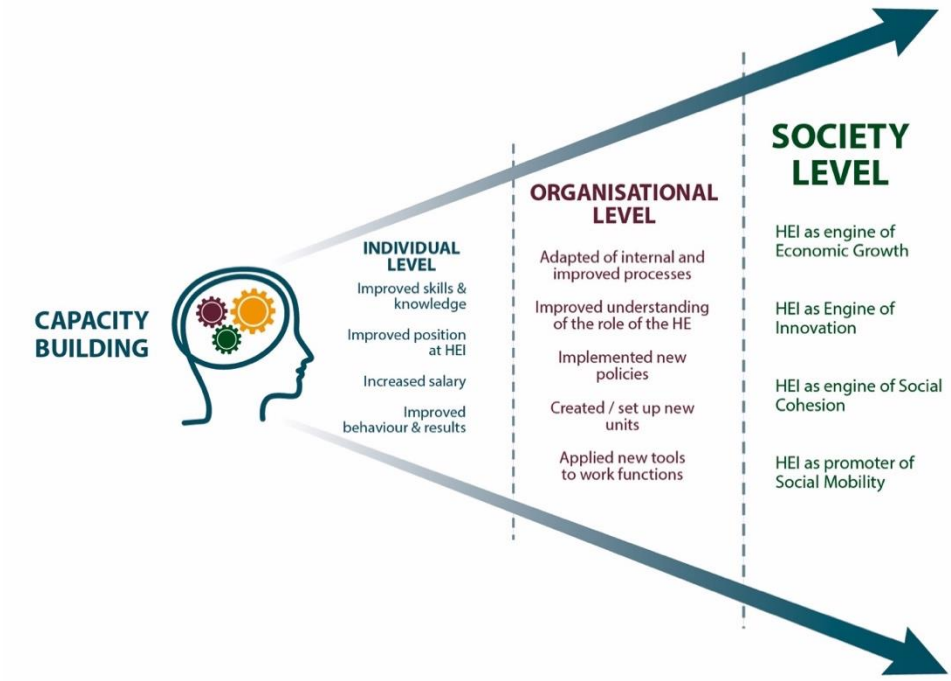
Overall Evaluation Framework: individual, organizational and societal level

Following Baser and Morgan (2008)[3], 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;



[3] 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.

1.3.2. 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 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 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 need to realize the (Criterion).

1.3.3. Methodology

Methodology for evaluating Individual, organizational level and societal level

Individual Impact Analysis. A lot of activities (and results) in the projects in the IUC are related to several types of trainings (like PhD`s, upgrading staff through short courses/trainings, research activities). So, at the individual level, it is important to evaluate the results of these trainings. The Individual Impact will be assessed at project level (following the scoring methodology described below / see criterion 5. Impact) and via online questionnaires (see annex 1).

Societal Impact Analysis. The evaluation of the societal impact it has to take into account the time frame issue (long term) and the specific context of the action. This analysis will focus on identifying evidence on the contribution of the project to social cohesion and economic growth. The Societal Impact will be assessed at project level (following the scoring methodology described below / see criterion 5. Impact) and via case studies (see template in annex 2). Societal Impact Analysis will be applied only in P1, as requested by the ToR.

Institutional Impact Analysis. The evaluation of the institutional impact is the main objective of this evaluation exercise. It will consider the Theory of Change described in the 1.2.2. The assessment will be focused on identifying evidence at output, outcome and impact level.

Special attention will be paid to: 1) level of integration of the project in the local environment (institutional, local and national priorities and policies) ; 2) detecting tangible impact of the leading role of the university at regional level; 3) overlap/complementarity with other existing initiatives.

A **scoring methodology** has been proposed for the institutional impact analysis is explained in detail (see annex 3).

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 Peruvian programme coordinators and Flemish and Peruvian 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 (like Peruvian Ministry of Higher Education or other local stakeholders);
- Focus group discussions and/or in-depth interviews were organized with other stakeholders like students/trainees of the programme;
- Visits to research sites were scheduled as well;
- Online questionnaire were used to analyse the impact at individual level;
- Case studies were identified in order to assess the impact at societal level.

For societal outcomes/impact (outside the academic context) of project 1, the case study approach has been used (see annex 2). The analysis and reporting is based on **triangulation of data** (programme and project documents, self-assessment reports, in-depth interviews, focus groups, observations and online data).

Mission plan

A detailed agenda of activities can be found in annex 4. Mission programme

1.3.4. Limitations of the evaluation

The evaluation was executed as planned. There were only a few of limitations in the evaluation:

1. The **number of mission days** was limited. As consequence the number of interviews and focus groups were carefully planned. The most important consequence is that external stakeholders could not be interviewed at a large scale. This could be important to identify impact on society and to identify potential opportunities of developmental impact in the second phase. In order to minimize this issue case studies have been produced targeting specifically the impact at societal level.
2. This evaluation concerned mainly the **second phase of the project**. As consequence most of the documents (self-assessment reports, etc.) were focused in the second phase and little

information was assessed about the first phase (also because there was a previous evaluation covering this period). As consequence most of our conclusions and recommendations are linked with the available information.

3. The Theory of Change (ToC) of VLIR-UOS has been developed after the formulation process of the programme. As a consequence, the **logical frameworks of the programme do not match** perfectly with the ToC. According to ToC, outcomes are identified as specific objectives and can be considered as "use of outputs": They imply changes in performance, behaviour, etc. At impact level the main change envisaged is always a developmental objective (long term). Implicitly it is also about contributing to a changed role of the local partner as an actor of change (medium-term). In many cases the formulated specific objectives in the logframe are the sum of the intermediate results and are not describing the objectives at outcome level. It has been challenging for the evaluation team to take into account the logframes and the ToC at the same time.
4. For the assessment of the **institutional impact** the ideal scenario would have been to use a **Counterfactual approach**, which basically compares the results of different HEIs in order to estimate what would have occurred otherwise. However counterfactual could not be applied in the framework of this evaluation because: 1) there are too many variables to be considered and; 2) because it would be neither feasible nor cost-efficient to establish Control and Treatment Groups (with other Higher Education Institutions).
5. **Self-Assessment Reports**. Quite indicators from the **Key Results Area** (KRA) had no baseline value, which made difficult to assess the impact of the activities.

1.4. The Context

1.4.1. Peru

The IUC with UNALM is located in Lima, Peru. Peru is located in the central and western part of South America, has a territory of 1.285.215 km2 and a population of officially 31.5 million, but unofficial estimates are close to 34 million (50.5% male and 49.5% female) (INEI, 2017) and the capital of Lima has more than 12 million. The existence of the Andean Cordillera divides the territory into three major eco- systems: Coast (costa), highlands (sierra), and Amazon rain forest (selva). In addition to its ecological diversity, Peru's richness and complexity is associated to its multicultural and multilingual characteristics. In a country signed by high poverty levels, a complex cultural scenario is often associated to severe socioeconomic limitations. In terms of poverty, 22.7% of the population equivalent to 6.995 million of the Peruvian population lives in poverty. Out of this, half of them live under extreme poverty conditions. The Human Development Index (HDI) ranking annually prepared by the United Nations Development Program (UNDP) indicates that was 0.740 in 2015 which gives the country a rank of 87 out of 169 countries with comparable data. In 2018 the HDI increased to 0.750, ranked 89th on 195 countries. Peru still occupied above the midpoint position out of the total countries included for the analysis which classified it among the middle-income countries.

Development policies in Peru were centralist. Decentralization has been introduced by law in 2005. Some minor changes occurred because traditional models are hard to change. Most of the investments in infrastructure are concentrated in the urban poles and there was a slight increase in the countryside. Consequently, the phenomena of poverty, low farm production, unemployment, low income, environmental deterioration, malnutrition and migration in rural zones worsen and interconnect. Social tension in rural and urban zones is evidenced by land invasions and increase in robbery in urban areas in the relation of rural violence with the cultivation, processing and trafficking of drugs and in the growing marginalization of rural migrants in poverty belts of big cities.

As far as higher education and research are concerned, there is an absence of a science, technology and innovation system that promotes academic excellence, includes research as a career, funds graduate and undergraduate scholarships, and supports modernization o laboratories and libraries. Peru has followed the same university-as-a- business model as in other Latin American countries with no academic component. Public universities are under- funded and this leads to limited research and extension activities. Therefore, the development of higher education is among the highest national priorities to achieve food security, poverty reduction, sustainability and technological innovation.

Out of the total Peruvian population, around 24 to 39 % lives in rural areas and are highly dependent on small agriculture. Rurality, as it is widely known, is often associated to the lack or insufficient access to productive and social infrastructure and is intimately linked to extreme poverty. This stresses the extreme importance of sustainable strategies for optimal agro ecosystem management, which is the main objective of the VLIR-IUC-UNALM research components. A programme aiming to increase the stability and competitiveness of the small holder agro-ecosystems through research, education and extension.

1.4.2. Institutional context

The Universidad Nacional Agraria La Molina (UNALM) is the leading university on agricultural and environmental sciences in Peru and one of its main public (national) universities. In the first and only edition of the University Ranking for Peru published by the Superintendencia Nacional de Educación Superior Universitaria (SUNEDU), at the beginning of 2018, the UNALM was placed in 4th position out of more than 120 existing universities in the country. In the 2019 edition of the Times Higher Education Latin America University Ranking, UNALM was among the best 150 universities of the region, and in the same year edition of the QS Latin America University Ranking was among the best 180 universities. The creation of the university goes back to the first decade of the 20th century as a result of a joint effort between the Peruvian government authorities and a Belgian mission from the University of Gembloux formed by a team of agricultural scientist and a veterinarian invited by the Peruvian government. Initially was created as the National School of Agriculture and Veterinary Science, and soon it was added the Central Agronomic Station with the purpose of doing agricultural experimentation and developing the agricultural sector. The institution became officially a university in 1960 when it was renamed to its current name.

The UNALM is organized into eight faculties (Agricultural Engineering, Agronomy, Animal Science, Economics and Planning, Fisheries Science, Food Science and Technology, Forestry Science and Life

and Physical Science) which contain twelve academic departments. Each department offers an undergraduate programme. In addition, the graduate school, which is financially and administratively independent from the rest of the institution, has 33 academics programmes (masters and doctorates). The university currently has approximately 6,500 students from which around 1250 are postgraduates, and it has above 500 academics.

Thanks to the IUC programme and funds obtained by UNALM from the Peruvian government, in recent years the institution has implemented up-to-date laboratories, a network of fiber-optic which connects the different university's centres with proper band width, and has improved the regional centres: IRD Costa (Regional Development Institute - Costa), IRD Sierra (Regional Development Institute - Sierra) and IRD Selva (Regional Development Institute - Selva). In addition, the UNALM has three more research institutes: INDDA (Agro-Industrial Development Institute), IBT (Biotechnology Institute) and IPPS (Institute for Sustainable Small Production). The UNALM library, known as Biblioteca Agraria Nacional, is in charge of the development of the network of agrarian libraries of Peru and is also an active member of the System for Agrarian Information of Latin America and the Caribbean.

Finally, it should be pointed out that in recent years the UNALM has increased its focus in income-generating activities in order to compensate the underfunding of the university by the government. Consequently, sale of products and services by UNALM has become a significant amount of the total budget.

1.4.3. Higher education context

The Peruvian university system has experienced a dramatic change since 2015 due to the approval of the new University Law (Law 30220) in 2014. This law was passed by the Congress in an attempt to amend the previous situation with many recently created for-profit private universities that were facing no regulation in the quality of their services, because in the previous 25 years access was the main factor behind the Peruvian university system.

Unlike to the situation in basic education, most university students were enrolled in private institutions. Public universities with high recognition, such is the case of the UNALM and also of Universidad Nacional de Ingeniería (UNI) and Universidad Nacional Mayor de San Marcos (UNMSM, the oldest university in the Americas, founded in the year 1551), among others, had, and still have, acceptance rates between 5 and 10 per cent forcing many candidates to finally enrol themselves in private universities. This resulted in a Peruvian university system composed of 51 public universities and 89 private universities (more than 75 set up in the last 25 years), although some of them, around 20 public and private institutions, existed only on paper. The majority of this new private universities were determined by economic interests, and at the same time public universities were weakened, because the Peruvian government reduced its investment in them instead of creating effective mechanisms for the academic management of universities that were already established such as the case of the UNALM. All of this led to a profound university crisis in Peru.

The new University Law included the creation of the Superintendencia Nacional de Educación Superior Universitaria (SUNEDU) which would authorize and license new or existing universities according to quality basic standards. These basic standards were chosen by studying and analysing the systems

which were implemented in a number of countries such as Chile, United States, Spain and Ecuador. The standards were eight: existence of academic objectives, degrees and qualifications, and study plans; educational offering compatible with the objectives established during planning; adequate infrastructure and equipment to efficiently run classrooms; existence of research lines; availability of qualified teaching staff with no less than 25% of these being full time; existence of basic complementary services (medical, social, and sport services, among others); existence of mechanisms for mediation and entry into the job market; and information transparency. SUNEDU was in some ways dependent on the Ministry of Education (i.e.: the Superintendent would be appointed by the Ministry). SUNEDU began its work in January 2015 and was soon criticized by some public and private universities, mostly with the argument that the government, and specifically the Ministry, would be affecting the autonomy of the universities. This was not the case since the new University Law explicitly stated that the autonomy of the universities was guaranteed.

The quality basic standards imposed by SUNEDU and in general the new University Law, clearly promoted the paradigm of research universities, probably conditioned by the recently emergence of the international university rankings, with the additional problem that this was done in the context of a developing economy. Previously to this university reform, universities in Peru had been adopting a university model with a pragmatic focus, rather than critical, and was focused on professional training and issuing degrees in which the teaching aspect had prevailed. Now the Peruvian universities have been forced to change towards a model based on relevant teaching, pioneering research and relevance and links with society, what places the UNALM in a privilege position within the system. As a result of this, UNALM was the first public university to be licensed by SUNEDU in March 2017.

The new University law is laying the foundations for the transformation of the Peruvian university system. In this regard, it should be noted that in recent decades a lack of funding research development by the Peruvian government was the norm. However, the new law pushes Peruvian universities to train researchers in international research universities and trying to obtain the required resources which allow them to support investment in research. As a result of this, from an internal point of view, Peruvian universities have established bodies dedicated to research governance, through vice-chancellors or directors, as recently happened in UNALM. This is in order to facilitate and promote the creation of new strategic areas of research as well as the possibility of developing these. And, from an external point of view, the National Council of Science, Technology and Technological Innovation (Concytec) had greatly expanded its budget over the past five years from 5 million soles to more than 200 million soles, joining efforts with the World Bank, and had now been able to develop a proper national research and innovation policy. Crucial initiatives, where Concytec was able to provide support, should help improve access to the most prestigious scientific journals, develop high-quality research centres, and streamline the application and commercialisation of research. In this context, UNALM have been quite successful in acquiring additional competitive funding and grants for research in agriculture, food and environment and for financing local master and doctorate theses.

1.5. Short description of the IUC with UNALM

1.5.1. Mid-term Evaluation

In 2014 a Mid-term evaluation of the IUC-VLIR-UNALM Program was organised. The main conclusions and recommendation of this exercise were the following:

Recommendation midterm evaluation	Programme suggestion
UNALM response at programme coordination level The IUC-UNALM programme overall has been adversely affected by the lack of a strong and coherent response from UNALM to programme planning and leadership: the fundamental partnership nature of the IUC programme concept has been weakened and the programme has been driven too much by the Flemish partner (ie KUL). Recommendation 1: an early opportunity should be found to open discussion with UNALM authorities on the appointment of a strong and engaged UNALM Programme Coordinator able to speak for the university and to devote sufficient time to IUC-UNALM leadership issues.	Comment / action proposal UNALM: As new authorities will be elected by November 2014, Project leaders (PL) will have the important task to agree on a Program coordinator, who will be appropriate for this second phase considering the different issues that have already been detected. This is the first time that the elections will be organized under the new University Law, stipulating that all UNALM students and personal have proportional voting rights. One of the criterion to select a project coordinator is that it must be an UNALM authority, because this has proven to be a major advantage in promoting institutional change, increasing program ownership and facilitating management (fi to bridge the gap in funding encountered at the start of the new APs). The actual Program Coordinator and a PL of the running IUC-Program are both candidates for rector/vice-rector. A formal agreement will be negotiated with the new authorities to ensure optimal leadership of the IUC-Program.
Constraints on IUC PhD development The constraints on IUC-UNALM PhD development have resulted in frustratingly limited research results in Phase I. Some of the constraints are intractable and beyond the scope of the IUC-UNALM programme to address. However, there are three areas where changes in the programme may have beneficial effects for Phase II. *Greater clarity and simplicity around the route to PhD candidacy*	Comment / action proposal UNALM: In our opinion we need the utmost flexibility in our quest for good PhD-candidates. As a consequence different roadmaps towards PhD should be explored. Pre-doc can be one of them. Each individual candidate will be evaluated based on academic merits and potential. Accordance to the new University Law an incentive policy will be developed with the new authorities. In phase II the IUC-Program will promote more intensively the mentoring of possible candidates

Recommendation midterm evaluation	Programme suggestion
There are several routes to PhD candidacy, depending on starting points of potential candidates and the judgement of individual Flemish and local promoters, including formal pre-doctoral studies or other study periods in Belgium, and a lack of clarity overall about the process which seems likely to deter those UNALM staff and postgraduate students that may be considering their options on PhD studies outside Peru, or seeking external support. The preferred option of the Flemish Programme Coordinator depends upon potential candidates getting one or two research articles (in English) published in international peer-reviewed journals or getting a research paper (in English) accepted at an international scientific congress. This can be a lengthy process, and is more properly the outcome of successful PhD studies rather than an early input to getting accepted as a candidate. Recommendation 2: Despite the evident challenges and different viewpoints within the IUC-UNALM programme teams, the IUC-UNALM programme Joint Steering Committee should seriously consider working to agree some form of pre-doctoral study in Belgium (funded entirely separately from any subsequent PhD scholarship) as the only route for all potential PhD candidates (academic staff or students), unless, of course, they are already internationally published authors and could be accepted directly by Flemish universities. The success of such considerations for the IUC-UNALM programme would depend upon greater commitment by UNALM authorities to improve the current policies and procedures in the UNALM for university support for doctoral candidates and scholars (e.g. releasing academic staff from teaching duties to study in Belgium, reducing teaching loads etc.).	towards the basic requirements for acceptance in he PhD-programs of Flemish Universities (TOEFL, pre-doc, publication). It is recognized that appropriate decisions should be taken at different university levels to reduce the teaching load for candidates during their stay at UNALM. Major efforts will be made to create research environment and tradition were PhD candidates can focus on implementing their research proposals.

Recommendation midterm evaluation	Programme suggestion
Increase PhD scholarship funding in the programme The IUC-UNALM programme currently uses a 12-month threshold for PhD studies in Belgium for budgeting purposes, and , which is below the VLIR-UOS IUC norms and likely to disincentives potential candidates. Recommendation 3: the IUC-UNALM programme should adopt the VLIR-UOS 16 month minimum study in Belgium during a sandwich PhD as a budget threshold and make this clear in any management guidelines and information emerging from the PSU. *Take English language training for academics and potential PhD candidates seriously* The IUC-UNALM programme faces an intractable problem of low English language capacity among potential and prospective PhD candidates and researchers involved in the projects. The Phase I contribution to addressing the problem was inadequate and has not yielded good results.	Comment / action proposal UNALM: The IUC-UNALM program will consider the VLIR-UOS 16 month minimum study in Belgium during a sandwich PhD as a budget threshold and make this clear in any management guidelines and information emerging from the PSU. However for each specific doctoral student, as decided by the promoters and the local research teams, more or less time in Flanders could be necessary to achieve specific goals. Due to considerable budget reductions in Phase II, considering 16 months for each PhD candidate will limit the possibilities for research at UNALM.
Simplifying programme administration and accounting IUC –UNALM programme regulations add unnecessary and inefficient complexity to programme and project administration by insisting on working on a full cost basis for allowances for board and lodging, local accommodation and travel expenses by IUC-UNALM project team members in Peru, instead of adopting the UNALM local per diem. Recommendation 5: this practice should stop and the policy for the IUC-UNALM programme in Phase II should be to pay hotel accommodation (on presentation of the bill) where hotels are an option plus a modest per diem for expenses to be set by the PSU in line with UNALM rates.	Comment / action proposal UNALM: To decrease the local administrative load and based on our Phase I experience a local per diem system will be developed for all missions organized within IUC-project implementation as far as the per diem system is not extremely more costly than the actual full cost system. The payment of lodging and aerial or terrestrial transportation will be based on invoices.

Recommendation midterm evaluation	Programme suggestion
Allocating scholarships funds to projects At present, under the P7 "PhD incubator" element, scholarship money for the whole programme is paid out of P7 although the project team has not been able to do any 'incubation' activity as planned. Recommendation 6: The IUC-UNALM programme in Phase II needs to prioritise the PhD scholarships in order to achieve the overall benefits of the programme, and scholarship funds in Phase II should be allocated to the relevant projects according to budgeted Annual Plans.	Comment / action proposal UNALM: Research in the IUC-UNALM program is carried out through the sub-Projects included in P1 and P2. The research should be done by candidates for PhD / MSc, as already been promoted in year 4 and 5 of Phase I. Also the research on Bac/MSc thesis level should be structured and focused in such a way that it can lead to publication and incorporation of results at PhD level. The different sub-Projects in the second phase should prioritize research topics towards PhDs at Flemish Universities. It is very important to include young professors and top students considering a large number of professors will be retiring in 5 or 10 years and as a consequence the University will need new staff with higher degrees as imposed by the new Peruvian University Law. The implementation of this established research policy plan will be supported by Phase II of IUC-UNALM.
More active involvement of larger Flemish teams The relative weakness of the IUC-UNALM partnership at programme level has not prevented some good cooperation and coordination between UNALM and Flemish teams at project level. However, the IUC-UNALM programme would benefit in Phase II from more active engagement and inputs from more members of the designated Flemish teams, offering UNALM project teams more opportunities that demand their use of and practice in English language, and opportunities to observe and take part in Belgian research practice. Recommendation 7: in a restructured IUC-UNALM programme the Flemish and UNALM Steering Committees should consider ways to	Comment / action proposal UNALM: It is necessary to improve the exchange between IUC and UNALM. A major objective will be the improvement of English language proficiency and scientific and technological knowledge. In Phase I 9 Flemish MSc students (2 UG, 3 KUL, 4 HUB) developed MSc thesis work within the IUC-Program. The IUC-Program provides, along to VLIR-guidelines, a scholarship program for 3 MSc scholars per year. On the contrary VLIR-guidelines do not allow to use IUC funding for Flemish PhD candidates!

Recommendation midterm evaluation	Programme suggestion
engage more and more active research team members in the programme, considering, for example, the involvement of Belgian Master's or PhD students in the research projects through short field visits funded by the programme, or using such students for training and capacity building activities where UNALM capacity is weak or limited.	
Involvement of more Flemish universities in the programme The IUC-UNALM programme has been dominated by KUL (five out of seven of the projects have had Flemish Project Leaders in Phase I and active input in project teams from other Flemish universities has been limited. This is unusual in VLIR-UOS IUC programmes. Recommendation 8: in a restructured programme in Phase II ways should be found to strengthen the involvement of other Flemish universities, for example, by selecting new Flemish Project leaders for the restructured projects.	Comment / action proposal UNALM: Promote the involvement of new Belgium sub-Project research collaborators through invitation letters, webinar and workshops in Belgium linked to action for recommendation 7. Create opportunities through the internationalization efforts in order to add partners from other countries to our research teams which will likely promote more interest of Flemish partners. Promote more involvement of MSc students from Flemish universities.
Internationalisation Internationalisation is not a strong element in the UNALM institutional approach and the impact of international cooperation on major activities of the university is limited. Participation by the UNALM in international research actions is based on isolated initiatives of individual academics and researchers. Although it is argued that one of the main goals of the UNALM is to build its capacity to solve relevant problems in Peruvian society, these problems - sustainable agriculture, food security, food production, food chain, rural development, forestry, soil system, water management, environmental issues, etc - are among the most pressing global and regional priorities, especially in Latin America.	Comment / action proposal UNALM: Contribute to the development of policies and strategies for UNALM – internationalization. Assign UNALM staff for implementation of these policies and strategies. Increasing English proficiency, number of English publications and PhDs and International Congress attendance of UNALM staff will form the basis for international network creation and internationalization. At the end of Phase II an International Congress will be organized at UNALM to communicate research results of the IUC-Program.

Recommendation midterm evaluation	Programme suggestion
The IUC-UNALM programme, as the largest single international research and capacity building programme in the university, and intended to encourage South-South academic and research linkages, offers an opportunity to develop a more coordinated and proactive approach to internationalisation in UNALM. Recommendation 9: in Phase II measures should be taken to strengthen international outreach and raise the profile of internationalisation higher in the UNALM's strategic thinking.	
Programme restructuring for Phase II Recommendation 10: the following suggestions about programme restructuring should be taken into consideration in the preparatory discussions for Phase II: Close Project 3 and Project 6 at the end of Phase I and re-distribute funds within the programme. Consider the balance of research in the three main geographical ecosystems of Peru, and consider reorganising Project 1 into new projects. Enhance and expand the research into watershed management as a critical underpinning of farming production in all three ecosystems in Peru. Combine farming systems (Project 1) and value chain research (Project 2) into more coherent projects that will facilitate better synergies and sharing of resources. In Project 5 make no further investment in the BAN (other than provision of ICT services and facilities as a part of the university network). Use Project 5 to address English language capacity using blended learning approaches (ICT-based systems and support as well as upgraded English language teaching and support).	Comment / action proposal UNALM: We agree with closing P3 and P6. The support components for teaching/extension at IRDs will be incorporated in P4 and the components related to research/extension in P1 and P2. In relation to P1, we would like to have a balanced distribution of projects in all regions, however considering the budget restrictions for Phase II and the need to consolidate outcomes of Phase I, the focus will stay on the highlands and to a lesser extend the Amazon Bassin, being those regions in Peru with severe poverty problems of the rural communities. *Regarding research, we propose* • Maintaining the following subprojects: Horticulture in the Coast, Mixed Farming Systems in Mantaro Valley, Alpacas and Rangelands in the highland of Pasco, Animal Parasitology in both Pasco and Mantaro, Agroforestry in the Jungle, Capsicum, Native Grains and Value Chain Economics. The proposed new project on Water Resource Management will be developed in cooperation with ANA (Autoridad Nacional del Agua). The Value Chain Economics project can interact with Value Chains of specific Farming Systems subProjects, like

Recommendation midterm evaluation	Programme suggestion
	Horticulture, Mixed Farming, Alpaca and Agroforestry. *Regarding P5, we propose:* • The direct investments in library and ICT will be reconsidered. Nevertheless consolidation of Phase I achievements trough training and further development of Library and ICT procedures, policies and facilities is necessary. We agree no further investment in the BAN will be assigned in Phase II. However the maintenance and the provision of ICT services and facilities will be assured. *Regarding P4, we propose, additional to P4 core topics:* • Develop a blended learning course for English learning in coordination with the language center and P4. • Provide scholarships of advanced English training to potential candidates (professors and students) to MSc, and PhD when visiting Flemish Universities as trainee or PhD candidate. • Developing teaching capacity at the language center to provide English support relevant for the academic staff (see higher).
Addressing the UNALM human resource challenges in ICT The ICT infrastructure improvements introduced in Phase I P5 have the potential to transform the way the university works at all levels, both academically and administratively, if these improvements are managed and directed by a high-quality technical support team lead by an experienced professional (as Head of OSI). It is evident that the UNALM authorities have not to date fully appreciated the transformative nature	Comment / action proposal UNALM: Due to contradictory information on the functionality of the UCLV-ICT network we propose to gather extra information through the running NSS on DRONE-technology with UCLV, before we organise an official visit to UCLV.

Recommendation midterm evaluation	Programme suggestion
of ICT development in a university, nor the need for recruiting and retaining top quality leadership. Recommendation 11: VLIR-UOS should facilitate a short high-level visit by the new Rector, Vice-Rectors (Academic and Research) and Senior Administrative staff (HR, Finance, etc) to the Universidad Central 'Marta Abreu' de Las Villas (UCLV) in Cuba, where the recently completed IUC programme included successful and transformative ICT and ICT in Education components, led by a highly competent professional who commands the full support of the UCLV senior management.	

1.5.2. The evolving structure of the IUC-VLIR-UNALM Program

The following table summarises the changes in the projects and subprojects from Phase 1 to Phase 2:

Phase I	Phase II
Cluster 1: Research on sustainable management of agro-ecosystems Project 1: Farming systems research • Alpaca in the Peruvian Highlands • Agroforestry in the Amazon basin • Peri-urban Horticulture • Mixed Farming in the Central Andes (with 2 extra spin-off subsub projects) - Guinea Pig breeding and nutrition - In-vivo native potato collection • Watershed Management in the Central Andes Project 2: Development of value chains for biodiversity conservation and improvement of rural livelihoods • Capsicum • Native grains • Sapote • Value chains Project 3: Agrarian innovation and management of participatory knowledge systems (1 subproject linked to subprojects in P1 and P2) Cluster 2: Education	Cluster 1: Research on sustainable management of agro-ecosystems Project 1: Farming systems research • Alpaca in the Peruvian Highlands • Agroforestry in the Amazon basin • Peri-urban Horticulture • Mixed Farming in the Central Andes • Parasitology in the Central Andes Project 2: Development of value chains for biodiversity conservation and improvement of rural livelihoods • Capsicum • Native grains • Value chains Cluster 2: Education Project 4: Educational innovation in undergraduate and graduate programs with emphasis on the sustainable management of agro-ecosystems and rural development Cluster 3: Institutional capacity building and infrastructure development Project 3: Institutional Change in Research & Innovation Management

Project 4: Educational innovation in undergraduate and graduate programs with emphasis on the sustainable management of agro-ecosystems and rural development Cluster 3: Institutional capacity building and infrastructure development Project 5: Capacity building and infrastructure development of ICT, Library and Language Center Project 6: Capacity building and infrastructure development of Regional Development Centers (IRDs) Project 7: Institutional change and logistic project support	Project 5: Institutional support: logistics and facilities

1.5.3 Overview of IUC-VLIR-UNALM Programme, Phase II

PROGRAMME			
Title:	Institutional University Cooperation with Universidad Nacional Agraria La Molina (Phase 2)		
IATI identifier:	BE-BCE_KBO-0418.766.123-IUC_UNALM_Phase2		
Type:	IUC	**Contract ID:**	ZIUS2015AP020
Country:	PERU	**Location**	Lima
Start:	1/01/2015	**End:**	31/12/2019
Partner (South)	Universidad Nacional Agraria La Molina (UNALM)	**Partner (North)**	KU Leuven
Promoter (South)	Carmen Velezmoro Sanchez	**Promoter (North)**	Eddie Schrevens
Contact (South)	cevs@lamolina.edu.pe	**Contact (North)**	eddie.schrevens@biw.kuleuven.be
Budget Phase 2 (2015-2019):	€ 2.680.000 (For the Phase Out 2020-21 a budget is programmed of € 115.000)	**Sector:**	Research/scientific institutions (43082)
Summary			
The Universidad Nacional Agraria La Molina (UNALM), founded in 1901, is the major agricultural university in Peru. Operating with a government mandate for excellence and building on its present high quality, UNALM aspires to become one of the nation's preeminent public research universities within the next decade. The institutional focus is the strengthening, consolidation and internationalisation of UNALM's academic capacity in research, education, knowledge-transfer and technologicalinnovation in sustainable management of agro-ecosystems to generate leadership in the Peruvian rural sector. From a developmental perspective, the programme has the ambition to contribute with the overall livelihood situation of the local population through identification and remediation of key agronomic, socio-economic and environmental constraints of small scale family based agriculture in Peru. The further development of the Regional Development Centers of UNALM (IRD) is important for the anchorage in the local/regional development setting. Participatory processes will play an important role to achieve this developmental goal. Therefore an enhancement of basic institutional capacity (ICT, library, ..) remains important and the existing projects were re-clustered: farming systems and research, value chains development for biodiversity conservation and improvement of rural livelihoods, Innovation in undergraduate, graduate and extension programs with emphasis on the sustainable management of agro-ecosystems and rural development, Institutional change in research and innovation management and in logistics and support systems were foreseen.			

Overall Objective
Develop, increase, consolidate and internationalize UNALM's academic capacity in research, education, knowledge-transfer and technological-innovation in sustainable management of agro-ecosystems; Improving the food security, the local income, the stability and competitiveness of the agro-ecosystems and thus the overall livelihood situation of small scale family based agriculture in Peru.

PROJECT 1			
Title:	Farming systems		
Sector:	Agricultural development (31120)		
Partner (South)	Universidad Nacional Agraria La Molina	**Partner (North)**	KU Leuven
Promoter (South)	Gustavo Gutierrez	**Promoter (North)**	Eddie Schrevens
Specific Objective			
Research and adoption of technological packages for efficient use of natural resources within the existing production systems in five agro-ecosystems in Peru. This specific objective will give a range of sustainable technological options under different ecosystems. Participatory adoption methodologies will guaranty the efficient use of the natural resources and scaling up of these technologies; Knowledge generated of technological packages for efficient use of natural resources within the existing production systems in five agro-ecosystems in Peru. For academic purposes the generation of knowledge with adequate technologies that conserve the natural resources, will enrich the level of education and the role of the University to support farmers development.			

PROJECT 2			
Title:	Development of value chains for biodiversity conservation and improvement of rural livelihoods		
Sector:	Rural development (43042)		
Partner (South)	Universidad Nacional Agraria La Molina	**Partner (North)**	KU Leuven
Promoter (South)	Roberto Ugas	**Promoter (North)**	Miet Maertens
Specific Objective			
Strengthen the capacity of UNALM in research on the development of value chains of native grains and vegetables; Promote better more sustainable production systems and value chains of native grains and vegetables.			

PROJECT 3			
Title:	Institutional change in research and innovation management		
Sector:	Education policy and administrative management (11110)		
Partner (South)	Universidad Nacional Agraria La Molina	**Partner (North)**	Universiteit Hasselt
Promoter (South)	Carmen Velezmoro Sanchez	**Promoter (North)**	Ann Peters
Specific Objective			
To implement the research & innovation policies at UNALM and to enhance the support of the research and innovation activities; To establish and implement an institutional wide PhD policy plan; To install a quality management system in research & innovation that meets the international standards.			

PROJECT 4			
Title:	Innovation in undergraduate, graduate and extension programs with emphasis on the sustainable management of agro-ecosystems and rural development		
Sector:	Higher education (11420)		
Partner (South)	Universidad Nacional Agraria La Molina	**Partner (North)**	KU Leuven
Promoter (South)	Carlos Gomez	**Promoter (North)**	Jan Elen
Specific Objective			
Development of educational models and concepts of extension in agrarian sciences at UNALM to support the development of agrarian professionals linked to the reality of a highly diverse country; Professionals supporting through their improved competences to better rural development.			

PROJECT 5			
Title:	Institutional support: logistics and facilities		
Sector:	Education policy and administrative management (11110)		
Partner (South)	Universidad Nacional Agraria La Molina	**Partner (North)**	KU Leuven
Promoter (South)	Liliana Aragon	**Promoter (North)**	Stephane Sas / Eddie Schrevens
Specific Objective			
Establish institutional support in ICT systems and quality management; Establish institutional support for transversal projects at UNALM and its regional centers.			

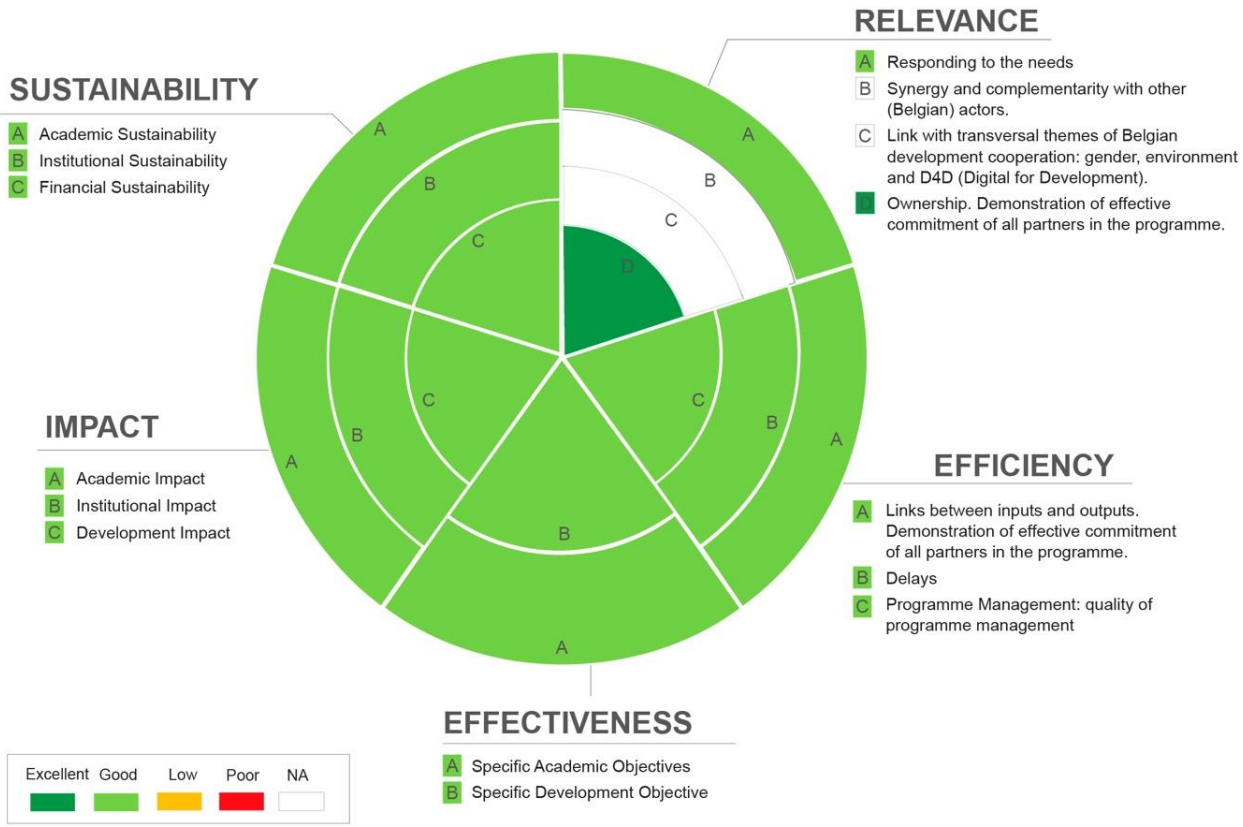
Some publications produced in the framework of the IUC UNALM programme

2. Evaluation

2.1 Evaluation of the programme level

The programme level could be interpreted as the sum of the project results and, as stipulated in the ToR, it should be evaluated differently from the specific projects. Looking into the project details, it has become obvious that the programme level is mainly focused on assure the coordination of the different projects and take advantage of the synergies, which are crucial aspect for the success of these kind of initiatives.

The figure below summarises the scoring in each criterion at programme level.



2.1.1. Relevance

1.1. Responding to needs Score: **Good**	- The programme addresses highly relevant development issues in innovative ways, with the final aim of increasing UNALM capacity to support Peru's rural development. - However Phase 1 (2010-2014) of this initiative started with no country strategy by VLIR-UOS to Peru, as it was only post 2011 that VLIR-UOS initiated a country approach and specifically for Peru it was developed at the end of 2014. Even the initial formulation of phase 2 occurred prior to this and it was only later on during Phase 2 that the VLIR-UOS strategy for Peru could be taken into account. Of course, the phase 2 formulation did have the recommendations of the mid-term evaluation which also linked the programme with local Peruvian development priorities. - In any case the process of programme formulation considered the inputs of the main stakeholders (participatory approach), and the modalities for implementation have been relevant during the whole life of the project (e.g. involvement of IRDs in different projects, development of crucial species for the socio-economic development of Peru, etc.). - The IUC had a continuous process of alignment with National policies, especially from 2014, with the University Law 30220 (se details in 1.4.3 Higher Education Context). From this moment several initiatives were promoted by different governmental bodies (CONCYTEC, SUNEDU) in order to improve research and development at Peruvian universities. UNALM took advantage of this context to propose a model of research management which has been considered a good practice at national level.
1.2. Synergy and complementarity with other (Belgian) actors Score: **NA**	- There have been limited synergies and complementarities in the VLIR-UOS framework (a couple of projects with other VLIR-UOS projects in Cuba, etc.), and also with Belgian NGOs (Close the Gap cooperation scheme to provide computers to schools). - Although the Flemish counterpart argue that the strategy has been to work directly with local NGOs instead of Belgian actors, the fact is that, for instance, the Belgian embassy had very little or no information of the activities of the IUC, which may have limited the potential cooperation with other organisations. - Thus, evaluators consider that the complementarity with other Belgian actors, and the visibility of the programme for key actors (Belgian Embassy) might have been better.
1.3. Transversal Themes (gender, environment and D4D) Score: **NA**	Total gender ratio is 55% female vs. 45% male participants at UNALM (see specific gender ratio by project in each project evaluation)

1.4. Ownership Score: **Excellent**	- The IUC proposed several successful strategies to increase participation of UNALM actors and ownership. As discussed in the project level analysis, project formulation had always a participatory approach, and other good example could be the training of students (volunteers) to diffuse ICT knowledge and skills to their fellows. - However the main signals of successful ownership have been: 1) the recognition of the work and contribution to UNALM objectives of several activities of the project by the main higher education stakeholders; 2) the integration and institutionalisation of different IUC policies (e.g. research) and services (e.g. UIE) at UNALM structure. - Thus, evaluators consider that stakeholders still demonstrate effective commitment and that there is a real interest of the different UNALM actors, to be part of the programme.

2.1.2. Efficiency

P.2.1. Link between Inputs and Outputs
 	
Score: **Good**
	- Phase II focused on consolidating Phase I efforts, moving to infrastructure investment to field research (PhD students research and scholarships funding).
	- Overall we must say that most activities of the project were implemented in cost-efficient manner, with no major deviations on the budget. Consequently, Outputs have been delivered also with a cost-efficient approach.
	- However, three main issues have been identified affecting the running of the IUC:
	  - The – previously announced - decrease of the budget from VLIR-UOS, impacting on the motivation of many Project Leaders and in the merge of some project activities;
	  - The New University Law (passed in 2014, implemented in 2016) which considerably slowed down the institutional activities;
	  - The 4 changes of UNALM authorities (Rectors) during the life of the project, which also affected the pace of some activities.

2.2. Delays Score: **Good**	- Delays in activities, and specifically institutional changes, are attributed mainly to adjustments in the budget and retardation in the arrival of the funding. - Funding was organised yearly and arrived with 3 months of delay, so a pre-finance was needed from a local UNALM actor (Fundacion), impacting project implementation.

	- South and North coordinators claimed increasing flexibility in the budget in order to take advantage of opportunities that arise during the life of the project. - The above comments are coming from both North and South coordinators, but evaluators may confirm that, overall, there were no significant delays in executing the activities and that the final outputs were not decisively affected.
2.3. Programme Management Score: **Good**	- A management manual with clear procedures was developed, and with the exception of same cases, was appropriately applied during the life of the programme. - The overall coordinator was regularly in communication with the local coordinator, as such facilitating fast anticipation on arising problems. Although the performance and enthusiasm of the Flemish coordinator has been crucial for the success of the programme, a more "teamwork" approach could have also benefitted the programme with a wider participation of Belgian counterparts. Some local coordinators complained about the lack of Flemish counterpart on their project activities. - Following this, although there has been an adequate monitoring of the programme, a lack of communication and team building in the Flemish side has been identified (the Local Steering Committee – LSC - was organised monthly and the Flemish Steering Committee – FSC - only yearly). - However evaluators consider that the overall management of the project has been good, with a high commitment from project leaders and effective support from PSUs.

2.1.3. Effectiveness

3.1. Specific Academic Objectives Score: **Good**	- In Phase II all projects achieved their respective objectives. In the other hand, in Phase I there were 3 main deviations: the cancellation of the Sapote subproject, the reformulation of P3, the incorporation of the Watershed management subproject in P1. - After the end of the programme it is clear that UNALM 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. - Both individual (knowledge, skills) and institutional (structures, resources) academic capacities have been reinforced with the IUC, at several levels.

3.2. Specific Development Objectives
 	
Score: **Good**
	- The programme has contributed to the foreseen specific development objectives, achieving an interesting impact in the IRDs regions, and always considering local and national priorities.
	- There are several examples of how the IUC supported the implementation or development of changes in the involved stakeholders. P1 was one of the most relevant in this area, and the following are some examples (more details and case studies of this may be found in 2.4):
	  - It supported research and transfer technology to improve alpaca production systems;
	  - It mathematically modelled the production systems of farmers in central Andes, resulting in a straightforward optimization of the technical sustainability or
	  - It contributed to the adoption of agro-ecological production for the local horticultural growers.

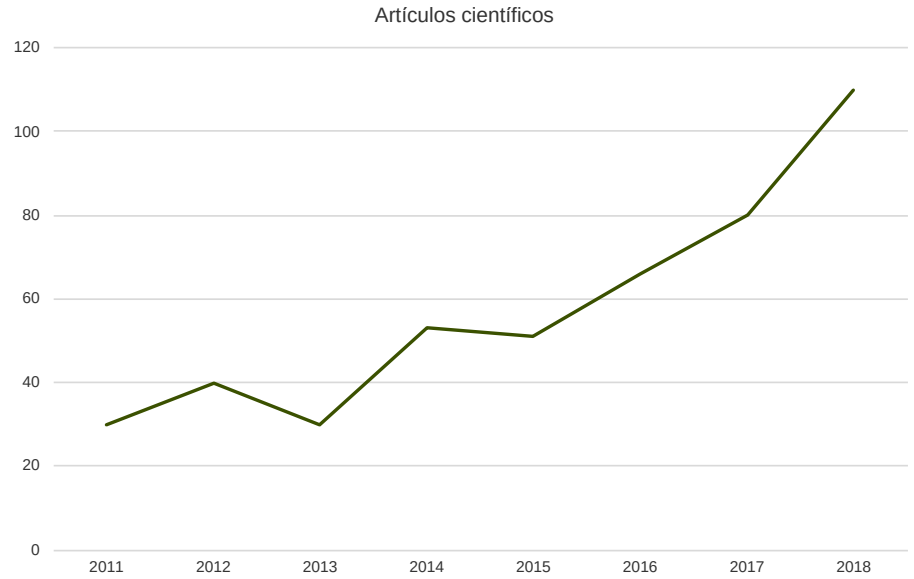
2.1.4. Impact

4.1. Academic Impact
 	
Score: **Good**
	- The main impacts at academic level of the programme by phase are the following:
	  - Phase I. Improvement of the research capacity of UNALM actors, Improvement of education and research infrastructure in the campus and in Regional Development Centers (IRDs), Increased capacity to obtain more R&D funds, Strengthening of UNALM internationalisation, Creation of the Education Innovation Unit, Updating of ICT and library facilities and services, Development of ICT, research and library policies, and the Institutional Strategic Plan of UNALM 2010-2015;
	  - Phase II. Set up of ICT and Library Councils. Development of Research Coordination Office and UNALM research policies, Consolidation of UIE, Organisation of Education day (yearly), UNAL Quality and accreditation model, Education innovation trainings, Increased of ICT and technological tools by UNALM actors, research and teaching activities at IRDs.
	- Thus, in spite of the constraints identified above (2.1) academic objectives were accomplished to a very high extent.
	- However, the IUC faced also some adversities that did not allow to extend the academic impact at UNALM:
	  - The programme had from the very beginning difficulties in finding good PhD candidates, and the total number during the life of the initiative is quite low, if you compare with similar projects. There are different reasons for that (English language level, lack of incentives, etc.) but the fact is that, even if the programme reoriented its strategy

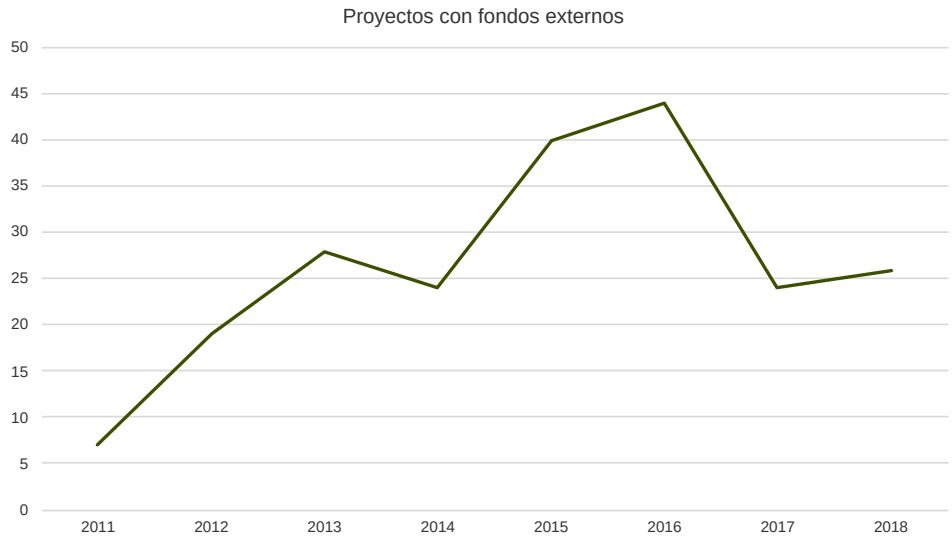
	for not prioritizing this aspect, the final number of IUC PhD students is just modest; - Also linked with this situation, there has not been an institutional policy for retaining PhD students from the programme, and only random faculty policies covering this issue.
4.2. Institutional Impact Score: **Good**	- There is no doubt about the fact that UNALM is the leading Peruvian higher education institution specialized in agriculture, agribusiness, and natural resources. - During the period of the IUC UNALM had an impressive performance with regards different institutional indicators: - UNALM improved constantly its ranking positions in the last years: - At Ranking America Economia is at the moment #4 (2016 #7, 2017 #7, 2018 #6); - At the Latin American Ranking of the Times Higher Education (THE) UNALM is for the first time (2019) between the best 150 LA HEIs; - Also UNALM is between the best 150 LA HEIs at LatAm University Ranking of QS (# 144); - In the last SUNEDU Ranking (2017) UNALM isalso in # 4. - The number of articles increased vigorously, as stated in the next figure; - Researchers updated their skills for capturing funds, the visibility of the university was increased and, in consequence, the number R&D projects funded by external sources increased (see also figure below). - Nevertheless it is quite difficult to confirm which other variables may have an impact in UNALM performance besides the IUC (attribution problem). Counterfactual approaches, as explained in limitations (1.3.4) could not be applied in the framework of this evaluation. - Considering this framework and the analysis performed during this exercise, evaluators conclude that the IUC had a high institutional impact that in some projects could be also considered as excellent (P3, P4).
4.3. Development Impact Score: **Good**	- The programme contributed to improve the food security, the local income, the 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 small-scale family based agriculture in Peru. Most of the experimental research work was carried out along to participative and collaborative methodologies on farmer fields at local level. For instance, Research demonstrated is possible to produce 15 t/ha additional yield, reducing water use by 60% compared to an average tomato farmer in the Peruvian coastline. These research results were

	shared with farmers and stakeholders at UNALM, Mala valley and IRD Don German. - The project devoted specific efforts to develop the Regional Development Centers of UNALM (IRDs), in order to become key actors in regional development, as well as in research and education. Again, participatory processes played an important role to achieve this goal. Results, as explained in the analysis at project level, have been very positive. - Evaluators consider that the development impact has been overall high, and very high in the case of P1.

Nº of scientific articles published at UNALM 2011-18



Nº of R&D projects funded by external sources at UNALM 2011-18



2.1.5. Sustainability

5.1. Academic Sustainability
 	
Score: **Good**
	- The VLIR-UNALM project allowed building capacities 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.
	- From the 8 PhD candidates of the IUC-Programme, 4 are staff of UNALM already. When finishing the PhD they will in line to become principal professor, when vacancies open. Nevertheless and as explained before, an internal policy at UNALM is still needed to have more professors doing their PhD abroad and to incorporate to the staff students with highest potential to become a professor.
	- Most academic activities developed by the project will continue:
	  - Training of staff: Education day, courses for beginners and advanced teachers, educational projects. The fact that there is no Faculty of Education at UNALM produces a bit concern, because conceptual and innovative inputs may be needed in the near future.
	  - Education policies: the institutional support to UIE has been formalized via the Education day, the course for beginners or the collaboration with other offices (Accreditation and Quality Office, CAA-Library) is increasing. However it is not completely clear yet which UNALM body should be in charge of certain actions and structuring implementation of policies at university level (through the University Council) is still required.

5.2. Institutional Sustainability
 	
Score: **Good**
	- The program created the main conditions to preserve the results and positive effects already obtained during the IUC. Two important factors are:
	  - The change in the way of thinking related to scientific research by the team members and the university community;
	  - The institutionalisation of several initiatives (e.g. UIE) coming from the IUC.
	- Evaluators may confirm that decision-making structures are in place, and that there is a strong commitment in order to guarantee institutional sustainability (at the highest level).
	- UNALM has contributed with additional funding and covered some infrastructural activities derived from the creation of the units, mainly with the payment of workforce and also infrastructure.
	- We identify little measures to retain and upgrade human capital, as described in other parts of this report.

	- The intensification and formalization of interdisciplinary (internal) and interuniversity cooperation has been increased not only in the areas of the programme, but also in additional topics.
P.5.3. Financial Sustainability Score: **Good**	- The continuation of the Program depends partially on the success rate in acquiring external funding. At this moment many funding opportunities are available in Peru (CONCYTEC), Latin America and also in industrialised countries (US, Europe, etc.). This depends also on political stability and socio-economic context. - All research projects succeeded in attracting external funding (see figure before). - The Education Innovation Unit and the Research Coordination Unit were structurally embedded in the UNALM with yearly operational budgets and assigned tenure personnel. The same for ICT, Library and Open Learning Centre services. - Over the last ten years also the IRDs were restructured. Actually they report to make a reasonable profit.

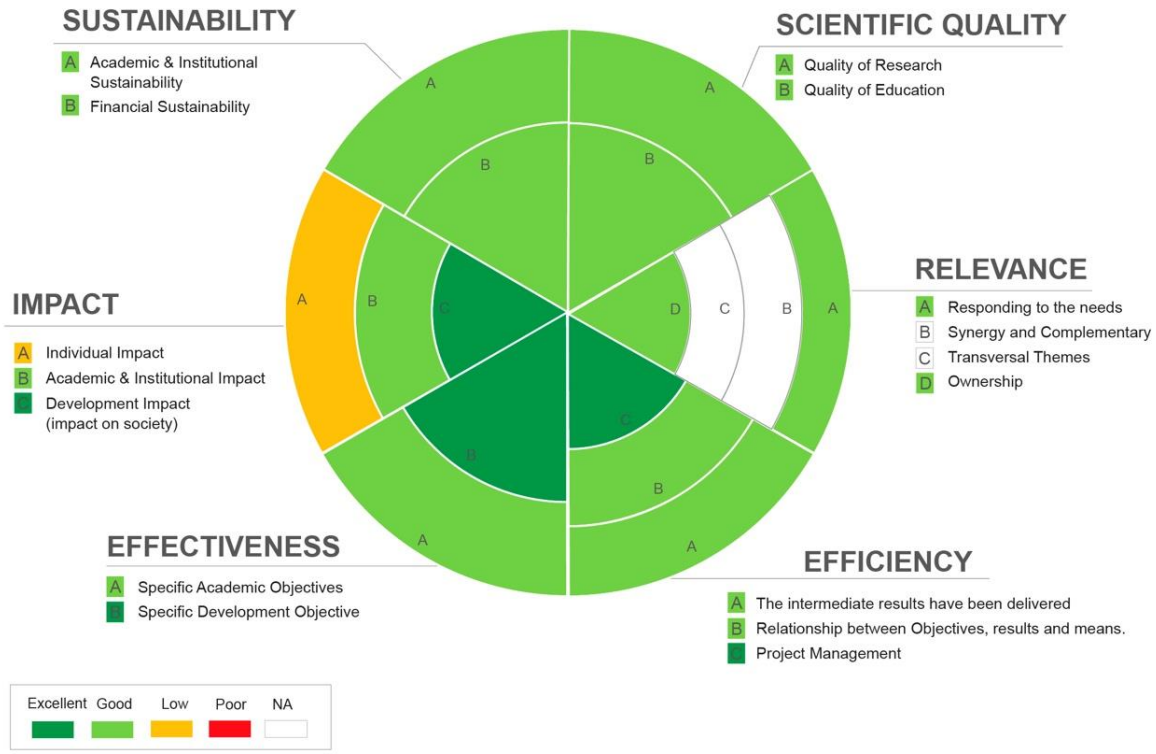
2.2 Evaluation per project

2.2.1 P1. Farming Systems Research

P1 had as academic objective to strengthen the UNALM capacity to offer technical support to farmers in decision making related to resource management in five agro-ecosystems in Peru.

The 5 subprojects included in P1/Phase II were: Agroforestry, Alpaca and rangelands, Mixed Farming Systems, Parasitology and Horticulture. Phase II continued the improvement of research capacity accomplished in Phase I and produced very relevant outputs, mainly with regard development objectives.

Graphic summary of the evaluation of P1



SCIENTIFIC QUALITY	
1.1. Quality of Research Score: **Good**	- The research produced by this project is innovative and fully relevant for these five agro-ecosystems in Peru. - The project has contributed to the publication of around 14 articles in international journals, 9 articles in national journals, 23 conference proceedings or 21 conference abstracts. - The involvement of the main stakeholders (farmers, ranchers, agricultural associations, etc.) assured the real application in the different production systems. Specific details of the exploitation of the research results achieved in P1 may be found in 4.2 (Case studies). - Research outputs contributed to national strategies for environmental protection and socio-economic development.

1.2. Quality of Education
 	
Score: **Good**
	- Main examples of this issue are:
	  - The Agroforestry Systems (SAF) concepts have been incorporated in the university through the agronomy undergraduate courses of soil and water conservation, forestry soils, the graduate MS course of silvopastoral systems and the PhD course of management of silvopastoral systems.
	  - In the Alpaca and rangelands subproject the research practices had an effect on the activities of the three units at UNALM, and also were shared with undergraduate and postgraduate students by giving lectures, seminars and performing field trips.
	- Education outputs were also shared with local stakeholders (other universities, companies, association of farmers, etc.).

RELEVANCE	

2.1. Responding to needs
 	
Score: **Good**
	- Each project address full relevant issues for the Peruvian farming environment:
	  - Reduction of deforestation and recover extensive areas of degraded land / Agroforestry project.
	  - Alpaca production / Alpaca and rangelands project.
	  - Sustainability of Central Andes production systems / Mixed Farming Systems project.
	  - The development and validation of sustainable approaches for optimal parasite control in livestock systems in the Peruvian Central highlands / Parasitology project.
	  - The adoption of agro-ecological production for the local horticultural growers / Horticulture project.
	- Projects formulation had a participatory approach and respond not only to the need of the stakeholders but also to their changes in the development context.

2.2. Synergy and Complementary
 	
No Score
	- There are several examples of synergy and complementary with other initiatives:
	  - Link between the Laboratory of Parasitology at the UNALM and the Local Health Center in Matahuasi District.
	  - Complementary funds from CONCYTEC and PNIA allowed to perform research in alpaca genomics and the use of molecular markers for alpaca genetic improvement using cutting-edge approaches.
	  - 3 additional projects brought more than 600 refurbished portable PCs were distributed in primary and secondary schools as well as in local medical posts all over Peru.
	  - An extra spinoff two DRONE projects (additional funding) were executed to solve the problem of land use evaluation in the Mantaro valley.
	  - For the Horticulture project the support from local authorities and other additional funding helped in the dissemination of results and networking with farmers and stakeholders.

2.3. Transversal Themes (gender, environment and D4D)
No Score
	- P1 Gender's ratio:
	  - Female: 25 (42%)
	  - Male: 35 (58%)

2.4. Ownership Score: **Good**	- UNALM past experience in carrying out this kind of projects in the Peruvian coastline, Andes and Amazon regions contribute to increase ownership and sustainability. - Farming systems experiments are performed on farm level with participatory and collaborative methodologies, also assuring local ownership. - UNALM networking facilitated the extension of the cooperation with key stakeholders in the field, including local universities, agriculture or farming associations, companies or relevant governmental bodies.

EFFICIENCY	

3.1. The intermediate results have been delivered
 	
Score: **Good**
	- The intermediate results achieved in the 5 subprojects were achieved. Below there are some examples of that:
	  - For the Agroforestry subproject intermediate results allowed to analyze the positive and negative factors that affect the establishment of AFSs through the study of different other land uses.
	  - For the Parasitology subproject intermediate results allowed participants to have baseline data to start with the design of the experiments on the evaluation of levels of anthelmintic resistance and molecular work for studying F. hepatica infection levels on livestock and human population.
	  - With regard the Horticulture subproject intermediate results lead to problem identification contributing through research, result

	dissemination and strategical alliances with farmers association local authorities and stakeholders to strengthen local horticultural production.
3.2. Relationship between Objectives, results and means Score: **Good**	- In P1 there was an adequate interrelation between the objectives and the results, characterized by their integral character. - The means/inputs were justifiable and carefully thought-out solution for the defined outputs. - Outputs (intermediate results) contributed to the project objectives. - Delays are attributed to the VLIR financial planning/changes, and its consequence in the project distribution of funds.
3.3. Project Management Score: **Excellent**	- Management manual and procedures were successfully put in place. - Monitoring by the Flemish partners was active and it contributed to the establishment of adequate reporting guidelines. - Communication. Project participants have been involved in the financial, operational and strategic planning. Successful team management, based on an outstanding leadership at project level.

EFFECTIVENESS	
4.1. Specific Academic Objectives Score: **Good**	- Specific academic objectives were achieved and the quality of the outputs is satisfactory. - Evaluators may highlight the assessment of the factors and their inputs for recycling that allow to apply agroforestry systems, the evaluation of climate as an environmental constraint for crop production or the estimation of the factors involved in achieving technical sustainability of small holder vegetable production system in the coastline. - These actions produced changes (in awareness, knowledge, skills, at institutional level) that are visible in the selected indicators (research – articles, abstracts, conference proceedings, etc. - & teaching _ courses, textbook, laboratory manuals, etc.).

4.2. Specific Development Objectives
 	
Score: **Excellent**
	- There are several examples of how P1 supported the implementation or development of changes in the involved stakeholders:
	  - It supported research and transfer technology to improve alpaca production systems (Alpaca Case Study, 2.4.2).
	  - It mathematically modelled the production systems of farmers in central Andes, resulting in a straightforward optimization of the technical sustainability (Agroforestry Case Study, 2.4.1).
	  - It contributed to the adoption of agro-ecological production for the local horticultural growers (Horticulture Case Study, 2.4.5).
	- More details and case studies of this may be found in 2.4, but one example of effectiveness of a subproject is the Rangeland, focused on assessing the effect of guano alpaca application and Fertilization on revegetation with *Festuca humilior* (Fehu) in Cachipampa – Pasco.

	Through the activities developed in this subproject the communities of Cachipampa benefitted their economy around 30% in the last 7 years, via the application of new recovery strategies for degraded soils.

IMPACT	
5.1. Individual Impact Score: **Low**	- One of the main inputs of VLIR-IUC programmes is the number of PhDs students and postdoc trained in Belgium (trainings, scholarships and post doc research stays), usually including theoretical and practical learnings in research, teaching and students' professional practices. - P1 and the UNALM IUC in general get a limited number of students because of different reasons explained in previous points (Impact at programme level). - Thus, the academic individual impact of P1 is considered as low, although it has to be considered that the coordination of the project did not prioritise this issue and focused the efforts in other tasks, which at the end had a fruitful impact at society level (see 5.3).
5.2. Academic and Institutional Impact Score: **Good**	- The Agroforestry Systems (SAF) concepts has been incorporated in the university through different courses (undergraduate, graduate and PhD). - Research practices have been incorporated in the three units at UNALM, and also were shared during field trips. - The capacity of the Laboratory of Parasitology of the Animal Science College for doing research and extension activities and has been enhanced. - Research on family agriculture has been incorporated in different UNALM courses (Agroecology, Vegetable production and Organic Agriculture).

5.3. Development Impact (Impact on Society)
 	
Score: **Excellent**
	- The impact on the different communities associated with the 5 agro-systems have been very high, and there are several examples Most relevant, described in detail in 2.4, are:
	  - Agroforestry options to recover degraded amazon soils for reforestation programs to mitigate climate change.
	  - Community/based breeding program in alpacas.
	  - Effect of guano alpaca application and Fertilization on revegetation with Festuca humilior (Fehu) in Cachipampa – Pasco.
	  - Study of the fascioliasis in dairy cattle and its impact in public health in the District of Matahuasi, Mantaro Valley, Perú.
	  - Technical sustainability of tomato cropping systems in the Peruvian coastline.

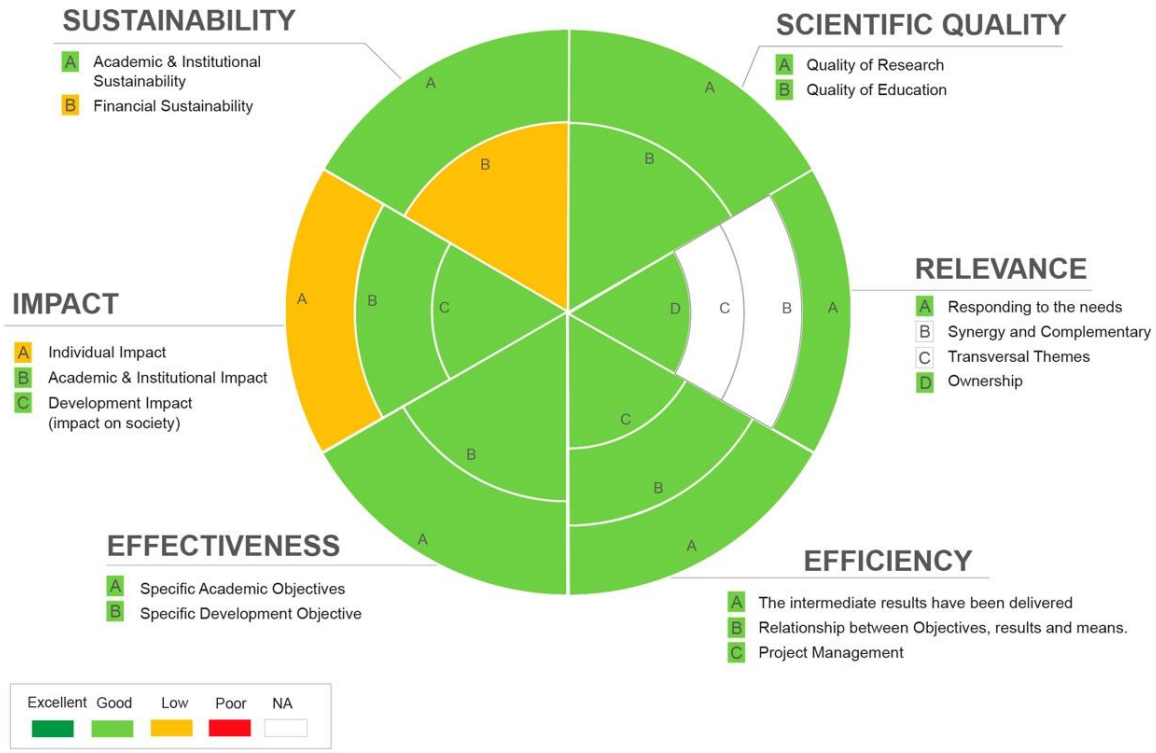
SUSTAINABILITY	
6.1. Academic & Institutional Sustainability Score: **Good**	- Academic and institutional sustainability depend on the capacity of P1 leaders to continue the links/activities with farmer associations and the policy of the University and Governmental offices to support this project. - Both are assured because of: a) the recognition of the contribution of P1 to the socio economic development of key stakeholders in the farming systems; b) the integration of research lines and courses at UNALM institutional policies. - Besides that, researchers seem to be committed to continue the work after the end of the project.
6.2. Financial Sustainability Score: **Good**	- Financial sustainability depends on availability of funding agents for the specific research topic. P1 is already taking advantage of the competitive funding available in Peru (CONCYTEC, PNIA). - Other potential sources of funding may come from: a) international R&D funds; b) provision of services from the labs. - Both sources have to be assessed by P1 members, although there is little evidence on any work in this area.

2.2.2 P2. Development of Value Chains for Biodiversity Conservation and improvement of rural livehoods

P2 had the following objectives: 1. Knowledge creation and dissemination on value chains of native grains and vegetables (overall academic objective); 2. Contribute to increasing the sustainability of production systems of native grains and vegetables, environmentally as well as socially and economically (overall development objective).

The 3 subprojects included in P2/Phase II were: Quinoa, Capsicum and Socio-economic. One of the subprojects coming from Phase I (Sapote) was stopped, because the production of the Sapote gum was so small that not value chain research could be done. This was due to extreme drought during the first experiments in the dry forest regions of North Peru, which could not have been foreseen at formulation of the Project.

Graphic summary of the evaluation of P2



SCIENTIFIC QUALITY	
1.1. Quality of Research Score: **Good**	- The R&D carry out by P2 is innovative and in line with international standards. - The project has contributed to the publication of around 7 articles in international journals, 4 articles in national journals, or 3 conference abstracts. - The involvement of the main stakeholders (food producers, restaurants, agricultural associations, etc.) confirmed the palpable application in their different economic activities. - Research outputs contributed to national strategies for socio-economic development and nature conservation (e.g. National Plan for the Promotion of Capsicum).

1.2. Quality of Education
 	
Score: **Good**
	- Main examples of how the activities of P2 have improved the quality of education in UNALM are:
	  - The collection of information and the availability of resources allowed the improvement and incorporation of new methodologies for the teaching of pre-degree courses (Plant Breeding and Cereals and Native Grains Cropping) and post degree (Improvement of crops by biotic and abiotic stresses resistance/tolerance);
	  - One of the spin-off activities of the Capsicum project allowed UNALM to provide technical assistance and research support for students of food technology of an Amazonian university.
	- Education outputs were also shared with local stakeholders (other universities, restaurants, association of farmers, etc.), as later described in impact.

RELEVANCE	

2.1. Responding to needs
 	
Score: **Good**
	- P2 is focused on the development of crucial species for the socio-economic development of Peru. Some examples are:
	  - The identification of 35 promising lines of Capsicum, developed and practiced for several years a management plan for the production of organic chilli peppers for smallholders and engaged in active dissemination to promote further demand for diverse chilli peppers and encourage conservation efforts at the farm level.
	  - There are substantial benefits of increasing the knowledge of the behaviour of quinoa in environments of the Peruvian coast, in which the crop was unknown. This knowledge will allow in the future to reduce the problems that Peru will have due to drought and soil salinity on the coast since it will have genetic material for these conditions.
	- Projects formulation had a participatory approach and respond not only to the need of the stakeholders but also to their changes in the development context.

2.2. Synergy and Complementary **No Score / NA**	- P2 supported research embedded into two main Crop Research Programs of the Faculty of Agronomy and have connections and synergies with other projects. - These synergies have been considered bot in academic and research activities. - Interdisciplinary research has been promoted in P2 as a key element for the development of the different subprojects.

2.3. Transversal Themes (gender, environment and D4D)
No Score / NA
	- P2 Gender's ratio:
	  - Female: 48 (66%)
	  - Male: 24 (33%)

2.4 Ownership Score: **Good**	- Ownership of P2 activities is embedded into the design of the different activities (education, research, transfer of know how). - UNALM leadership and experience in developing projects in these areas (quinoa, capsicum) contributed to increase ownership and sustainability. - Also UNALM internal structures promoted ownership, by regular participation in communication and dissemination at the university level and connections with relevant stakeholders out of the university.

EFFICIENCY	

3.1. The intermediate results have been delivered
 	
Score: **Good**
	- P2 did not plan overall intermediate results for all three subprojects since there were very few connections among the three research groups.
	- Most of the intermediate results were achieved or modified due to varying contexts and scenarios and redrafted, showing completion as modified.
	- Main inconvenient issues in this framework were:
	  - Internal; the lack of fulfilment by UNALM of the target for PhD degrees granted at the end of the project (discussed in detail at programme level);
	  - External: the new University Law in Peru indirectly affected P2 researchers by increasing the time that they have to devote to administrative work.

3.2. Relationship between Objectives, results and means Score: **Good**	- P2 had an acceptable interrelation between the objectives and the results obtained. - Means/inputs are justifiable and carefully thought-out solution for the foreseen outputs. - The contribution of the outputs (intermediate results) in the project objectives is clear.
3.3. Project Management	- P2 was the only project with a rotating coordination, with project leaders from Quinoa and Capsicum taking the role of coordinator one year each.

Score: **Good**	This was a good measure to assure effective response, particularly during Phase II; - Monitoring by the Flemish partners has been operative, and it contributed to the establishment of adequate reporting guidelines, although some moments of tension have been reported because delays in submitting technical and financial reports; - Communication. The local steering committee assured some degree of communication between projects.

EFFECTIVENESS	
4.1. Specific Academic Objectives Score: **Good**	- Specific academic objectives have been accomplished, and the quality of the outputs is solid. - It may be emphasize the significant improvement of pre-degree courses (Plant Breeding and Cereals and Native Grains Cropping) and post degree (Improvement of crops by biotic and abiotic stresses resistance/tolerance). - Visits associated to P2 academic (e.g. IRD-Sierra), allowed to practice participatory selection techniques in crop improvement at different levels with local universities.

4.2. Specific Development Objectives
 	
Score: **Good**
	- The different activities of P2 contributed to build relevant connections with non-scientific stakeholders like food processors, local governments, farmer's groups and restaurants.
	- Some examples are:
	  - The leadership of UNALM (Agronomy and Economics and Planning) during the 2013 International Year of Quinoa, as declared by FAO;
	  - The Capsicum project Spin-off activities allowed to successfully interact with a national incubator of SME and with the national agricultural research institute, among others.

IMPACT	
5.1. Individual Impact Score: **Low**	- As discussed before, one of the main inputs of VLIR-IUC programmes should be the number of PhDs students and postdoc trained in Belgium, considering the needs of the countries that IUC VLIR-UOS projects are targeting. - The same than P1, P2 get a limited number of students because of different reasons explained in previous points (Impact at programme level), as this is not a specific issue of P2. - Thus, the academic individual impact of P2 is considered as low, although it has to be considered that the coordination of the project did not prioritise this issue and focuses the efforts in other tasks.

5.2. Academic and Institutional Impact Score: **Good**	- Different UNALM courses have been modernised and improved thanks to P2, both at pre-degree and post-degree. - Research practices have been incorporated in the three units at UNALM, and also are shared during field trips. - P2 also allowed a leadership position of UNALM (Agronomy and Economics and Planning) during the 2013 International Year of Quinoa, as declared by FAO.

5.3. Development Impact (Impact on Society)
 	
Score: **Good**
	- The impact on the different stakeholders associated with P2 have been significant. A couple of examples may be found below:
	  - The Capsicum team was able to participate in several committees with public and private institutions and was instrumental for the approval of a National Plan for the Development of Capsicum Value Chains by the Ministry of Agriculture and collaborated with Peru's Exporter's Association in the organization of several national gatherings of the Capsicum value chains and the 23rd International Pepper Conference;
	  - P2 developed an important job in: a) improving farm incomes and securing future food security in Peru. b) the development of improved cultivation techniques in organic and inorganic systems for small-scale farmers in the central highlands. c) identifying of limiting biotic factors in traditional and new cultivation areas. d) Identifying and selecting of advanced lines that will enter the registration of varieties. In many activities of these activities P2 successfully achieved the participation of farmers, industry and other related stakeholders.

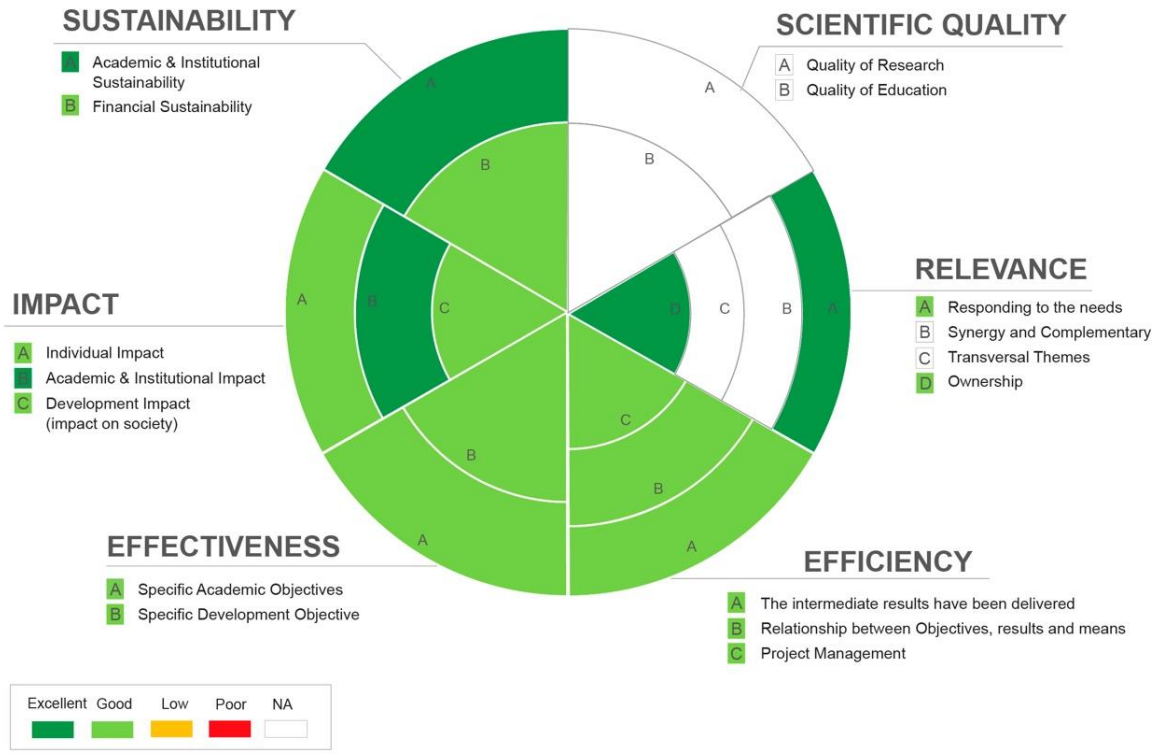
SUSTAINABILITY	
6.1. Academic & Institutional Sustainability Score: **Good**	- Academic and institutional sustainability will rely on the capacity of P2 leaders to continue/increase the links/activities with local stakeholders (mainly food producers and the gastronomic sector), and the policy of the University and Governmental offices to support this project. - Both seem to be assured because of: a) the continuous interaction with the mentioned stakeholders; 2) b) the integration of research lines and courses at UNALM institutional policies. - Besides that, researchers seem to be committed to continue the work after the end of the project, although they admit that they have not planned yet a new strategy for capturing R&D funds.
6.2. Financial Sustainability Score: **Low**	- Financial sustainability will depend on availability of funding donors for these specific research topics. There is no evidence that P2 is already actively taking advantage of the national competitive funding available. - Other potential sources of funding may come from: a) international R&D funds; b) provision of services for the above identified stakeholders. - Both sources have to be evaluated by P2 members, which it has not been done yet until now.

2.2.3 P3. Institutional change in Research and Innovation Management

P3 had the following specific objectives: 1. To implement the research & innovation policies at UNALM and to enhance the support of the research and innovation activities; 2. To install a quality management system in research & innovation that meets the international standards; 3. To establish and implement an institutional wide PhD policy plan.

P3 included the improvement of policies of Institutional Management, Human Capital, Publishing and local outreach, technology transfer, funding and research cooperation. Phase I developed most of the policies in these areas and Phase II focused its work in the consolidation and outreach of the achieved results.

Graphic summary of the evaluation of P3



SCIENTIFIC QUALITY	
1.1. Quality of Research Score: **NA**	NA
1.2. Quality of Education Score: **NA**	NA

RELEVANCE	
P.2.1. Responding to needs Score: **Excellent**	- The Higher Education context in Peru changed abruptly in 2014 with University Law 30220 (se details in 1.4.3 Higher Education Context). From this moment several initiatives were promoted by different governmental bodies (CONCYTEC, SUNEDU) in order to improve research and development at Peruvian universities. - UNALM took advantage of this context to propose a model of research management which has been considered a good practice at national level. - Thus, there is a clear alignment between the project and the National policies, and also with VLIR-UOS country strategy.
P.2.2. Synergy and Complementary **NA**	- Considering the fact that this project is focused on the implementation the research policies at UNALM, including the establishment of the Research Units and the Research Council or the coordination between the Faculties and the Vice-Rector for Research Office, synergies could be established with the rest of the projects; - A good example of this was the collaboration with respect to the implementation of the repository and an e-learning course related to English Academic Writing, in collaboration with the library, the Open Learning Centre (known in Spanish as CAA), the Language Center and the Education Innovation Unit.

2.3. Transversal Themes (gender, environment and D4D)
No Score
	- P1 Gender's ratio:
	  - Female: 2 (66%)
	  - Male: 1 (33%)

2.5. Ownership Score: **Excellent**	- All UNALM actors are still very committed to the project, which is supported by the fact that the leader of the project is in charge of the Vice-Principal for Research Office, which is the government body in all aspects related to research. - Other stakeholders like CONCYTEC consider UNALM the most advanced model of research management in the country, as can be increasingly seen by the invitations received to transfer know-how (Cuzco, Ayacucho, etc.).

	- In summary, evaluators consider that the overall commitment is of excellent quality.

EFFICIENCY	
3.1. The intermediate results have been delivered Score: **Good**	- Intermediate results were accomplished in due time. - Most of the intermediary results were achieved during the first years of the project (policies implemented, research lines identified, number of contracts increased), mainly in Phase I. - In Phase II the workload was focused on activities in collaboration with the postgraduate school and the coordinators of the doctoral programmes, which took extra time and effort to be achieved. - The meetings of coordinators and Belgian experts increased the chance to conduct more activities with doctoral programmes.
3.2. Relationship between Objectives, results and means Score: **Good**	- P3 had a proper interrelation between the objectives and the results, which have an institutional visibility. - The means/inputs were justifiable and were carefully thought-out solution for the defined outputs. - Outputs (intermediate results) contributed to the project objectives and to the whole programme. - No delays have been reported in this project.
3.3. Project Management Score: **Good**	- The coordination between P3 and the local Programme Support Unit has been crucial for the success of the programme; - Main decisions, planning and monitoring of activities were made jointly with the Flemish partners; - Communication. Information related to operational and strategic planning was shared will all team members; - The relationship between both (Peruvian & Flemish) Programme Support Units have been efficient and fruitful.

EFFECTIVENESS	
4.1. Specific Academic Objectives Score: **Good**	- The 3 specific academic objectives of P3 (1. To implement the research & innovation policies at UNALM and to enhance the support of the research and innovation activities; 2. To install a quality management system in research & innovation that meets the international standards; 3. To establish and implement an institutional wide PhD policy plan) had no baseline values as they were non-existent before the project; - The percentage of achievement of each objective has been the following: 100% for the first objective, 80% for the second objective and 60% for the third one.

4.2. Specific Development Objectives Score: **Good**	- The development objective was the enhancement of professional quality in perspective of fostering the national agrarian sector development. - P3 project actively promoted, via different policies, the participation of professors and students in research projects. - As a result of this intervention, the number of research and innovation contracts were increased, but also the network to develop research activities with other stakeholders such as universities, producers, companies (see details in the evaluation of the programme).

IMPACT	
5.1. Individual Impact Score: **Good**	- Considering the fact that P3 focused its activities in the implementation of research policies and the establishment of supportive actions to increase research activities at UNALM, it had an outstanding impact, also at individual level. - Evidence of this impact is the growing number of scientific publications or research projects with external funding, from the beginning of the project (see details on evaluation at programme level). - However checking these figures in detail, the project only contributed modestly in some areas: from 462 indexed publications in the period 2011-18, only 19 were coming directly from the IUC.

5.2. Academic and Institutional Impact
 	
Score: **Excellent**
	- The academic and institutional impact of P3 was very high. The following are some examples:
	  - The establishment of the Research Units and the Research Council at the beginning of 2016 were critical to establish a permanent coordination between the Faculties and the Vice-Rector for Research Office;
	  - The yearly organization of a Research Week successfullypromoted a R&D culture inside UNALM;
	  - The organizational research structure of UNALM in research groups and research institutes was defined giving the opportunity to professors and students to be part of the research university system;
	  - A doctoral training programme in transferable skills allowed PhD students to develop capacities on scientific communication and publication, but also promoted their participation in working sessions with other researchers.

5.3. Development Impact (Impact on Society) Score: **Good**	- P3 contributed to the increase of networking with crucial stakeholders for developing research projects: other universities, governmental bodies, companies, etc. - As consequence the number of relationships and projects/contracts have been increased (see details in the evaluation of the programme). - At reputation level, thanks to the VLIR-UNALM project UNALM is considered as one of the public universities with best research management practices in the country.

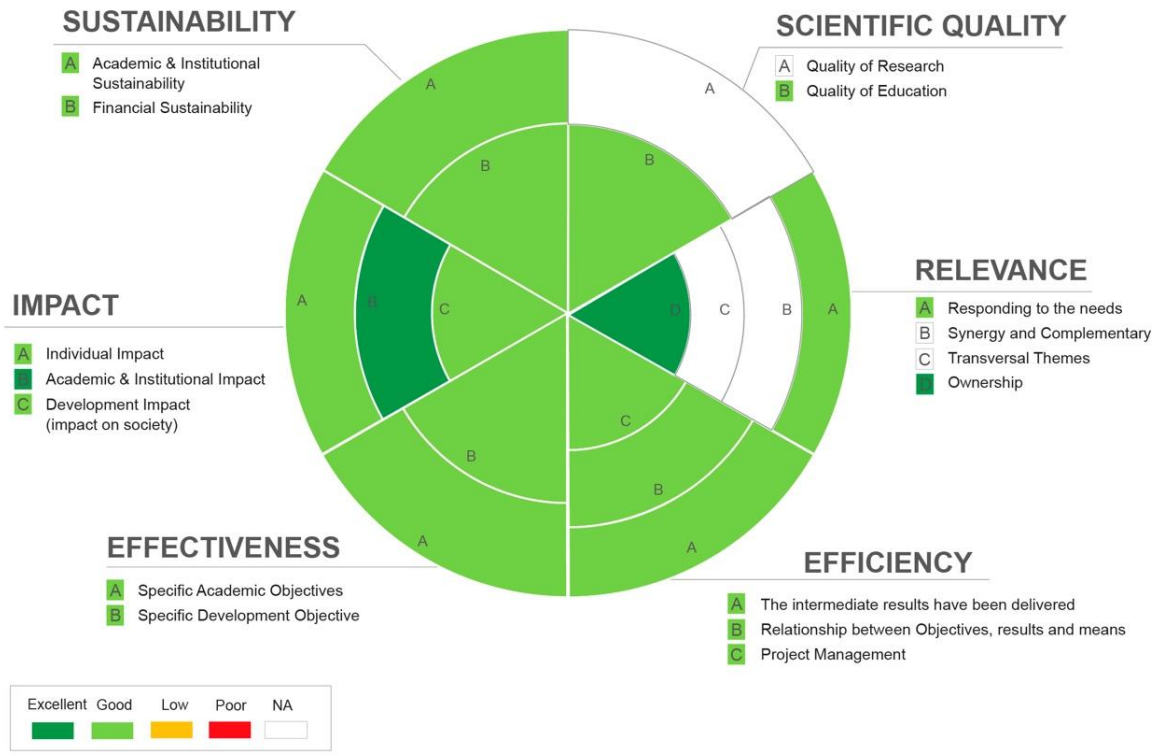
SUSTAINABILITY	
6.1. Academic & Institutional Sustainability Score: **Excellent**	- Academic and institutional sustainability if fully confirmed in P3 as the main outputs of the project (research coordination office, research project repository, research council, new internal regulations, etc.) are already embedded at institutional level; - As consequence most of the current activities developed by the project will continue in the next years: strengthening research capacities through information session on funding possibilities, scientific writing in English courses, implementation of policies developed during the project, etc. - As discussed before the role of the Vice-President for Research in the project (local coordinator) contributed to the consolidation of the policies via leadership and commitment with the initiative.
6.2. Financial Sustainability Score: **Good**	- The Vice-Principal for Research Office has a yearly budget oriented to support research activities, most of them established by the IUC. - This provides financial sustainability to the project and assures a continuation of the main activities. - However, complementary actions will demand extra economic support and funding, which is already an institutional policy (R&D fundraising).

2.2.4 P4. Educational Innovation in undergraduate and graduate programs with emphasis on the sustainable management of agro-ecosystems and rural development

P4 had the following specific objectives: 1. Development of educational models and concepts of extension in agrarian sciences at UNALM to support the development of agrarian professionals linked to the reality of a highly diverse country; 2. Professionals supporting through their improved competences to better rural development.

P4 focused mainly in 2 areas: a. improving educational policies at UNALM; b. providing education innovation training for UNALM staff.

Graphic summary of the evaluation of P4



SCIENTIFIC QUALITY	
1.1. Quality of Research Score: **NA**	NA
1.2. Quality of Education Score: **Good**	- P4 has been in charge of designing and providing courses / training programmes (68 in Phase 2), new or updated curriculum (10) or leaning packages (5). - The quality of these courses have been positively valued by UNALM staff and contributed to the fact that some of them (e.g. Designing my course / beginner' course) are compulsory now at institutional level. - Thus, the inputs of P4 in raising the level of the Quality of Education in UNALM are visible and recognised from the main stakeholders (students, academic and research staff, National High Education Superintendence / SUNEDU, etc.).

RELEVANCE	

P.2.1. Responding to needs
 	
Score: **Good**
	- As explained in 1.4 (The Context) a new law on universities (Ley 30220, 2014) changed the landscape of higher education in Peru.
	- The new educational model developed by P4 at UNALM tried also to align with this new legal/operational framework. Examples of this institutional aim are:
	  - UNALM resolution 006-2017 AU UNALM, that attest the accomplishment of the goals of the new regulation.
	  - UNALM resolution 0277-2016 CU UNALM, approving priority research lines for each faculty.

P.2.2. Synergy and Complementary **No Score / NA**	- As P4 is focused on improving educational policies and training academic staff, there are several synergies that have been considered, mainly with P3. - A good example is the implementation of the repository and an e-learning course related to English Academic Writing, in collaboration with the library. - Other projects have also benefited the services and tools provided to the academic and research staff at UNALM.

2.3. Transversal Themes (gender, environment and D4D)
No Score / NA
	- P1 Gender's ratio: No data available
	  - Female: 33 (63%)
	  - Male: 19 (17%)

2.6. Ownership	- The created educational innovation unit (UIE) is included in the institutional architecture of UNALM. That means that it is a formal body with a specific staff, budget, etc.

Score: **Excellent**	- The growing participation of UNALM academic staff in the activities that are offered at UIE, the increasing interest in topics related to education quality of the staff, as well as the fluid relationship of the unit with other key offices at UNALM (such as the Quality and Accreditation Office and the Open Learning Centre (CAA)-Library) indicate a stable consolidation of the unit as a quality education reference for the authorities and staff. - In summary, evaluators consider that the overall commitment is of excellent quality.

EFFICIENCY	
3.1. The intermediate results have been delivered Score: **Good**	- Intermediate results have been accomplished: an education model is developed and (gradually) implemented, Teachers are trained and informed, Learning environments are redesigned and redeveloped, Educational activities are research based and Education is linked to extension and IRD. - It is important to highlight the support provided in the redesigned of courses with the aim of increase their alignment with: 1) the educational context; 2) the new needs students. - One of the key points also of the success of the training actions provided by UIE is that the follow-up activities after each course have become a key part of the learning process.
3.2. Relationship between Objectives, results and means Score: **Good**	- P4 means/inputs, especially IT equipment for the different premises, have been aligned with the expected outputs. - The interrelation between the objectives and the results, is positive and one of the most visible of the IUC (infrastructure, use by stakeholders, etc.). - Outputs (intermediate results) contributed to the project objectives and to the whole programme. - No delays have been reported in this project.
3.3. Project Management Score: **Good**	- P4 staff reported that the overall operational guidelines were clear and the local coordinator and PSU were always available if questions or comments. - Communication and interaction North-South part was constant both face-to-face or virtual (via e-mail, or Skype). However, the North side involvement was reported as lower, especially related to specific contributions in the preparation or follow-up of some activities. - Besides that, main decisions, planning and monitoring of activities were made jointly after serious and several discussions.

EFFECTIVENESS	
4.1. Specific Academic Objectives Score: **Good**	- The overall academic objectives of P4 was further strengthen and improve educational quality at UNALM. - Results are visible (UNALM Educational Model), and the link with the higher education context is also valuable. - However P4 reported some issues that have to be solved in order to consolidate it at internal level (e.g. lack of commitment by some internal actors, responsibilities not clearly defined in the different processes, etc.)

4.2. Specific Development Objectives
 	
Score: **Good**
	- The development objective was the enhancement of professional quality in perspective of fostering the national agrarian sector development.
	- There is evidence of interesting contributions in this direction, as for instance:
	  - UNALM was the first public university that got licensed by the state (National High Education Superintendence (SUNEDU), March 2017);
	  - Colleagues from higher education institutes participated in the conferences to learn from the experiences gained at UNALM.

IMPACT	
5.1. Individual Impact Score: **Good**	- P4 focused its activities in improving educational quality of UNALM, and has performed in this last phase several actions (trainings, learning packages development, etc.). - Thus, individual impact is high not only by the impressive figures (e.g. 68 trainings in phase 2), but by the feedback of the trainees and UNALM authorities. - Individual impact could be increased in the near future with the growing integration of the courses in the different UNALM curricula

5.2. Academic and Institutional Impact
 	
Score: **Excellent**
	- The academic and institutional impact of P4 was outstanding. The following are some examples:
	  - The establishment of the Education Innovation Unit as a crucial actor to stimulate educational quality at UNALM;
	  - The yearly organisation of an *Education day* showing the vitality of education at UNALM (UNALM resolution 0014-2014);
	  - The collaboration established between the UIE and the library, and more specifically the Open Learning Centre, and also the collaboration with all the faculties.

5.3. Development Impact (Impact on Society)
 	
Score: **Good**
	- Some examples of P4 impact on society are the following:
	  - Extension education projects were promoted and supported from an innovation perspective;
	  - UNALM accreditation by authorities;
	  - IRDs benefits from P4 activities to improve educational practices.

SUSTAINABILITY	

6.1. Academic & Institutional Sustainability
 	
Score: **Good**
	- Academic and institutional sustainability if confirmed in P4 as the main unit has structural funding since 2012. In the last years, the Vice-rectorate Office is assuming each year more of the budget.
	- Most of the usual activities developed by the project will continue:
	  - Training of staff: Education day, courses for beginners and advanced teachers, educational projects. However, there is a bit concern whether at the conceptual level, the unit may remain sufficiently challenged to continuously innovate and stay aligned to recent scientific development. The fact that there is no Faculty of Education at UNALM is contributing to that;
	  - Education policies: the institutional support to UIE has been formalized via the Education day, the course for beginners or the collaboration with other offices (Accreditation and Quality Office, CAA-Library) is increasing. However and as discussed before, it is not completely clear which UNALM body should be in charge of certain actions and structuring implementation of policies at university level (through the University Council) is still required.

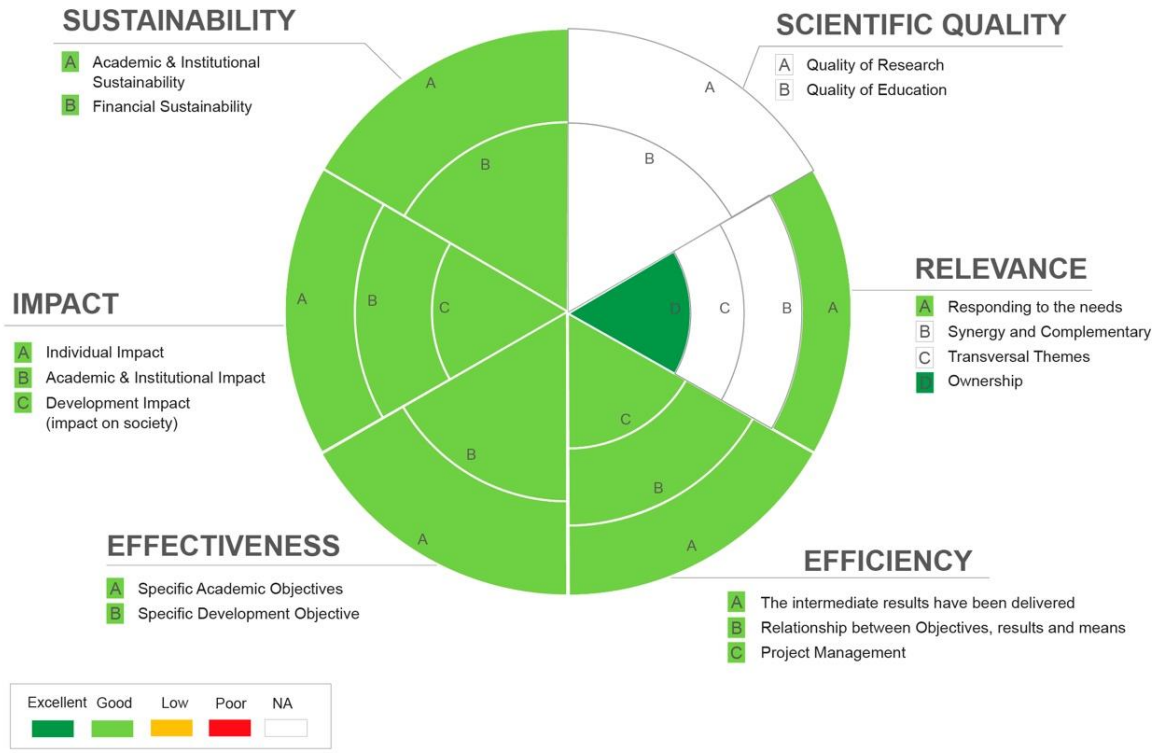
6.2. Financial Sustainability Score: **Good**	- UNALM offers a yearly budget oriented to fund UIE and the staff working at their premises. - However, budget is limited, and P4 staff reports that there is a risk that there will be a permanent turnover of personnel and hence, lack of continuity in expertise. - Complementary actions may demand additional economic support and funding, which should not be so difficult considering the positioning of UIE at UNALM.

2.2.5 P5. Institutional support: Logistics and Facilities

P5 had the following specific objectives: 1. To establish institutional support in ICT systems and quality management; 2. To establish institutional support for transversal projects at UNALM and its regional centres.

In phase I the main accomplishments of project 5 were, on the one hand, the modernisation and strengthening of UNALM's ICT infrastructure including the library facilities, and, on the other hand, enhancing the appreciation of the ICT system by UNALM´s authorities as a necessary instrument for day-to-day activities. The first accomplishment included the enlargement of the backbone via fibre optics, renovation of data communication equipment, modernisation of the telecommunications centre, set up of a wireless network, connection with the IRDs and provision of CTG PCs for classrooms; and specifically with regard to the library: the implementation of RFID technology, access to digital content and integration of faculties into its network and services. The second accomplishment resulted in the creation of an ICT Council and a Library Council within the University.

Graphic summary of the evaluation of P5



SCIENTIFIC QUALITY	
1.1. Quality of Research Score: **NA**	NA
1.2. Quality of Education Score: NA	NA

RELEVANCE	

P.2.1. Responding to needs
 	
Score: **Good**
	- The project worked in 2 main needs identified by UNALM and the Flemish counterpart: 1) the lack of use of digital tools by different stakeholders (teachers, students, etc.); 2) the requirement of developing academic quality system to ensure different university processes.
	- Thus, during phase II the main activities have been:
	  - The development of the Open Learning Centre (together with project 4) located in a new library building, already financed by the University.
	  - The training of human resources in ITIL in order to give proper support to Centre's users, mostly students, and offer a wide range of services to them.

P.2.2. Synergy and Complementary **No Score / NA**	- P5 profile provides the opportunity to generate several synergies and complementarities with other projects and UNALM activities. - Probably the most important has been the support to the regional centers. During phase II there has been an increasing use of IRDs' facilities by the eight UNALM's faculties. - A number of courses have been implemented at the IRDs for UNALM students, and also numerous and relevant extension and outreach activities took place, mainly with individual farmers, association of farmers and schools of elementary and secondary education, but also with other institutions as local universities or local businesses.

2.3. Transversal Themes (gender, environment and D4D)
 	
No Score / NA
	- P1 Gender's ratio: No data available
	  - Female:
	  - Male:

2.7. Ownership Score: **Excellent**	- Infrastructure and activities implemented in the framework of P5 have been integrated in UNALM usual initiatives. - The most important one is the Education Innovation Unit, playing a crucial role in several UNALM internal processes. - P5 also set up interesting collaborative working strategies, volunteering students were trained to diffuse ICT knowledge and skills to their fellow students, as such reinforcing ownership and sustainability of the P5 activities.

EFFICIENCY	

3.1. The intermediate results have been delivered
 	
Score: **Good**
	- P5 had four intermediate results to be achieved through different activities with regard to ICT and data warehouse, accreditation, IRDs and short courses and pilots. Specifically:
	  - Intermediate Result 1: ICT and data warehouse / Activity: To promote ICT technologies in teachers and students.
	  - Intermediate Result 2: Accreditation / Activity: Support to international accreditation process by ICACIT.
	  - Intermediate Result 3: IRDs / Activity: Solving legal issues concerning land use and migration.
	  - Intermediate Result 4: Short course and Pilots / Activity: Organizing short courses and workshops in up to date ICT, control technology and statistics.
	- Overall, intermediate results were delivered with the expected quality.

3.2. Relationship between Objectives, results and means Score: **Good**	- An up-to-date ICT system is one of the keys to the proper development of a higher education institution not only in terms of quality of education and research but also in terms of administrative and financial management. - Consequently the ICT system had a direct impact in the rest of the projects (1 to 4), with particular interaction with project 4, since made easier the implementation of new teaching and learning methodologies. - Interrelation between the objectives and the results affirmative and visible at various UNALM processes and premises.
3.3. Project Management Score: **Good**	- P4 staff reported that the resources were used in the most optimal way, assuring optimal results, achieving the execution of each specific objective. - There is also a positive opinion on the role of the local PSU, providing clear guidelines on the different processes in an efficient way. - Teamwork has been also stressed in P5; key decisions, planning, monitoring & evaluation of activities were made collectively.

EFFECTIVENESS	
4.1. Specific Academic Objectives Score: **Good**	- In opinion of the evaluators the specific objective 1 at P5 may not be consider an “academic objective” (Establish institutional support in ICT systems and quality management). - However, in terms of effectiveness achieved for this objective the score is good because there is evidence of the achievement of the objective. - Among the evidence identified it has to be highlighted how volunteering students force was very successful in transferring ICT technology to support research, education and extension in rural schools, creating the following groups: audiovisual creations, digital manufacturing, community

	management (strategy and positioning in social networks), managers' (specialized in educational services).
4.2. Specific Development Objectives Score: **Good**	- The development objective, if it could be named like this, was to establish institutional support for transversal projects at UNALM and its regional centers. - Again, there is evidence of how this objective was attained in activities that took place in the Mantaro Valley related to climate change, also extension work was done to improve livestock management, especially training small growers to face disease problems in livestock.

IMPACT	
5.1. Individual Impact Score: **Good**	- P5 focused part of its activities in strengthen knowledge in information technologies of teachers, students and the general public. - Continuous programs were implemented in the BAN/OLC (National library/Open Learning Centre) that involved the use of technological tools. - Thus, individual impact is high and perceived feedback from these actors and UNALM authorities has been positive.

5.2. Academic and Institutional Impact
 	
Score: **Good**
	- The academic and institutional impact of P5 was outstanding. The following are some examples:
	  - A Quality Model was implemented and accreditation model standards were developed (System for academic information of professors and System for follow-up of graduated students).
	  - A weather station at IRD Selva - Fundo La Génova was installed, to enhance their activities in teaching, research and social projection activities.
	  - In the Regional Development Centre of Yanamuclo (Mantaro Valley) the infrastructure for education, research and extension was extended.

5.3. Development Impact (Impact on Society) Score: **Good**	- Main examples of P5 impact on society are coming via the activities developed at IRDs. - IRD´s enhanced by implementation of weather stations, workshops and others events developed in their facilities. - A good example was the professional irrigation system was installed (Regional Development Centre of Yanamuclo / Mantaro Valley) for the year round production of fresh green feed for dairy cows. As a result year round milk production, bridging the dry season would become possible. - There are several similar examples in the different IRDs

SUSTAINABILITY	
6.1. Academic & Institutional Sustainability Score: **Good**	- P5 has the academic and institutional sustainability confirmed as the activities are already part of UNALM usual activities, and academic vice-rector has taken charge of the renewal of equipment and the purchase of new equipment that enriches the library/OLC service to the university community. - Besides that, projects that already have more than one year of implementation have been institutionalized and linked with different strategic units of the university. - Thus, sustainability is based on the own projects promoted by the OLC, which have been of great interest and opportunity for other units and are allowed to generate new proposals on several topics (academic innovation, research, entrepreneurship and innovation at university level).
6.2. Financial Sustainability Score: **Good**	- UNALM provides a yearly budget oriented to fund OLC-Library and the staff working at their premises. - Besides that, services have been created that generate income for the OLC-Library such as 3D printing, laser cutting, workshops and rental of spaces that were redesigned. - Additional actions may demand complementary economic support and funding, although potential funding sources are identified at national level.

2.3 Evaluation at Individual Level

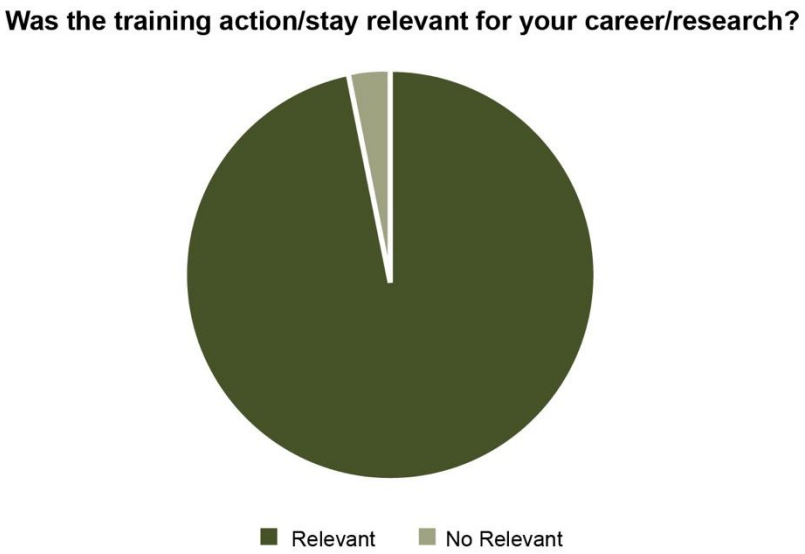
The analysis of the programme/projects at **individual level** was based on: 1) the interviews carried out during the mission; 2) the focus group carried out with Peruvian PhD students on 18/10/2019 at KUL; 3) the online questionnaire answered by project participants from 28/10/2019 to 01/12/2019 (see Questionnaire in Annex 1).

However, it has to be taken into account that the online questionnaire had only 34 responses. Although the questionnaire was targeting only direct beneficiaries of the project (UNALM researchers, teaching staff, PhD students, etc.) evaluators consider that the response ratio has been quite low. Nevertheless, the evaluation team decided to include the main results because the interviews and the focus group also provided relevant information for the assessment of the individual impact.

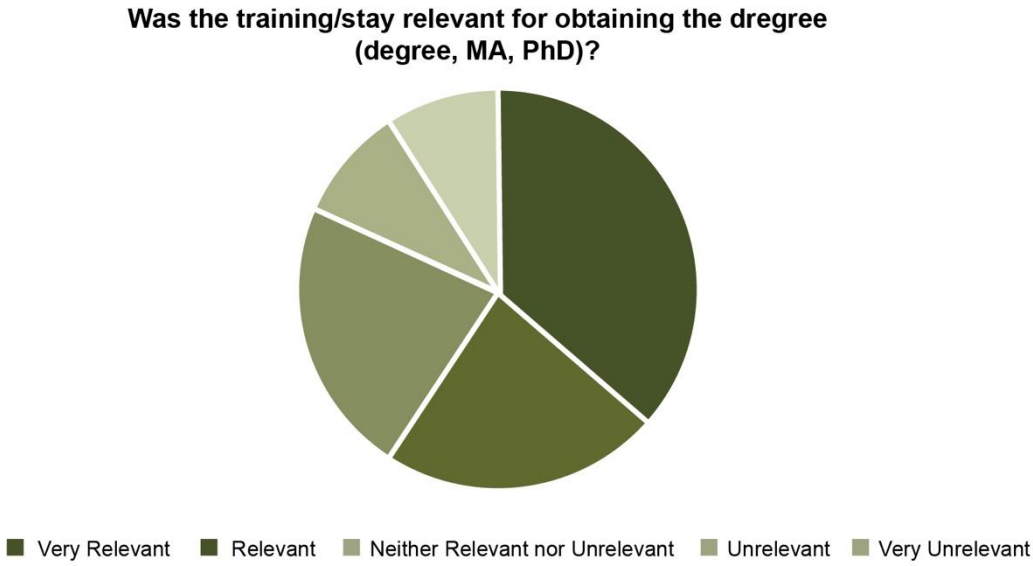
Nº of responses	34
Male / Female	16 / 18
Age (average)	41
Nº of Units	11

The objective was to identify evidence with regards improved knowledge, increased management skills and improved behaviour/results applied to Higher Education (nº of articles increased, promotion at the university, new tasks, etc.). Respondents replied according their profile (academic/ research staff and students)

The main results of the analysis are the following.



Trainings and stays in the framework of the project were considered Relevant for 97 % of participants. Besides this significant figure, 91% confirmed to have **applied the content/results of the stay/training in their professional activities**.



Which have been the most relevant aspects learnt during the training actions or study visits?

- "**Interdisciplinary Research**". Under this topic, respondents were underline that the training activities have been extremely useful for them in terms of improving their research methodology, and this also affects the increase interaction with other colleagues from different disciplines. Other ideas related to this aspect are a better knowledge on how to draft research papers, a wider access to bibliography.

- "**Design & Management of university policies**": thanks to the trainings and stays, some beneficiaries have acquired skills in terms of better design and management of university policies, mainly in the field of research, which they are applying this to their daily job.

- **"Applied Research".** Under this topic respondents pointed out that the training activities were useful in order to improve their applied approach to their usual research activities.

- **"Drafting Scientific Papers".** Many participants included this topic as highly useful for their research activities, and one of the main inputs from the IUC activities.

- **"Courses/Curricula Design**" was also one of the points that the participants included as an important benefit/output of participating in the IUC.

- "**Exchange with experts**" has also been indicated as relevant for trainees. They explain that the different training activities have been important to get in contact and cooperate with international specialists and also to acquire social skills. This is also reinforcing their personal development.

- "**IT tools**": Many have been participants who point out that the training experiences gave them access to IT tools and technologies to better develop their research and teaching, depending on their discipline.

- “**Teamwork**”: Others underline that the activities have reinforced their skills in terms of teamwork and sharing knowledge.

- **“International projects”**: respondents say that they are now more aware on how to define an innovative project idea in line with the call expectations.

According with these results and the results obtained in the Sub-criterion P.5.1. (Individual Impact), evaluators consider that the **impact of the programme/projects at Individual level is high.**

2.4 Analysis of Impact at Society Level

The Analysis of the Impact at Societal Level has been organized via Case Studies. A template was proposed and agreed with the project leaders, and case studies were submitted to the Evaluators. As proposed in the ToR the Analysis of Impact at Society Level was focused on project 1, Farming Systems. 5 case studies were selected in order to cover most of the topics of P1.

Evaluators consider that the Impact of the P1 at Societal level is high.

2.4.1 Agroforestry Case Study

Case Study title	**Agroforestry options to recover degraded amazon soils for reforestation programs to mitigate climate change**
Nature of Case Study	Higher Education as engine of innovation and economic growth
Type of Case of Study	Collaboration in research and extension for development (scaling up)
Stage of development of the case	Highly developed agroforestry practice
Background	Slash and burn land use systems predominate in the humid tropics of Peru and with this shifting agriculture technology the rate of deforestation is 150000 has per year and as a consequence we have already 10 million has of degraded land in the amazon region with high contamination of GHG emissions. Research from the last 30 years in the tropics have found several technological options to have sustainable productive systems and reduce deforestation by the intensification of already deforested areas, Some of the best agroforestry options still needed some more research in order to find gaps in terms of recycling and quality of organic matter of more trees combination and better prototype systems and also to test it with farmers in their farm through applied research that was executed with students as BS, MS and PhD research thesis . Simultaneously we train farmers, students and local researchers for adoption and to involve the national institutions and universities in new development and reforestation programs so they can accomplish global demands to mitigate climate change through carbon sequestration.
Implementation	Fourteen land use systems which included primary and secondary forest, improved and degraded pastures and agroforestry systems with timber and fruit trees and cacao with cover crops along the road 170 km Tarapoto –Yurimaguas (San Martin and Loreto states) were selected in the first 5-year phase to study with several BS and MS thesis the dynamics of nutrients recycling and quality of organic matter as main components for productivity. After knowing better, the main recycling characteristics of the different components of agroforestry system compared with other land use systems in the second 5 year phase we implemented with farmers in the Santo Tomas community with

	abandoned overgrazing pastures four agroforestry prototype systems with cover crops so we can recover this land for production.
Success Factors	- Previous experience with other national and international projects and research in agroforestry. - Close collaboration with the National and International strategic partners and stakeholders. - Human resources with expertise in this area or R&D
Impact/Results/outcome	- Use the agroforestry systems in special development projects to recover degraded lands. - Analytical equipments (organic matter fractions, microbial biomass and ions) for research and public service were implemented in the Soil Lab in UNALM. - Building capacity for Implementation of INIA research station in Yurimaguas to continue developing agroforestry systems research and extension. - Incorporated agroforestry options in the syllabus of undergraduate soil courses in Agronomy and graduate soil courses and silvopastoral courses in MS and PhD in animal science. - 1 paper published in Agronomy Journal of UNALM and 5 paper finished and in process of submit it to international journals. - 9 conferences in international scientific events - 4 conferences in national scientific events - 7 proceedings in international scientific events and 4 in national scientific events. - 2 PhD thesis in Leuven University in progress - 1 MSc thesis defended in Soils and another MS in soils in progress - 5 Undergraduate thesis defended (3 *B.S* in Agronomy and 1 BS Forestry and 1 in Agroforestry) and 2 BS in progress. - 11 practical manuals for farmers and extensionists (1000 volume each). - 1 Scientific Award as better research during the day of Research of Agronomy. **As main societal impact, agriculture producers and their children and local extensionists were trained and have the capacity to scaling up agroforestry technologies in developing projects.** **During 10 years of continuous training with courses, workshops and field day. We estimated around 1200 people trained and 50% were agriculture producers.**
Conclusions	Results obtained from applied research projects associated to BS , MS and PhD. thesis are being implemented by the national development

	projects in order to recover degraded land and mitigate effects of climate change. **Agriculture producers are applying the new knowledge in their day-to-day activities in the Yurimaguas district Province of Alto Amazonas State Loreto, along the old road of 160 km from Yurimaguas to Tarapoto, and along the new 60 km road of Yurimaguas Balsapuerto (with mestizo and native communities).**

2.4.2 Alpaca Case Study

Case Study title	**Community/based breeding program in alpacas**
Nature of Case Study	Higher Education as engine of innovation and economic growth
Type of Case of Study	Capacity building and participatory research
Stage of development of the case	A ten year community/based breeding program in alpacas is running with 6 alpaca production units involved at Pasco Region.
Background	Alpaca fiber production is an important way of increasing profit for rural communities and families in the Peruvian Highlands. The sources of income of alpaca rearing are meanly fiber (quality and quantity) and breeding animals. So, it is important to have alpacas with high quality fiber and heavy fleece in order to increase profit. Therefore a community-based breeding program for alpacas was setting up in order to reduce the fiber diameter and increase the fleece weight. In order to guarantee the success of the breeding program, producers were involved in the design and implementation of the program. Also, the Universidad Nacional Agraria La Molina (UNALM) had technical staff in alpaca genetics and an alpaca fiber quality lab but financial resources for training and buying equipment were scarce before start the project.
Implementation	- 6 alpaca production units were selected at the beginning of the project, two drop out but other two were involved. - Alpaca fiber laboratory equipment at UNALM were improved by buying new equipment, making a calibration of SIROLAN LASERSCAN to measure fiber diameter, and accrediting the lab services at INTERWOOLLABS. - Setting up the breeding program in a participatory manner. - Recording information of many traits at birthing, mating, weaning and shearing during ten years. - Measuring of fiber diameter at UNALM lab and fleece weight for ten years. - Database of information recorded for the 6 alpaca units was created and managed by UNALM technical staff.

	- Training farmers and technicians in alpaca management, fiber quality, rangeland management, and alpaca breeding. - Creation of an alpaca dispersed genetic nucleus by sharing males among the alpaca production units. - Searching for large amount of SNP molecular marker in order to use in alpaca selection and building an alpaca SNP beadchip (First attempt in the world).
Success Factors	1. Alpaca farmers were involved since the beginning in the project activities. 2. Previous experience working in sheep and alpaca development projects in Pasco Region helped to work in a participatory manner with alpaca farmers. 3. Close collaboration with the National and International strategic partners and stakeholders. 4. VLIR-UNALM project support building capacity and operational activities of the project. 5. Complementary funding getting from other sources as CONCYTEC, PNIA, Doctoral program in Animal Science at UNALM. 6. Multi-disciplinary research collaboration with rangelands research team at UNALM. 7. Publishing of 4 scientific articles in national journals and 4 scientific articles in international journals of Q1 level.
Impact/Results/outcome	- An alpaca fiber quality lab got accredited by INTERWOOLLABS - A research team in alpaca genetics was formed at UNALM, and its work has been recognized at national and international level. - Improvement of links between alpaca farmers and UNALM were achieved. **As main societal impact, Alpaca farmers improved their breeding practices, one of them won an award for better alpaca breeding practices at Alpaca Fiesta 2018.**
Conclusions	This subproject contributed to achieve academic and development goals of the VLIR-UNALM project. Capacity building in alpaca genetics improvement was created and new knowledge in alpaca genetics were delivered to the community. **Alpaca breeding practices were improved in the alpaca farmers involved in the project.**

2.4.3 Rangeland Case Study

Case Study title	Effect of guano alpaca application and Fertilization on revegetation with *Festuca humilior* (Fehu) in Cachipampa - Pasco
Nature of Case Study	Higher Education as engine of innovation and economic growth
Type of Case of Study	Participatory applied research. Contribution to the resilience of grassland ecosystems to climate change.
Stage of development of the case	The field phase was completed, it is in the systematization phase of the information, and with partial results.
Background	A significant proportion of the communally managed grazing lands of the central highlands of Peru are in poor condition (62 percent) mainly due to overgrazing and the application of bad management practices (Flores, 1999). The degradation of the grasslands is evidenced by the detrimental change of the characteristics of the vegetation and the water function, mainly in the reduction of the vegetal cover, the disappearance of the key botanical species and the decrease of the organic matter, the infiltration rate and soil moisture status (Whitford, 1995). The deterioration of the condition of the grasslands has a negative impact on the value, services and environmental benefits that these ecosystems provide (Petersen & Stringham, 2008). Revegeting a pasture means raising its condition, productivity and carrying capacity, for which the grassland managers make use of the condition improvement strategies that can be classified as: extensive and intensive, based on criteria such as the level of risk , investment cost, level of production, profitability and level of technology (Herbel, 1983).
Implementation	- Selection of a degraded field in the community of Cachipampa Daniel Carrión - Pasco at 4650 m of altitude. - Construction of an exclusion of two hectares using mesh fences and posts. - Preparation, transfer and planting of cuttings of *Festuca humilior*, at a distance of 0.5 m between plants and 1.0 m between rows. - Application of 9 experimental treatments, with different levels of fertilization and fertilization with two repetitions per treatment. - Evaluation of the survival of the cuttings of *Festuca humilior* - Measurement of plant development through the volume of the plant, in response to experimental treatments. - Performance measurement by *Fehu* plant by experimental treatment.

Success Factors	1. Participation of the Association of alpacas producers of the Cachipama-Pasco farmhouse. 2. Presence of the VLIR-UNALM project, which allowed the financing of the project. 3. Search for alternative solutions to the problem of grassland degradation, common in the high Andean communities. 4. Support from high Andean business community organizations that provided Fehu germplasm.
Impact/Results/outcome	- Improvement of community-University links to seek alternatives of ecological resilience in communal grasslands. - An ongoing doctoral thesis - A peer-reviewed scientific article, which is in preparation - As main societal impact, this initiative contributed to the development of recovery strategies for degraded soils in the Peruvian highlands. **One example of societal impact are the Familiar Association Tufino brothers of Cachipampa, which is composed of 17 members that manage 180 hectares of natural pastures in the communal lands. This Association develops family farming and has a total of 280 alpacas of the Huacaya breed, which are composed by 120 mothers, 07 fathers, 60 older females and 6 males for replacement. The economy of the community improved 30% in the last 7 years of work.**
Conclusions	The Fehu revegetation treatments treated with alpaca guano, were those that presented higher yield and higher volume of plants and lower mortality of cuttings; compared to chemical fertilization treatments, probably because degraded soils have lost their biological capacity due to overgrazing. **As societal impact, the direct beneficiaries belong to the peasant community of the Cachipampa, which has 48 community members that manage approximately 2,500 hectares of natural grassland. At the same time they belong to the San Juan de Yanacocha parent community, which has 1,200 community members and manages 18,500 hectares.** **This experience can be used to rehabilitate up to 30,000 hectares degraded located in the high Andean area of the province. This community belongs to the district of Yanahuanca, Province of Daniel A. Carrión Region Pasco- Peru**

2.4.4 Parasitology Case Study

Case Study title	**Study of the fascioliasis in dairy cattle and its impact in public health in the District of Matahuasi, Mantaro Valley, Perú**
Nature of Case Study	Higher Education as engine of innovation and social cohesion
Type of Case of Study	Exploratory and applicative research performed in collaboration with local farmers and health authorities. Contribution of the characterization of a major health problem in livestock in a community and promotion of its prevention and control as an emergent zoonosis in children.
Stage of development of the case	Partially completed but several future research lines to be developed in order to increase contribution with development and validation optimal approaches for control of the problem.
Background	Fascioliasis caused by *Fasciola hepatica* constitutes a major health problem in livestock worldwide, producing major economic losses because of its negative effect on milk production and welfare of dairy cattle in endemic areas. The significant rise on the rates of infection, produced by the climate change, and the increasing threat of the development of anthelmintic resistance, mainly against triclabendazole (TCBZ), constitute critical challenges for the control of this parasite in livestock. The Mantaro Valley, located in the Peruvian Central highlands, is an endemic area for *F. hepatica* infection in livestock, especially in dairy cattle, which is a major production animal for numerous small-scale farmers in this rural area. The recent reports of TCBZ resistance in dairy cattle is a significant concern for dairy farmers in the Peruvian highlands. Human fascioliasis is an emerging/re-emerging zoonosis in around 51 countries, and it constitutes one of the principal neglected tropical disease transmitted by food and water. Peru is one of the countries with the widest regional distribution of human fascioliasis, with cases reported in 17 out of the 24 departments. The Mantaro Valley is an acknowledged hyperendemic (prevalence > 10%) region for human fascioliasis, being school aged children the most affected group, where it contributes to poor development and anaemia. The existence of an animal reservoir, especially livestock, for human infection, especially in endemic areas, has been suggested.
Implementation	- Monitoring of gastrointestinal helminthes infection dynamics with emphasis in *Fasciola hepatica* infection, in dairy cattle in selected farms in Mantaro Valley, Junin. - Determine levels of human infection for *Fasciola hepatica* in a community in the Mantaro Valley, and the major risk factors associated to these. - Molecular characterization and performing of genetic studies on helminthic populations in wild and domestic camelids; and ruminants in the area of study.

	- Molecular characterization and performing of genetic studies on *F. hepatica* populations in humans and dairy cattle in the Mantaro Valley. - Establishing and analyzing the major risk factors for zoonotic infection with *F. hepatica* in human population. - Establishing and analyzing the most suitable approaches for controlling *F. hepatica* infection in dairy cattle and human population in the Mantaro Valley. - Studying the phylogenetic relationship of *F. hepatica* in dairy cattle and other domestic animals with the human infection. - Establishing and studying the phylogenetic relationship of helminthic infection in wild and domestic camelids in the Peruvian highlands.
Success Factors	1. Close collaboration with farmers, local schools and local health authorities. 2. Levels of anthelmintic resistance were monitored in alpaca and sheep in one of the three community farms evaluated in Pasco; and in dairy cattle in one district in the Mantaro Val-ley, Junín. 3. The zoonotic potential of bovine fascioliasis was confirmed by field tests in school aged children; and by molecular analysis of samples at the Laboratory. 4. Sustainable and alternative approaches for parasite control were designed and shared with the farmers and community members, moreover, effective measures for preventing zoonotic transmission of parasitic diseases were delivered to farmers and community members in the district in the Mantaro Valley.
Impact/Results/outcome	- One PhD Thesis in being made - Three scientific papers have been accepted and published in peer-reviewed journals, one is under review in a peer reviewed scientific journal, and one last one is being written as manuscript for review. - Additionally, 2 bachelors thesis, one of them successfully defended and published; 2 Master Thesis have been made and successfully defended. **Based on our results, the Local Health Center of the Matahuasi District started to consider human fascioliasis as a major public health threat in the area. They successfully treated five infected children against the parasitosis, and now they regularly performed health campaigns to discard the infection in school-aged children. Approximately, 1000 school aged children enrolled in the public and private schools of Matahuasi and a total of around 5000 children would eventually benefit from the new program for fascioliasis diagnosis and prevention in the Local Health Center, developed and enhanced because of this Project.**
Conclusions	The main academic goals of the sub project SP 1.5 Parasitology were to enhance the capacity of the Laboratory of Parasitology of the Animal Science College for doing research and extension activities, and to

	contribute to the creation of networks to perform collaborative research within the University and with other institutions. These goals were achieved and now the Laboratory of Parasitology of the Animal Science College has a much better capacity for research and extension activities, with new protocols developed, validated and adopted, such as new diagnostic techniques, and modern pieces of equipment, such as centrifuges and digital systems for capturing and processing microscopic images. This in turn will benefit undergraduate and graduate research projects and will foment the establishment of collaborative projects with other institution, especially in the central highlands departments. **Besides that, approximately, 1500 aged would eventually benefit from the new program for fascioliasis diagnosis and prevention in the Local Health Center, developed and enhanced because of this Project.**

2.4.5 Horticulture Case Study

Case Study title	**Assessing technical sustainability of tomato cropping systems in the Peruvian coastline**
Nature of Case Study	Develop a method for achieving and evaluating agronomic practices such as irrigation management to improve technical sustainability of the open field tomato cropping systems in the Peruvian semiarid coastline.
Type of Case of Study	Collaboration in R&D
Stage of development of the case	Highly developed practice
Background	Tomato production in Peru is mostly concentrated in the semiarid coastal areas, where total average annual rainfall is 40 mm (Senahmi, 2011). This lack of water supply is motivating farmers to look for different strategies to use water more efficiently. Irrigation strategies are a key tool to use adequately the water available for agriculture. In order to achieve this, different innovative irrigation strategies have been developed and assessed worldwide. One such technique is deficit irrigation (DI), which is an optimization approach that improves soil water exploitation by plant roots. The appropriate use of DI has the potential to deliver promising crop yields. Notably, the adequate amount of deficit irrigation water may greatly differ, depending on the various characteristics of the soils, growing conditions, and tomato cultivar and phenological stage. (Gamarekdawla, 2017). Therefore, up-to-date scientific knowledge needs to be developed to understand the interactions of irrigation method, crop root distribution, uptake patterns and rates of water and nutrients to adequately optimize tomato production in a save and sustainable way
Implementation	- Three tomato cropping cycles have been finished. Crop response to variations in water management were evaluated, biometrical destructive plant measurements were performed every 15 days and coverage images were taken weekly. - A fully automated irrigation/fertigation system, an automated weather station, soil temperature and TDR sensors were installed. - Destructive biometry of growth and production data were acquired. - Waveforms obtained from 128 TDR probes measurement have been processed to obtain volumetric water content and bulk electrical conductivity for the three cropping cycles. - Soil samples to measure hydraulic parameters were collect on the field at different depth and processed for model calibration.
Success Factors	- Evaluation of tomato crop response to irrigation treatments based on ASCE-EWRI and FAO-56 methodologies.

	- Growth and development dynamics, production and quality of tomato where evaluated under different seasons and phenological stages. - Statistical techniques such as repeated measures ANOVA and smooth splines ANOVA analysis have been performed to analyse the effect of water treatments on soil water content at different depth and displacement from the plant. - Water uptake and nutrient dynamics where evaluated on plant and soil levels. - The relations between soil water content plant growth and development have been investigated using data from foliar area and plant coverage.
Impact/Results/outcome	- 3 papers in *peer – review* journals (1 published 2 accepted for publication) - 2 paper in peer – *review* journals (in preparation for publication) - 8 presentations in international scientific events - 3 proceedings in international scientific events - 1 PhD thesis in final stage - 1 MSc thesis defended in KU Leuven - 4 Undergraduate thesis defended (*B.S* in agriculture) - 3 workshops with local tomato farmers In Peru, 72% of the total tomato production is concentrated in semi-arid coastal areas. Moreover from the years 2005 to 2018, in the coast, the average total cultivated area has grown with12%. While in some departments the area has increased by 24 to 69%. This increase motivates farmers to look for more efficient strategies for water management The vegetable research program works together with two big farmers association in the valleys of Lurin, Mala and Pisco, during the project a meteorological weather station has been installed in Mala to use as a model of evapotranspiration calculations for optimizing water use. This farmers will work as allies in the extension process. **Research demonstrated is possible to produce 15 t/ha additional yield, reducing water use by 60% compared to an average tomato farmer in the Peruvian coastline.**
Conclusions	Results obtained from research projects associated to PhD thesis are innovative outcomes that are being applied on tomato production and horticultural water management, **producing economics benefits for farmers and stakeholders. Several workshops have been organised at UNALM, Mala valley and IRD Don German where research results have been shared with local farmers. Around 100 farmers have benefited from these workshops.**

3. Conclusions and lessons learned

Succinct summary of the main results of the assessment at programme level

- **High relevance and ownership of the programme activities.** The programme successfully addressed highly relevant development issues in innovative ways, with the final aim of increasing UNALM's capacity to support Peru's rural development. Internal and external recognition of the programme, together with opportune strategies, also promoted a high ownership.

- **Project management efficiency**. The programme was successfully leaded by KU Leuven, but the participation of other Flemish universities has been quite limited, in comparison with other VLIR UOS projects. Nevertheless, activities were implemented in a cost-efficient manner, with minor deviations in budget, in spite of the delay in the arrival of the funding and internal financial issues.

- **Substantial effectiveness with regards to academic and development objectives**. UNALM notoriously strengthened research and education thanks to the different projects. The programme also had an interesting impact in the IRDs regions, where the involvement of the stakeholders and the alignment with the local priorities was essential.

- **Significant institutional and academic impact**. The programme had a compelling impact at institutional and academic level, via the set-up of ICT and Library Councils or the development of the Research Coordination Office. Additionally, UNALM is a recognised actor by the Peruvian society, contributing to the identification and remediation of key agronomic, socio-economic and environmental constraints of small-scale family based agriculture in Peru.

- **Institutionalisation of programme activities and sustainability**. Most academic activities developed by the programme will continue, and the institutionalisation of several outputs (like UIE) confirm the sustainability of the programme. Nevertheless, future institutional commitments and funding should be confirmed by the future UNALM authorities.

Some lessons learned during the journey

- **Starting the cooperation.** The selection of the South Partner for an Institutional University Cooperation project is a critical issue and should fulfil some prerequisites. The most important prerequisites are the need of a baseline capacity in research, the English proficiency of participants and the commitment of the local authorities. Those elements are crucial for the success of the initiative, and if any of them have any weak point, efforts should be done to minimize the impact in the programme performance. During the life of the project UNALM was not able to implement efficient policies and activities to improve the English proficiency of the participants, and this obstacle remained as such until the end of the project, impacting negatively upon it.

- **During the life of the project.** The participants did not consider that the logical framework was a successful tool to plan and manage the programme/projects. It is well known that LFM sometimes fails to reflect the complex realities facing development actors, thus producing confusion rather than

clarity. Coordinators complained about how complex it was to identify research and educational results and indicators at the beginning of the project. They also did not like the excessive focus on quantitative outcome indicators. On the other hand, it is quite complicated to monitor and evaluate the results of a programme when there are no relevant useful LFM indicators or the baseline and most KRAs had no baseline value. Thus, stakeholders should find a compromise solution in order to agree on feasible tools to be applied during the life of the project.

- **At the end of the project**. Considering how critical is the engagement of the South partner (UNALM in this case) in the success of the project, during the last phase of the project this aspect should be reinforced. Alignment between the local institutional priorities and the VLIR-UOS objectives have to be adjusted and confirmed. Efficient communication about the expected outcomes of the project and their sustainability have to be clear for all participants. At this stage increasing the number of management meetings at both sides and the communication flow in general provide interesting results.

4. Recommendations

Recommendations for the IUC UNALM

- **Mid-term Evaluation Recommendations vs. Phase II.** The Mid-term evaluation proposed 11 recommendations, and UNALM also proposed different suggestions to solve the identified issues (see 1.5 for details). In the opinion of the evaluators the following issues were not properly addressed during Phase II:
    - Improve clarity and simplicity around the route to PhD candidacy;
    - Enhance English language training for academics and potential PhD candidates and UNALM staff;
    - Prioritise the PhD scholarships in order to achieve the overall benefits of the programme, and scholarship funds;
    - More active involvement of larger Flemish teams, and from more Flemish universities.

  Thus, these recommendations were also relevant for Phase II.
- **Cultural change for Technology Transfer and Innovation Management**. UNALM is performing well with regards to academic and research activities. The research coordination office of the Vice-Rector for Research is fully operational and promoting active policies to increase R&D activities at UNALM. Nevertheless, there is major room for improvement with regards to transferring / commercializing technology and knowledge, although UNALM authorities should take into account that R&D and TT are linked in a natural process. The legal framework at national level is evolving and more autonomy is expected in the near future. UNALM should respond by promoting not only research but also technology transfer, which may also contribute to the sustainability of the research. A cultural change took place with IUC with regards to research at UNALM, and now it is time for another cultural change for technology transfer and innovation management. Nevertheless, this additional cultural change should be based on the R&D policies and the results achieved in the last years, and not starting from scratch or creating something isolated, because innovation will be always linked with research activities.
- **Promote English Proficiency of students/academics/researchers.** This has been reported as one of the main reasons for the low number of PhD students in the programme. Evaluators did not identify any English language teaching policy at institutional level at UNALM, which is quite disappointing, considering that this issue was identified right at the beginning of the programme.
- **Implement Human Resources policies at institutional level in order to support PhD candidates.** Evaluators only identified random faculty policies on this direction. An institutional policy in this area will be crucial for the development of research and academic activities in UNALM in the near future. Again, this issue was identified in the first steps of the programme, and no effective solutions have been provided by UNALM.

Recommendations for VLIR-UOS

- **Improve financial planning/management.** Flemish and Peruvian project leaders complained about a cut of the budget in phase II, and also about the delays in transferring the funds, which at the end had an impact on the programme (mainly in the motivation of project leaders). Several participants suggested to implement an administrative platform that allows the project leaders to better monitor their projects financially and technically, in order to provide faster decision making, avoid misunderstandings and result in efficient time management.
- **Decrease administrative burden of the IUC reporting and management activities.** Many participants also reported difficulties coming from the reporting obligations of the IUC, which provoked high workloads in management issues.

Annexes

Annex 1. Online questionnaire – Individual Impact

1. Género.
   - Hombre
   - Mujer

2. Edad

3. Departamento / Unidad en la que trabaja

4. ¿En qué tipo de acción formativa/estancia ha participado? (tome como referencia la más reciente)

5. ¿Dónde tuvo lugar la formación/estancia?

6. ¿Podría describir brevemente los 3 aspectos más importantes que ha aprendido en la acción formativa/estancia?

7. ¿Ha sido la acción formativa/estancia relevante para su trabajo?

   - Si
   - No

8. ¿La formación/estancia fue relevante para la obtención del título (grado, máster, doctorado)?

   - Muy relevante
   - Relevante
   - Ni relevante ni no relevante
   - Irrelevante
   - Muy irrelevante

9. En una escala de 0 – 10, ¿recomendaría la acción formativa/estancia a conocidos? (tome como referencia la más reciente)

10. ¿Ha aplicado los contenidos del curso/estancia en su trabajo o en su investigación?

11. ¿Podría explicar como aplicó los conocimientos?

12. Qué cambios propone aplicar para mejorar la acción formativa?

Annex 2. Case Studies Template

Case Study title	
Nature of Case Study	Contribution of Higher Education to Social Cohesion and Economic Growth, …..
Type of Case of Study	
Background	
Implementation	
Success Factors	
Impact/ Results /Outcomes	
Conclusions	

Annex 3. Scoring Methodology

General approach - Scoring

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); See recommendations No:

2-Low: Major room for improvement exists, with a potential of major effects on (Criterion) of the Program/project. See recommendation No:

1-Poor: The (Criterion) is of poor quality and extra necessary measures are urgently need to realize the (Criterion). See recommendation No:

Excellent	Good	Low	Poor

Programme Level- Scoring

Criterion 1: Definition of Relevance

The extent to which the objectives of a programme are consistent with beneficiaries' requirements, country needs, global priorities and partners' and donors' policies." Retrospectively, the question of relevance often becomes a question of whether the objectives or intervention logic of an action are still appropriate given changed circumstances.

Sub-criterion 1.1.: The extent to which the programme is addressing immediate and significant problems and needs of the concerned partners (institutional) as well as regional and national policy makers, with reference to the MDGs, PRSP and other multilateral policy documents.

Sub-criterion 1.1. Responding to the needs		
Scores	**Definition Scores**	**Topic and item lists**
4-Excellent	The programme is aligned with National and regional policies, university policy and with VLIR-UOS country strategy. The overall relevance is of excellent quality. Additional measures are not needed.	• Process of programme formulation • Demonstrated links with the policy documents. • In case of non-alignment, why? • Are partners (universities and governmental agencies)
3-Good	The programme is partly aligned with National, regional and university policies and with VLIR-UOS strategy. Minor room for improvement exists, however with minor effect on increasing the	

	relevance of the programme. See recommendations No`s:	involved in Context Analysis? How? • What could be improved in the process of formulating programme objectives? • Are the chosen approaches, methodologies, partnerships and implementation modalities relevant? • Is the programme responsive to changes in the local priorities and development context?
2-Low	The programme is partly aligned with National, regional and university policies and with VLIR-UOS strategy. Major room for improvement exists, with potential major effects on the relevance of the Program. See recommendation No`s:	
1-Poor	The programme is not aligned with National, regional and university policies and with VLIR-UOS strategy. The relevance of the programme is of poor quality and extra necessary measures are urgently needed. See recommendation No`s:	

Sub-criterion 1.2. Synergy and complementarity with other (Belgian) actors.

Sub-criterion 1.2. Synergy and Complementary
• Are there any synergy and complementary issues with other programmes funded by VLIR-UOS and/or other donors in the country or in the region? Has possibilities for synergy explored? What has been done to create synergy? What activities have been organized with others? Are activities planned? • Is there any synergy and complementary issue within the program (and between the different projects)? Has possibilities for synergy explored within the programme? What activities have been organized with other projects?

Sub-criterion 1.3. Link with transversal themes of Belgian development cooperation: gender, environment and D4D (Digital for Development).

Transversal themes: can elements be found at the programme and project level. Recommendations for the next phase as the transversal themes were not a criterion during programme formulation. The main question is how these new priorities of the Minister can be integrated in the second phase.

Sub-criterion 1.3. Transversal Themes
• Are women and men equally approached? • Is a gender policy in place? What measures and activities are implemented? • Is an environmental policy and strategy in place? What measures and activities are implemented? • Is there a D4D policy and strategy? What measures and activities are implemented? • Do specific projects contribute to better transversal theme approach at university level?

Sub-criterion 1.4. Ownership. Demonstration of effective commitment of all partners in the programme.

Sub-criterion 1.4. Ownership		
Scores	**Definition Scores**	**Topic and item lists**
4-Excellent	All key stakeholders are still very committed to the programme The overall commitment is of excellent quality. Additional measures are not needed.	• Do all key stakeholders still demonstrate effective commitment? (taking up responsibilities, reporting, motivation, focus) • Why not? • What is the interest of the stakeholders of being part of the programme?
3-Good	All key stakeholders are still committed to the programme. Minor room for improvement exists, however with minor effect on increasing ownership of the programme. See recommendations No`s:	
2-Low	Some key stakeholders are losing commitment to the programme. Major room for improvement exists, with a major effect on increasing ownership of the programme. See recommendations No`s:	
1-Poor	A majority of key stakeholders are losing commitment to the programme. The ownership of the programme is of poor quality and extra necessary measures are urgently needed. See recommendation No`s:	

Criterion 2: Definition of Efficiency

"A measure of how economically resources/inputs (funds, expertise, time, etc.) are converted to results."

Sub-criterion 2.1 Links between inputs and outputs. Demonstration of effective commitment of all partners in the programme.

Sub-criterion 2.1. Links between inputs and outputs		
Scores	**Definition Scores**	**Topic and item lists**
4-Excellent	The activities of the programme are implemented in cost-efficient manner. A similar cost-efficiency logic has been implemented for all projects. The overall cost-efficiency of the programme is of excellent quality. Additional measures are not needed.	• Do the resources correspondent to the needs of the action? • Have the outputs been produced/delivered in a cost-efficient manner? • Spending rates
3-Good	Most of the activities of the programme are implemented in cost-efficient manner. Minor room for improvement exists, however with minor effect on increasing cost-	

	efficiency of the programme. See recommendations No`s:	• Activities are chosen based on cost-considerations.
2-Low	Most of the activities of the programme are implemented in cost-efficient manner. Major room for improvement exists, with major effect on increasing cost-efficiency of the programme. See recommendations No`s:	
1-Poor	Most of the activities of the programme are not implemented in cost-efficient manner. The cost-efficiency of the programme is of poor quality and extra necessary measures are urgently needed. See recommendation No`s:	

Sub-criterion 2.2. Delays

Sub-criterion 2.2. Delays		
Scores	**Definition Scores**	**Topic and item lists**
4-Excellent	The programme did not face any important delay in activities and in case of delay, revisions have been planned and implemented. Additional measures are not needed.	• To what extent are inputs available on time? • If there are delays, how important are they? • Have the reasons be identified? Have revisions. • Have revisions of planning been properly implemented?
3-Good	The programme did not face any important delay in activities and in case of delay, revisions have been planned but not yet implemented. Minor room for improvement exists, however with minor effect on the timing of implementation. See recommendations No`s:	
2-Low	The programme did face important delays in activities and revisions have been planned but not yet implemented. Major room for improvement exists. See recommendations No`s:	
1-Poor	The programme did face important delays in activities and revisions have not been made. The implementation of activities is of poor quality and extra necessary measures are urgently needed. See recommendation No`s:	

Sub-Criterion 2.3. Programme Management: quality of programme management

Sub-criterion 2.3. Programme Management		
Scores	**Definition Scores**	**Topic and item lists**
4-Excellent	The overall programme management is of excellent quality. Additional measures are not needed.	• The management manual is well-developed and applied at programme and project level • Is the programme adequately monitored and/or assessed by local and Flemish partners? • How has been the role of both the local and the Flemish coordinators? • Which has been the style and performance of both the local and the Flemish coordinators? • How has been the performance of the PSU? • Planning, monitoring and reporting system in place? Timely reporting? • Good cooperation and communication between programme and local university, between programme and projects, between projects
3-Good	The overall programme management is of good quality. Minor room for improvement exists, however with minor effect on increasing the quality of programme management. See recommendations No`s:	
2-Low	The overall programme management is of low quality. Major room for improvement exists, with a major effect on increasing the quality programme management. See recommendations No`s:	
1-Poor	The overall programme management is of poor quality and extra necessary measures are urgently needed. See recommendation No`s:	

Criterion 3: Definition of Effectiveness

"The extent to which the programme' s objectives (IUC-level) are expected to be achieved, taking into account their relative importance."

Sub-criterion 3.1. Specific Academic Objectives		
Scores	**Definition Scores**	**Topic and item lists**
4-Excellent	The specific objectives (and outputs) will be achieved in case of successful implementation during the second phase. The programme is on track in order to achieve the specific objectives. Additional measures are not needed.	• Has the expected progress in terms of outputs properly achieved? • Is the quality of the output satisfactory? • Are the outputs still likely to the expected outcomes?
3-Good	The specific objectives (and outputs) will be achieved in case of successful implementation during the second phase. The programme is on	

	track in order to achieve the specific objectives. Minor room for improvement exists. See recommendations No`s:	• Is there evidence that the action supports the implementation or development or change of partners' policy/actions? • Are there changes in awareness, knowledge, skills at institutional level? • Are there changes in organizational capacity (skills, structures, resources) • The indicators for the specific academic objective have been achieved.
2-Low	The specific objectives (and outputs) will be partly achieved. Major room for improvement exists, with a major effect on increasing programme management. See recommendations No`s:	
1-Poor	The specific objectives (and outputs) won`t be achieved. Extra necessary measures are urgently needed. See recommendation No`s:	

Sub-criterion 3.2. Specific Development Objective		
Scores	**Definition Scores**	**Topic and item lists** **(IUC-programme level)**
4-Excellent	The specific objectives (and outputs) will be achieved in case of successful implementation during the second phase. The programme is on track in order to achieve the specific objectives. Additional measures are not needed.	• Has the expected progress in terms of outputs properly achieved? • Is the quality of the outputs satisfactory? • Are the outputs still likely to the expected outcomes? • Is there evidence that the action supports the implementation or development or change of partners' policy/actions in order to create impact on society? • Are there changes in awareness, knowledge, skills at institutional level in order to create changes in society? • Are there changes in organizational capacity (skills, structures, resources) in order to serve society • The indicators for the specific development objective have been achieved.
3-Good	The specific objectives (and outputs) will be achieved in case of successful implementation during the second phase. The programme is on track in order to achieve the specific objectives. Minor room for improvement exists. See recommendations No`s:	
2-Low	The specific objectives (and outputs) will be partly achieved. Major room for improvement exists, with a major effect on increasing programme management. See recommendations No`s:	
1-Poor	The specific objectives (and outputs) won`t be achieved. Extra necessary measures are urgently needed. See recommendation No`s:	

Criterion 4: Definition Impact

"Potential positive and negative, primary and secondary long-term effects produced by the programme, directly or indirectly, intended or unintended."

Remark: in this mid-term evaluation, only indications (stories of impact) possible.

Sub-criterion 4.1. Academic Impact		
Scores	**Definition Scores**	**Topic and item lists**
4-Excellent	The academic performance of the university has been increased significantly since the start of the programme (as a result of the programme) and will further increase during phase 2 if implemented in the same manner. Additional measures are not needed.	• Added value of the programme for the academic performance of the university • Increased publication in international refereed journals • Increased academic capacity of staff members • Increased collaborative academic activities not funded by the programme • Increase/improvement in internal funding, consultancies, national ranking, etc.
3-Good	The academic performance of the university has been increased significantly since the start of the programme (as a result of the programme) and will further increase during phase 2 if implemented in the same manner. Minor room for improvement exists. See recommendations No`s:	
2-Low	The academic performance of the university has been increased partly since the start of the programme (as a result of the programme). Major room for improvement exists, with a major effect on increasing academic performance of the university. See recommendations No`s:	
1-Poor	The academic performance of the university hasn`t been increased since the start of the programme (as a result of the programme). Extra necessary measures are urgently needed. See recommendation No`s:	

Sub-criterion 4.2. Institutional Impact		
Scores	**Definition Scores**	**Topic and item lists**
4-Excellent	Major Institutional reforms at university level are implemented as a result of the programme. Additional measures are not needed.	• Policy changes at institutional level? Changes in behavior at institutional level? • the extent to which the collaboration has sparked other departments to initiate interuniversity collaboration,
3-Good	Major Institutional reforms at university level are planned as a result of the programme. Minor measures are needed. See recommendations No`s:	

2-Low	Major Institutional reforms at university level are planned as a result of the programme. Major measures are needed. See recommendations No`s:	joint capacity building, fund raising etc.
1-Poor	No institutional reforms are implemented or planned. Extra necessary measures are urgently needed. See recommendation No`s:	

Sub-criterion 4.3. Development Impact		
Scores	**Definition Scores**	**Topic and item lists**
4-Excellent	Policy development in society is based on programme experiences and results. Programme experiences and results are used for new initiatives. Additional measures are not needed to increase impact	• The extent to which the collaboration has raised interest of policy makers and academics, and how the partner university is called upon or is pro-actively developing collaboration models that could be fed into policy advice • The extent of the activities developed with local or regional stakeholders, contributing to the economic and social development • Added value of the programme for the role of the university as a development actor: the extent to which the collaboration has led to joint developmental activities or similar collaborative models at the regional and global level
3-Good	Programme experience and results are known in the broader society but have not yet caused new initiatives. Minor additional efforts are needed to increase impact. See recommendations No`s:	
2-Low	Programme experience and results are known in the broader society but have not yet caused new initiatives. Major additional efforts are needed to increase impact.	
1-Poor	Programme experience and results are known in the broader society. Extra necessary measures are urgently needed. See recommendation No`s:	

Criterion 5: Definition Sustainability

"Sustainability is the continuation of benefits from a development intervention after major development assistance has been completed, the probability of continued long-term benefits, and the resilience to risk of net benefit flows over time."

Sub-criterion 5.1. Academic Sustainability		
Scores	**Definition Scores**	**Topic and item lists**
4-Excellent	Academic sustainability is guaranteed or will be guaranteed in the second phase. Measures are identified and will be implemented at the second phase. Additional measures are not needed.	• The extent to which the collaboration has raised interest of policy makers and academics, and how the partner university is called

3-Good	Academic sustainability will be guaranteed in the second phase. Measures are partly identified and will be implemented at the second phase. Minor additional efforts are needed to increase sustainability. See recommendations No`s:	upon or is pro-actively developing collaboration models that could be fed into policy advice • The extent of the activities developed with local or regional stakeholders, contributing to the economic and social development • Added value of the programme for the role of the university as a development actor: the extent to which the collaboration has led to joint developmental activities or similar collaborative models at the regional and international level
2-Low	Measures for academic sustainability are in the process of identification. Major additional efforts are needed to increase sustainability. See recommendations No`s:	
1-Poor	Academic sustainability will not be guaranteed in the second phase. Extra necessary measures are urgently needed. See recommendation No`s:	

Sub-criterion 5.2. Institutional Sustainability		
Scores	**Definition Scores**	**Topic and item lists**
4-Excellent	Institutional sustainability is guaranteed or will be guaranteed in the second phase. Measures are identified and will be implemented at the second phase. Additional measures are not needed.	• Decision-making structures are in place to guarantee sustainability • Measure are taking to retain and upgrade human capital continuously • Maintenance of Infrastructure is guaranteed. • Strengths and weaknesses of the institution in terms of institutionalizing the collaboration • Intensification and/or formalization of interuniversity consultations (North-South and South-South)
3-Good	Institutional sustainability will be guaranteed in the second phase. Measures are partly identified and will be implemented in the second phase. Minor additional efforts are needed to increase sustainability. See recommendations No`s:	
2-Low	Measures for institutional sustainability are in the process of identification. Major additional efforts are needed to increase sustainability. See recommendations No`s:	
1-Poor	Institutional sustainability will not be guaranteed in the second phase. Extra necessary measures are urgently needed. See recommendation No`s:	

Sub-criterion 5.3. Financial Sustainability		
Scores	**Definition Scores**	**Topic and item lists**
4-Excellent	Financial sustainability is guaranteed or will be guaranteed in the second phase. Measures are	• financial viability

	identified and will be implemented at the second phase. Additional measures are not needed.	• incorporation of costs into the budget of the partner university • other sources of finance: - Ability to attract external funds - co-funding by the partner university (matching funds) - (financial) involvement of private actors - system of scholarships • •
3-Good	Financial sustainability will be guaranteed in the second phase. Measures are partly identified and will be implemented at the second phase. Minor additional efforts are needed to increase sustainability. See recommendations No`s:	
2-Low	Measures for financial sustainability are in the process of identification. Major additional efforts are needed to increase sustainability. See recommendations No`s:	
1-Poor	Financial sustainability will not be guaranteed in the second phase. Extra necessary measures are urgently needed. See recommendation No`s:	

Project Level- Scoring

Criterion 1: Definition Scientific Quality

"The extent to which a project has a ground-breaking nature and ambition (excellence)."

Sub-criterion P.1.1. Quality of Research		
Scores	**Definition Scores**	**Topic and item lists**
4-Excellent	The project has implemented innovative and outstanding research which have been published in international refereed journals. No additional measures are needed to increase innovative research results.	• the extent to which research is cutting edge; • Involvement of stakeholders in the South • Extent to which the results have been incorporated in local or international refereed journals
3-Good	The project has implemented innovative and outstanding research but the results are not yet published in international refereed journals. Activities are planned to publish research results or academic articles are submitted to international refereed journals.	
2-Low	The project has replicated existing research and results are not (yet)published in international refereed journals.	
1-Poor	The research component of the project failed. Extra necessary measures are urgently needed. See recommendation No`s:	

Sub-criterion P.1.2. Quality of Education		
Scores	**Definition Scores**	**Topic and item lists**
4-Excellent	The overall education objectives are of excellent quality. Additional measures are not needed.	• the extent to which new education practices are cutting edge; • Involvement of South Stakeholders • Extent to which alumni easily get a job which fits their education profile; • the number of fellowships acquired from foundations • Regional and international integration of education practices.
3-Good	The overall education objectives are of good quality. Room for improvement exists. See recommendations No`s:	
2-Low	The overall education objectives are of low quality. Major room for improvement exists, with potential major effects on the education quality of the Program. See recommendation No`s:	
1-Poor	The overall education objectives are of poor quality. Extra necessary measures are urgently needed. See recommendation No`s:	

Criterion 2: Definition Relevance

"The extent to which the objectives of a project are consistent with beneficiaries' requirements, country needs, global priorities and partners' and donors' policies."

Sub-criterion P. 2.1. Responding to the needs		
Scores	**Definition Scores**	**Topic and item lists**
4-Excellent	The project is aligned with National and regional policies, university policy and with VLIR-UOS country strategy. The overall relevance is of excellent quality. Additional measures are not needed.	• Process of project formulation • Demonstrated links with the policy documents. • In case of non-alignment, why? • Are partners (universities and governmental agencies) involved in Context Analysis? How? • What could be improved in the process of formulating project objectives?
3-Good	The project is partly aligned with National, regional and university policies and with VLIR-UOS strategy. Minor room for improvement exists, however with minor effect on increasing the relevance of the project. See recommendations No`s:	
2-Low	The project is partly aligned with National, regional and university policies and with VLIR-UOS strategy. Major room for improvement exists, with potential major	

	effects on the relevance of the project. See recommendation No`s:	• Are the chosen approaches, methodologies, partnerships and implementation modalities relevant? • Is the project responsive to changes in the local priorities and development context?
1-Poor	The project is not aligned with national, regional and university policies and with VLIR-UOS strategy. The relevance of the project is of poor quality and extra necessary measures are urgently needed. See recommendation No`s:	

Sub-criterion P. 2.2. Synergy and Complementary
• Are there any synergy and complementary issues with other projects and programmes funded by VLIR-UOS and/or other donors in the country or in the region? • Have possibilities for synergy explored? What has been done to create synergy? What activities have been organized with others? Are activities planned? • Is there any synergy and complementary issue within the program (and between the different projects)? • Have possibilities for synergy explored within programme? Have activities been organized together with other projects?

Sub-criterion P.2.3. Transversal Themes
• Are women and men equally approached? • Is a gender policy in place? What measures and activities are taken? • Is an environmental policy and strategy in place? What measures and activities are taken? • Is there a D4D policy and strategy? What measures and activities are taken?

Sub-criterion P.2.4. Ownership		
Scores	**Definition Scores**	**Topic and item lists**
4-Excellent	All key stakeholders are still very committed to the project. The overall commitment is of excellent quality. Additional measures are not needed.	• Do all key stakeholders still demonstrate effective commitment? (taking up responsibilities, reporting, motivation, focus) • Why not?
3-Good	All key stakeholders are still committed to the project. Minor room for improvement exists, however with minor effect on increasing ownership of the project. See recommendations No`s:	

2-Low	Some key stakeholders are losing commitment to the project. Major room for improvement exists, with a major effect on increasing ownership of the project. See recommendations No`s:	• What is the interest of the stakeholders of being part of the project?
1-Poor	A majority of key stakeholders are losing commitment to the project. The ownership of the project is of poor quality and extra necessary measures are urgently needed. See recommendation No`s:	

Criterion 3: Definition Efficiency

"A measure of how economically resources/inputs (funds, expertise, time, etc.) are converted to results."

Sub-criterion P.3.1. The intermediate results have been delivered		
Scores	**Definition Scores**	**Topic and item lists**
4-Excellent	All the intermediate results are delivered. Additional measures are not needed.	• Check values on the output-indicators • KRA`s • Are indicators SMART?
3-Good	The intermediate results are partly delivered. Minor room for improvement exists. See recommendations No`s:	
2-Low	The intermediate results are partly delivered. Major room for improvement exists. See recommendations No`s:	
1-Poor	The intermediate results are not delivered. Extra necessary measures are urgently needed. See recommendation No`s:	

Sub-criterion P.3.2. Relationship between Objectives, results and means.		
Scores	**Definition Scores**	**Topic and item lists**
4-Excellent	There is clear link between means, outputs and objectives. The input is carefully thought-out. The project did not face any important delay in activities and in case of delay, revisions have been planned and implemented. Additional measures are not needed.	• The means/inputs are justifiable and are carefully thought-out solution for the defined outputs. • Outputs (intermediate results) contribute to the project objectives. • To what extent are inputs available on time?
3-Good	There is clear link between means, outputs and objectives. The input is partly thought-out. The project did not face any important delay in activities and in case of delay, revisions have been planned but not yet implemented.	

	Minor room for improvement exists, however with minor effect on the implementation modalities. See recommendations No`s:	• If there are delays, how important are they? • Have the reasons be identified? Have revisions • Have revisions of planning been properly implemented?
2-Low	The link between means, outputs and objectives is blurred. Inputs are too expensive in relation to the outputs. The project did face important delays in activities. Revisions have been planned but not yet implemented. Major room for improvement exists. See recommendations No`s:	
1-Poor	The link between means, outputs and objectives is blurred. Inputs are far too expensive in relation to the outputs The project did face important delays in activities and revisions have not been made. The implementation of activities or the link between activities and output/objectives is of poor quality. Extra necessary measures are urgently needed. See recommendation No`s:	

Sub-criterion 3.3. Project Management		
Scores	**Definition Scores**	**Topic and item lists**
4-Excellent	The overall project management is of excellent quality. Additional measures are not needed.	• The management manual is well-developed and applied at project and project level • Is the project adequately monitored and/or assessed by local and Flemish partners? • Planning, monitoring and reporting system in place? Timely reporting? • Good cooperation and communication within the project
3-Good	The overall project management is of good quality. Minor room for improvement exists, however with minor effect on increasing the quality of project management. See recommendations No`s:	
2-Low	The overall project management is of low quality. Major room for improvement exists, with a major effect on increasing project management. See recommendations No`s:	
1-Poor	The overall project management is of poor quality and extra necessary measures are urgently needed. See recommendation No`s:	

Criterion 4: Definition of Effectiveness

"The extent to which the project`s objectives are expected to be achieved, taking into account their relative importance."

Sub-criterion P.4.1. Specific Academic Objectives		
Scores	**Definition Scores**	**Topic and item lists**
4-Excellent	The specific objectives (and outputs) will be achieved in case of successful implementation during the second phase. The project is on track in order to achieve the specific objectives. Additional measures are not needed.	• Has the expected progress in terms of objectives properly achieved? • Is the quality of the outputs satisfactory? • Are the objectives still likely to the expected objectives? • Is there evidence that the action supports the implementation or development or change of partners' policy/actions? • Are there changes in awareness, knowledge, skills at institutional level? • Are there changes in behaviour at the level of the involved stakeholders (department)? • How these changes are materialised? (More and/or better research? / More and/or better education?) • Are there changes in organizational capacity (skills, structures, resources) • The indicators for the specific academic objective have been achieved.
3-Good	The specific objectives (and outputs) will be achieved in case of successful implementation during the second phase. The project is on track in order to achieve the specific objectives. Minor room for improvement exists. See recommendations No`s:	
2-Low	The specific objectives (and outputs) will be partly achieved. Major room for improvement exists, with a major effect on increasing programme management. See recommendations No`s:	
1-Poor	The specific objectives (and outputs) won`t be achieved. Extra necessary measures are urgently needed. See recommendation No`s:	

Sub-criterion P.4.2. Specific Development Objective		
Scores	**Definition Scores**	**Topic and item lists**
4-Excellent	The specific objectives (and outputs) will be achieved in case of successful implementation during the second phase. The project is on track in order to achieve the specific objectives. Additional measures are not needed.	• Has the expected progress in terms of outputs properly achieved? • Is the quality of the outputs satisfactory?

3-Good	The specific objectives (and outputs) will be achieved in case of successful implementation during the second phase. The project is on track in order to achieve the specific objectives. Minor room for improvement exists. See recommendations No`s:	• Are the objectives still likely to the expected objectives? • Is there evidence that the action supports the implementation or development or change of partners' policy/actions? • Are there changes in awareness, knowledge, skills at institutional level? • Are there changes in organizational capacity (skills, structures, resources)? • Are there changes in behaviour at the level of the involved stakeholders (department)? (changes in performance?) • Has the university/faculty/department created the conditions for impact (e.g. by facilitating uptake)? • The indicators for the specific development objective have been achieved.
2-Low	The specific objectives (and outputs) will be partly achieved. Major room for improvement exists, with a major effect on increasing project management. See recommendations No`s:	
1-Poor	The specific objectives (and outputs) won`t be achieved. Extra necessary measures are urgently needed. See recommendation No`s:	

Criterion 5: Definition of Impact

"Potential positive and negative, primary and secondary long-term effects produced by the programme, directly or indirectly, intended or unintended."

Remark: in this mid-term evaluation, only indications (stories of impact) possible.

Sub-criterion P.5.1. Individual Impact		
Scores	**Definition Scores**	**Topic and item lists**
4-Excellent	A significant number of scholars/students/staff members has increased their knowledge and skills as result of the project. They use the newly required knowledge and skills. No Additional measures are not needed in the second	• Scholars/Students/staff members from the project are embedded in society and economic life and are contributing significantly. • Individual capacities of scholars/students are increased and they are using upgraded skills and knowledge in their jobs (even outside of the university).
3-Good	A significant number of scholars/students/staff members has increased their knowledge and skills as result of the project. They use the newly required knowledge and skills partly. Minor room for improvement exists in the second phase. See recommendations No`s:	
2-Low	A low number of scholars/students/staff members has increased their knowledge and skills as result of the project. They use the newly required knowledge and skills partly.	

	Major room for improvement exists, with a major impact at individual level. See recommendations No`s:	•
1-Poor	A low number of scholars/students/staff members has increased their knowledge and skills as result of the project. They don`t use the newly required knowledge and skills. Extra necessary measures are urgently needed. See recommendation No`s:	

Sub-criterion P.5.2. Academic & Institutional Impact		
Scores	**Definition Scores**	**Topic and item lists**
4-Excellent	Major departmental/university reforms are implemented as a result of the project and academic performance increased as a result of the project Additional measures are not needed.	• Added value of the project for the academic performance of the university • PhD students and PhD holders (VLIR-UOS scholarships) are embedded in the department and are implementing research. • Increased number of publication in international refereed journals • Increased number of PhD and MSc-holders as a result of the project. • Policy changes at departmental/university level? Changes in behavior at departmental/university level? • the extent to which the collaboration has sparked other departments
3-Good	Major departmental/university reforms are planned as a result of the project and academic performance increased as a result of the project. Minor measures are needed. See recommendations No`s:	
2-Low	Major departmental/university reforms at university level are planned as a result of the project and academic performance did not increase substantially. Major measures are needed. See recommendations No`s:	
1-Poor	No departmental/university reforms are implemented or planned and academic performance did not increase. Extra necessary measures are urgently needed. See recommendation No`s:	

Sub-criterion P.5.3. Development Impact (impact on society)		
Scores	**Definition Scores**	**Topic and item lists**
4-Excellent	Policy development in society is based on project experiences and results. project experiences and results are used for new initiatives. Additional measures are not needed to increase impact	• The extent to which the collaboration has raised interest of policy makers and academics, and how the partner university is called upon or is pro-actively developing collaboration

3-Good	Project experiences and results are known in the broader society but have not yet caused new initiatives. Minor additional efforts are needed to increase impact. See recommendations No`s:	models that could be fed into policy advice • The extent of the activities developed with local or regional stakeholders, contributing to the economic and social development • Added value of the project for the role of the university as a development actor: the extent to which the collaboration has led to joint developmental activities or similar collaborative models at the regional level
2-Low	Project experiences and results are known in the broader society but have not yet caused new initiatives. Major additional efforts are needed to increase impact.	
1-Poor	Project experiences and results are known in the broader society. Extra necessary measures are urgently needed. See recommendation No`s:	

Criterion 6: Definition Sustainability

"Sustainability is the continuation of benefits from a development intervention after major development assistance has been completed, the probability of continued long-term benefits, and the resilience to risk of net benefit flows over time."

Sub-criterion P.6.1. Academic & Institutional Sustainability		
Scores	**Definition Scores**	**Topic and item lists**
4-Excellent	Academic sustainability is guaranteed or will be guaranteed in the second phase. Measures are identified and will be implemented at the second phase. Additional measures are not needed.	• The extent to which the collaboration has raised interest of policy makers and academics, and how the partner university is called upon or is pro-actively developing collaboration models that could be fed into policy advice • The extent of the activities developed with local or regional stakeholders, contributing to the economic and social development • Added value of the project for the role of the university as a development actor: the extent to which the collaboration has led to joint developmental activities or similar collaborative models at the regional level • Are individual academics committed to continue to work within the department. • Joint projects • Strengths and weaknesses of the department in terms of institutionalizing the collaboration
3-Good	Academic sustainability will be guaranteed in the second phase. Measures are partly identified and will be implemented at the second phase. Minor additional efforts are needed to increase sustainability. See recommendations No`s:	
2-Low	Measures for academic sustainability are in the process of identification. Major additional efforts are needed to increase sustainability. See recommendations No`s:	
1-Poor	Academic sustainability will not be guaranteed in the second phase. Extra	

	necessary measures are urgently needed. See recommendation No`s:	• Intensification and/or formalization of interuniversity consultations (North-South and South-South) • Measures are taking for staff retention of trained staff.

Sub-criterion P.6.2. Financial Sustainability		
Scores	**Definition Scores**	**Topic and item lists**
4-Excellent	Financial sustainability is guaranteed or will be guaranteed in the second phase. Measures are identified and will be implemented at the second phase. Additional measures are not needed.	• financial viability • incorporation of costs into the budget of the partner university • other sources of finance – • Ability to attract external funds • co-funding by the partner university (matching funds) • Joint new projects (non project-funding
3-Good	Financial sustainability will be guaranteed in the second phase. Measures are partly identified and will be implemented at the second phase. Minor additional efforts are needed to increase sustainability. See recommendations No`s:	
2-Low	Measures for financial sustainability are in the process of identification. Major additional efforts are needed to increase sustainability. See recommendations No`s:	
1-Poor	Financial sustainability will not be guaranteed in the second phase. Extra necessary measures are urgently needed. See recommendation No`s:	

Annex 4. Mission Programme

Hora	Lunes 11	Martes 12	Miércoles 13	Jueves 14	Viernes 15
6.00			Visita IRD – Junín, Huancayo	Visita IRD Cañete, Lima	
9.00	Reunión con el Rector: Dr. Enrique Flores Mariazza y Vicerrector VRA: Jorge Alarcón Novoa.	Visitas al Campus - P4			REUNION CON EL Dr. Julio Alegre
9.30	Líderes de P1, P2, P3, P4 y P5 en el VRI	Unidad de Innovación Educativa: Dr: Carlos Gómez, Dra:Silvia Morales, Ing: Elva Ríos	Visita al fundo San Juan de Yanamuclo con el Dr: Sady García, Ing. Jesús Vera y el Ing. Daniel Zarate.	Visita al fundo Don Germán con el coordinador general de los IRD, Ing. Andrés Casas.	
10.30	Visitas al Campus - P1	Visitas al Campus - P5			Visita MINEDU y CONCYTEC
	Laboratorios Zootecnia: Dr: G. Gutiérrez, Ing: Daniel Zárate, Laboratorios Agronomía: Dr: Sady García, Ing: Saray Siura	BAN - Biblioteca abierta: Ing: Juan Medrano, Ing: Cecilia Castillo, FAB LAB y TIC: Ing: Liliana Aragón, Ing: Iván Soto, Ing: José María Espinoza.	Reunión con el director Ing. Rolando Egusquiza	Reunión con el director, Ing. Gilberto Rodríguez	10:00 MINEDU: Calle El Comercio 193, San Borja Reunión con el Sr. Josue.O Dilas - Especialista en Docentes de investigación 11:30 CONCYTEC: Calle Chinchón 867, San Isidro Reunión con el Sr. Henry Harman Guerra- Director de la dirección de Politicas y Programas de CTel.
12.30	ALMUERZO	ALMUERZO	ALMUERZO	ALMUERZO	ALMUERZO
13.30	Visitas al Campus - P2	Visita al Campus - Otros			
	Huerto: Ing: Roberto Ugas, Prog. Cereales: Dra: Luz Gómez, Dr: Waldemar Mercado.	Oficina de IRD: Ing. Andrés Casas			Reunión final con líderes de proyectos en el VRI: Comentarios, conclusiones
15.30	VRI - P3	Embajada de Bélgica	Regreso de Huancayo	Regreso de Cañete	
	Dra: Carmen Velezmoro, Dr: Eduardo Fuentes	Reunión con la Sra Sarah Kerremans Agregada de cooperación por Perú.			

Previous activities to the mission include:

- (Internal) Skype meetings between the EU Expert and the Local Expert;
- Skype meeting with VLIR-UOS representative (Peter De Lannoy) on 10/10/2019;
- Meeting with VLIR-UOS representative in Brussels on 17/10/2019;
- Interviews with Flemish project leaders on 18/10/2019, specifically:
  - Miet Maertens 9-10.30 h
  - Eddie Schrevens 10.30-12 h
  - PSU members: ICOS Tupac Calfat and Inge Vanpoecke (finance): 13-14 h
  - Focus Group with Peruvian PhD students: 14-15 h
  - Ann Peters 15-16.30 h
  - Jan Elen 17-18.30 h

VLIR-UOS supports partnerships
between universities and university colleges
in Flanders and the South
looking for innovative responses
to global and local challenges

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