Final Report

Thematic Evaluation of Departmental Projects: Creating the Conditions for Impact

vliruos
SHARING MINDS, CHANGING LIVES

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ANNEXES 1

ACRONYMS

CEEMA	Centro de Estudios de Energía y Medio Ambiente
CHW	Community health workers
CoP	Community of Practice
CSO	Civil Society Organisations
CUJAE	Instituto Superior Politécnico José Antonio Echeverría
DFID	Department for International Development, United Kingdom
DRM	Disaster risk management
DRUSSA	Development Research Uptake in Sub-Saharan Africa
ERI	Enabling Rural Innovation
ISMMM	Instituto Superior Minero Metalúrgico de Moa
IUC	Institutional University Cooperation
MMU	Mountains of the Moon University, Fort Portal, Uganda
NDC	Non-communicable diseases
NEMA	National Environment Management Authority
NGO	Non-governmental Organization
OI	Own Initiatives
SI	South Initiatives
ToC	Theory of Change
TUT	Tshwane University of Technology
UCf	Universidad de Cienfuegos
UH	University of Havana, Cuba
UMCC	Universidad de Matanzas
VLIR-UOS	Vlaamse Interuniversitaire Raad – Universitaire Ontwikkelingssamenwerking

PREFACE

[1]

[1] The information and views set out in this evaluation report are those of the author(s), independent evaluators, and do not necessarily reflect the opinion of VLIR-UOS or the universities/university colleges involved.

EXECUTIVE SUMMARY

I. Context, challenges and objectives of the evaluation

Syspons GmbH has been commissioned by VLIR-UOS to conduct the *Thematic Evaluation of Departmental Projects: Creating the Conditions for Impact*.

VLIR-UOS supports partnerships between universities and university colleges in Flanders and the Global South, hereby looking for innovative responses to global and local challenges and strengthens higher education in the Global South as well as the globalisation of higher education in Flanders. South Initiatives (SI) and TEAM projects, the types of project subject to this evaluation, are two specific approaches by which VLIR-UOS contributes to these ends. Taking place at the departmental level, the projects emerge from a local development problem/need which is addressed through a common initiative taken by one or more academic(s) from a country in the Global South, in collaboration with one or more Flemish academic(s). The VLIR-UOS Theory of Change envisions that – besides an improvement in research and educational capacities – there will be an **uptake of project results** (e.g. research related) and thus a wider use of the knowledge, applications and/or services generated by the intervention by early adopters and the wider population. In order to contribute to developmental change, creating the conditions for uptake thus constitutes an integral part of VLIR-UOS projects. Prior to this thematic evaluation, however, little clarity existed on how uptake of knowledge, services and/or applications takes place, and little orientation on how to create the conditions for uptake.

In this context, the evaluation had **two main objectives**: first, it aimed to assess the effectiveness and impact of VLIR-UOS funded departmental projects in order to learn how they can create more impact by improving the conditions for uptake of the knowledge, services or applications generated by the projects. Second, it aimed to develop a conceptual framework that clarifies different strategies linked to creating the conditions for uptake. This thematic evaluation was thus **both formative and summative**. The evaluation covered a sample of 47 TEAM projects and SI in five countries (Cuba, Democratic Republic of Congo, South Africa, Tanzania and Uganda) which were concluded before/in 2019. It thereby took into account the particularities of and links between the different types of VLIR-UOS interventions in order to analyse to what extent the 'portfolio approach' of VLIR-UOS, i.e. the complementarity of SI and TEAM projects as well as their linkages to other VLIR-UOS interventions, is conducive to generating more impact and conditions for research uptake.

II. Evaluation approach

A tailor-made evaluation design was developed for this thematic evaluation that considered the specificities of the VLIR-UOS thematic projects. This evaluation design was based on a **contribution analysis** in combination with **process tracing**. The contribution analysis was used to explore "established" hypotheses for successful uptake from the conceptual framework; the process tracing was based on alternative or "contested" hypotheses from the framework in order to identify or eliminate alternative explanatory factors for (putative) successful uptake.

The evaluation was implemented between March and October 2019. Within this period, the Syspons evaluation team conducted a literature review on research and knowledge uptake and valorisation, analysed VLIR-UOS (project) documents, and conducted explorative interviews with VLIR-UOS personnel and expert interviews with academics. The evaluation team furthermore developed and implemented

an online survey among all Northern and Southern promoters in the sample of departmental projects and conducted numerous interviews with stakeholders of nine selected departmental projects during field missions to Uganda, South Africa and Cuba. The incorporation of the conceptual framework in the chosen evaluation design allowed the evaluation team to test and refine it based on the collected evidence, and to developed recommendations for how VLIR-UOS supported projects can generate better conditions for research uptake and thus more impact. The evaluation's findings and recommendations were presented to and discussed with VLIR-UOS and its stakeholders in two restitution meetings on 26 September 2019.

III. Main findings

The evaluation team concludes that VLIR-UOS departmental projects are in general **effective** with regards to strengthening research and educational capacity as well as the generation of new knowledge, applications and/or services. In this regard, departmental projects improve curricula and research methodologies as well as teaching and research equipment at the Southern partner organisations. The projects are equally successful in generating new knowledge, technologies and services, which are also often integrated into the teaching of the respective Southern partner universities.

Room for improvement, however, could be identified regarding the uptake of the newly generated knowledge, applications and/or services. Here, it was observed that research results are either not taken up at all outside of the respective university or only used by beneficiaries directly involved in the project (early adopters), while they are not taken up by indirect beneficiaries (horizontal or vertical up-scaling). Consequently, conditions are not set to achieve the intended long-term **impact** as foreseen in the Theory of Change of VLIR-UOS departmental projects. With regards to uptake it was further observed that (the creation of conditions for) uptake is not perceived as a key component of the funded projects, in particular by Northern promoters. Here, the evaluation team found a somewhat typical 'division of labour': whereas Northern promoters viewed their role mainly as academic sparring partners to improve e.g. the rate of publications or quality of research and teaching, Southern promoters also saw one of their main roles as promoting the uptake of research in their particular country/region. As found by the evaluators, this 'division of labour' is not per se negative for the projects' effectiveness. However, it means that Southern promoters do not receive the necessary support through the project and that a better interlocking of research, dissemination and outreach would be necessary to achieve more uptake and thus more impact.

With respect to the VLIR-UOS **portfolio approach**, it can be concluded that the consolidation of VLIR-UOS departmental projects with other (VLIR-UOS) interventions has a positive effect on the strengthening of research and educational capacity of a department. It was further stated that the potential for impact increases through continuity. South Initiatives' impact is generally more modest due to more limited duration and budget but can be optimised, especially in combination with scholarships and/or preceding/follow-up projects. Expectations therefore should not only vary for SI and TEAM projects, but also even more for stand-alone and follow-up projects, as the devotion of resources to establishing crucial networks limits the time and resources available for research and other dissemination activities.

Further strategies to create the conditions for uptake were explored through the **conceptual framework** developed specifically for this thematic evaluation. This framework links the academic literature with empirical data gathered throughout the evaluation and considers the characteristics of VLIR-UOS departmental projects. It differentiates between **(pre-) conditions** or contextual factors that facilitate up-

take on the one hand, and **mechanisms** to support uptake of (new) knowledge, services and applications on the other. (Pre-) conditions and mechanisms vary by the degree of control the researcher (or producer of knowledge) has on these factors and conditions: whereas **(pre-) conditions are primarily reactive** (i.e. the researcher understands/knows about certain aspects and reacts to them accordingly), **mechanisms assign an active role to the researcher**, who choses and applies certain approaches and strategies to facilitate uptake.

With regard to the **(pre)-conditions**, it could be shown that that a sound understanding of the context in which the prospective project should take place facilitates research uptake. Here, it is essential not only to understand the broader context of the policy sector but also to identify structural barriers which can take e.g. the form of dominant production regimes, imbalanced power relations, capacity constraints on the side of the relevant stakeholders or existing conflicts between important stakeholders in the sector. At the same time, it could also be proven that the funded departmental projects have to be aligned to relevant policy priorities in the sector or partner country and attuned to the needs of the end-users (e.g. through needs assessments or baselines before the implementation of the respective project) to create the conditions for research uptake.

With regards to the analysed **mechanisms** of the developed conceptual framework it was shown that long-term collaboration in form of personal (direct) interaction greatly enhances research uptake. In this context, the portfolio approach of VLIR-UOS also contributes to research uptake, e.g. if follow-up projects engage the same cooperation partners and the respective Northern and Southern universities (continuity). Furthermore, the evaluation demonstrated that the main uptake of knowledge, technologies or developed services takes place with those stakeholders that are either the collaboration partners or the explicit targeted audience of the funded project. Thus, it can be concluded that the selection of partners must well thought through when setting up departmental projects and that these partners, if they are not end-users themselves, must have excellent pathways to the targeted end-user group of the respective project. The evaluation results, however, also indicated that stakeholders should not actively participate in formulating the research topic (in contrast, they should be considered when analysing the context and potential structural barriers), but rather throughout the implementation of data collection in order to create the necessary conditions for research uptake.

In addition, the establishment of particular modes of collaborations with these relevant stakeholders – e.g. in the form of advisory boards – proved successful in guaranteeing continuous needs-orientation of the research during the data collection and synthesis phase. It is therefore also important that preliminary research results are shared in a tailor-made format for each specific user group. In addition, it has been proven that the dissemination of knowledge, technologies or services has to go hand in hand with the necessary training of end-users, e.g. on how to apply the particular newly developed technology. The success of such training is even improved if opportunities exist for users to apply new knowledge, e.g. in the context of participatory data collection. It could furthermore be shown that direct contact with the end-users, in the case of VLIR-UOS departmental projects, is more effective in creating the conditions for uptake than the use of intermediaries, even though this is a dominant recommendation in the theoretical academic discourse. Finally, the analysis demonstrated that trainings and sensitization regarding (methods for) research uptake, community engagement, etc. on the side of the involved Northern and Southern researchers also greatly enhanced the creation of conditions for research uptake.

Overall, it could be observed that until today, a clear and comprehensive strategy regarding the creation of conditions for uptake has not yet been fully developed in VLIR-UOS departmental projects as many of the above-described mechanisms were not chosen deliberately by the evaluated projects. Therefore,

a more proactive and consistent approach by VLIR-UOS and its funded projects to this topic could enhance the future likelihood of reaching the intended impact of the departmental projects.

IV. Recommendations

The evaluation team has formulated 14 recommendations based on the findings of the evaluation. These are divided into recommendations for departmental projects and recommendations to VLIR-UOS.

Recommendations for departmental projects

1. Departmental projects should include an assessment of structural barriers to uptake and efficient project implementation in the context analysis.
2. Departmental projects should identify end-users, if possible, at the proposal or early implementation stage.
3. Departmental projects should consider the demand of users for (new) knowledge, services and/or applications as well as the capacity of users to absorb it.
4. Departmental projects should ensure that research results and activities target users directly.
5. Departmental projects should build on and valorise knowledge and contacts from previous projects and experiences.
6. Departmental projects should consider various forms of collaborating with and/or integrating end-users.
7. Departmental projects should ensure complementarity of dissemination activities and contacts.

In chapter 4.2.3 and 4.2.4, text boxes as well as good and poor practice examples provide **hands-on advice** on how recommendations could be put into practice.

Recommendations to VLIR-UOS

8. VLIR-UOS should retain the emphasis in the selection process on developmental relevance in VLIR-UOS call conditions and selection criteria.
9. VLIR-UOS should retain an emphasis in the selection process on complementarity to other VLIR-UOS interventions.
10. VLIR-UOS should use call documents to define the assessment of structural barriers as a component of context analyses.
11. VLIR-UOS should use the selection process to place more emphasis on how (follow-up) projects aim to foster an uptake of research results.
12. VLIR-UOS should use call documents to clearly define uptake.
13. VLIR-UOS should approach Southern and in particular Northern promoters more strategically in order to raise awareness that creating the conditions for uptake shall be part of the research process.
14. VLIR-UOS should create exchange formats on successful uptake as well as a manual providing hands-on advice.

1. Introduction

Syspons GmbH has been commissioned by VLIR-UOS to conduct the *Thematic Evaluation of Departmental Projects: Creating the Conditions for Impact*. This evaluation has two main objectives. First, it aimed to assess the effectiveness and impact of VLIR-UOS supported departmental projects in order to learn how they can create more impact by improving the conditions for the broader use (outside the university) of the knowledge, services or applications generated by the projects. This will be referred to as uptake.[2] Second, it aimed to develop a clear conceptual framework that clarifies different strategies linked to creating the conditions for uptake. This thematic evaluation was thus both formative and summative.

The evaluation covered TEAM projects and South Initiatives (SI) which were already concluded by the time of the evaluation (i.e. before/in 2019). It thereby took into account the particularities of and links between the different types of VLIR-UOS interventions in order to analyse to what extent the 'portfolio approach' of VLIR-UOS is conducive to generating more impact and conditions for research uptake.

The thematic evaluation was conducted between March and October 2019. Within this period, the Syspons evaluation team conducted a literature review on research and knowledge uptake and valorisation, analysed VLIR-UOS (project) documents, and conducted explorative interviews with VLIR-UOS personnel and expert interviews with academics. The evaluation team furthermore developed and implemented an online survey among all Northern and Southern promoters in the sample of departmental projects. Finally, numerous interviews were conducted with stakeholders of nine selected departmental projects during field missions to Uganda, South Africa and Cuba. On the basis of the data collected, Syspons developed recommendations for how VLIR-UOS supported projects can generate better conditions for research uptake and thus more impact. Users of the evaluation are envisaged to be VLIR-UOS as well as (future) Northern and Southern promoters of VLIR-UOS funded (applied research/educational development) projects, project stakeholders and cooperation partners as well as the general public.

The evaluation report is structured as follows:

- **Chapter 2** contains an overview of VLIR-UOS departmental projects, including reference to the organization's 'portfolio approach';
- **Chapter 3** provides an overview of the evaluation methodology and process;
- **Chapter 4.1** outlines the conclusions of the evaluation team concerning impact, effectiveness and the portfolio approach;
- **Chapter 4.2** presents the conceptual framework on (pre-) conditions and mechanisms that facilitate uptake of knowledge, services and applications, based on the assessment of impact and effectiveness of VLIR-UOS departmental projects;
- **Chapter 5** outlines the conclusions of the thematic evaluation;
- **Chapter 6** outlines recommendations for VLIR-UOS and its departmental projects.

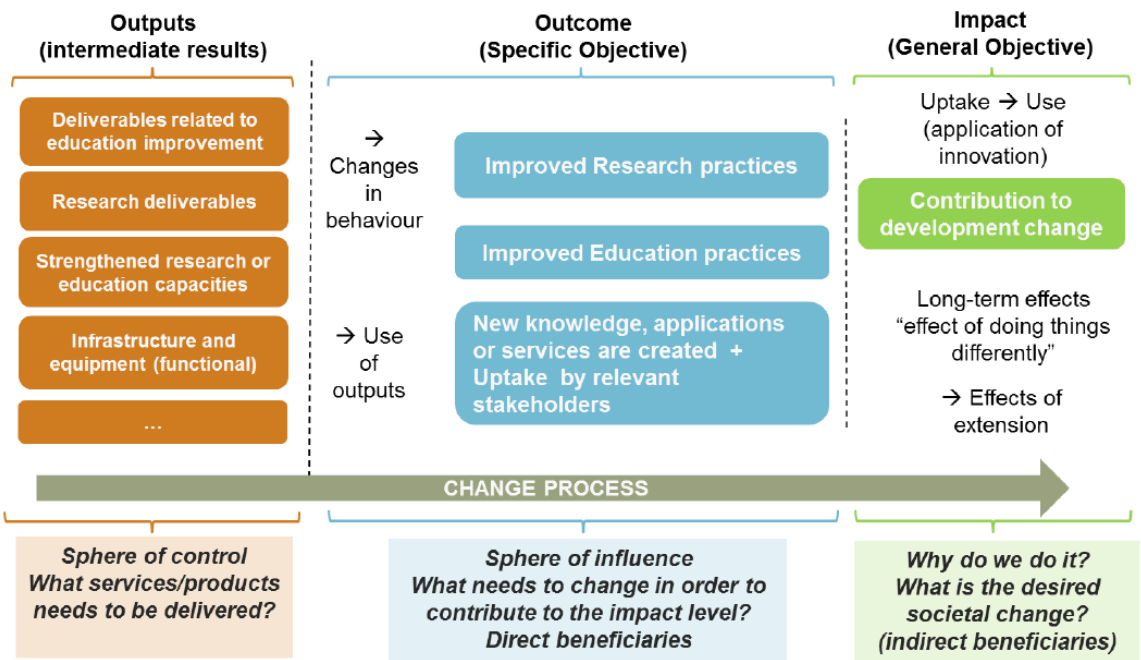
[2] The definition is in line with the most frequently cited definition of uptake in the context of development-oriented research programmes: 'Research uptake includes all the activities that facilitate and contribute to the use of research evidence by policy-makers, practitioners and other development actors.' (DFID 2016)

2. VLIR-UOS Departmental Projects

VLIR-UOS supports partnerships between universities and, more recently, university colleges in Flanders and in the Global South. The organization facilitates research on innovative responses to global and local challenges and strengthens higher education in the Global South as well as the globalisation of higher education in Flanders. South Initiatives (SI) and TEAM projects, the types of project subject to this evaluation, are two specific approaches by which VLIR-UOS contributes to these ends. Taking place at the departmental level, the projects emerge from a local development problem/need which is addressed through a common initiative taken by one or more academics from a country in the Global South, in collaboration with one or more Flemish academic(s).

The VLIR-UOS Theory of Change (see Figure 1) thereby explicitly envisions that – besides an improvement in research and educational capacities – there will be an uptake of research and thus a wider use of the knowledge, applications and/or services generated by the intervention (e.g. by private companies, civil society actors, civil servants and governmental actors/authorities, local communities, or other research institutes). It is thereby expected that the (applied) research leads to improvement/innovation in the professional practice/work field (incl. behavioural change), and that new knowledge, applications and/or services are introduced to and adapted for a new context. In order to contribute to the fight against poverty in the respective region and/or country and to generate (mostly post-intervention) developmental change, creating the conditions for uptake constitutes an integral part of VLIR-UOS projects. This is illustrated in the VLIR-UOS Theory of Change below.

Figure 1 | Theory of Change of VLIR-UOS departmental projects



Source: Terms of Reference, 2019

The following paragraphs outline the differences and commonalities of the two types of projects subject to this thematic evaluation.

TEAM projects – formerly called Own Initiatives (OI) – have a maximum duration of five years and a maximum budget of € 300,000. They often follow an earlier exploration or contact between departments

at Flemish and Southern Higher Education Institutions. TEAM projects arise due to a common initiative of one or more academics from a partner country together with one or more academics from Flanders. Project proposals must then be submitted by a professor from a Flemish university and are reviewed by two external peer reviewers and regional selection commissions.

Given their aim to address region-related challenges, they address specific developmental topics. TEAM projects moreover aim at strengthening the research and education capacity in a specific thematic domain. These two broad objectives comprise a variety of approaches: enhancing the research and education capacity of the Southern partner university by increasing the number of staff members at PhD level and/or by improving the quality of a Master programme, or the building of research capacity by training PhD and Master level students and/or equipping the universities' facilities (e.g. laboratories). Participatory and multidisciplinary approaches may also constitute a TEAM project, e.g. the promotion of multidisciplinary research and building of multidisciplinary research capacity among PhD and Master students in relation to a (often multidimensional) developmental problem, or the co-production of actionable knowledge by involving relevant stakeholders – or 'agents of change' – in the research project.

In this regard, the conducted desk research of project documents and interviews with the projects' promoters and VLIR-UOS personnel propose that the qualification of PhD students and development of their individual capacities along with the capacities of the department is often a central aspect – or building block – of TEAM projects. PhD and Master students in particular and researchers and university staff in general are thus the central direct beneficiaries of TEAM projects. Participatory projects furthermore directly benefit stakeholders such as local farmers or health workers (beneficiaries). Given TEAM projects' vision for uptake of research results and new knowledge, indirect beneficiaries include regional and national level policymakers and civil servants, private sector actors, or civil society. Furthermore, local communities are possibly users of knowledge, services and applications generated by TEAM projects.

South Initiatives (SI) are the smallest intervention type funded by VLIR-UOS with a duration of one to two years and maximum budget of € 75,000. A SI can stand alone or grow into a TEAM project or an Institutional University Cooperation (IUC) thereafter. The objective of the interventions is to support current or past research, covering a great variety of formats and motivations (see below). The intervention is initiated by academics or lecturers in a developing country on the VLIR-UOS country list. They submit a proposal in a competitive call together with a Flemish academic or lecturer. The project proposals are reviewed by regional selection commissions.

In contrast to TEAM projects, SI typically focus less on research and educational capacity and more on the generation of new knowledge. The objectives – which cover a great variety of formats and motivations – of SI interventions range from:

- national 'pilot' initiatives and joining forces around nationally relevant topics;
- supporting current or past research, e.g. through exchange and multiplication efforts (national or international conferences or training workshops on a specific issue etc.);
- supporting or creating synergies with other VLIR-UOS projects or other Belgian/local/international actors;
- exploring ideas for further collaboration and elaborating a framework for a future TEAM project;
- supporting the mobility of Flemish researchers to the South to explore opportunities for partnerships and identify new partners.

Moreover, SI projects are also conceivable as stand-alone projects with a clear outcome and expected impact, whereby the shorter time horizon determines the nature of the proposed activities.

The direct and indirect beneficiaries of SI are basically the same as for TEAM projects, although SI tend to focus on a local rather than regional/national level. The conducted analysis of project documents shows that the more restrained focus (with regards to new/basic research) and time horizon of SI often contributes to a more precise formulation of objectives and research plans, which more often explicitly reach out beyond the academic sector to local communities or local-level actors. In practice, this observation could be confirmed in particular for stand-alone SIs. However, it is not particular to SI since TEAM projects were also found to be reaching out to local communities and/or stakeholders.

The complementarity of SI and TEAM projects as well as their linkages to other VLIR-UOS interventions are referred to as the **'portfolio approach**.**'** In its purest form, this may imply a sequence of VLIR-UOS scholarships initiating a SI, which explores further opportunities for cooperation and finally results in (the proposal for) a TEAM project ('seed funding'). Longer-term collaboration and several TEAM projects may give rise to opportunities for a long-term IUC and, finally, NETWORK programmes on the country-level. This ideal sequence rarely occurs in its pure form but illustrates how VLIR-UOS projects can be complementary to one another. For example, SI may not only precede 'deeper' and longer-term cooperation types but also complement or initiate an IUC, extend an (outfacing) TEAM project by one specific research aspect to be followed up ('harvesting'), or designed as a stand-alone project. The present evaluation considers these specificities of and linkages between the different types of VLIR-UOS interventions in order to analyse to what extent this 'portfolio approach' is conducive to generating better conditions for research uptake and thus more impact.

3. Evaluation methodology and process

3.1 Evaluation design

As stated in the introduction, the thematic evaluation – based on a theoretical model clarifying different mechanisms linked to creating the conditions for uptake – assessed the effectiveness and impact of VLIR-UOS funded departmental projects (see chapter 4.1). However, this assessment was not regarded as an end in itself but was rather aimed at learning, from the 'how' and 'why' of the observed uptake, to how departmental projects can create more impact by improving the conditions for uptake. Therefore, a contribution analysis in combination with process tracing (i.e. a theory-based evaluation design) was chosen for this thematic evaluation.

Other evaluation designs, based on the DFID Working Paper on Designs and Methods for Impact Evaluations by Stern et al. (2012), were carefully considered. However, the regularity approach, the counterfactual approach and the multiple causation approach were deemed not suitable for the purpose of this evaluation. These three approaches along with the chosen generative/mechanisms approach presented in the Stern paper are briefly discussed below in view of their applicability for the purpose of the VLIR-UOS thematic evaluation.

- The *regularity approach* assesses causality depending on the frequency of association between a given cause and an effect. This means that causality can be verified when several cases subjected to the same intervention have the same effects. Its strength lies in the fact that this approach can discover 'laws' among the set of chosen cases, while its weakness is that it does not explain 'how' or 'why' the observed effects occur (ibid.). In order to apply the regularity approach, several interventions in the same context with different implementation designs (i.e. approaches/strategies to create the conditions for uptake) would be needed to find out which causal factors led to the results. Because this evaluation intentionally covered a wide variety of contexts (countries, modalities etc.), and aimed to learn from the 'how' and 'why' of the observed uptake, the regularity approach has not been applied.
- The *counterfactual approach* compares the impact in a (randomly) selected intervention group with that in a control group. This is a robust method that avoids several types of bias, most importantly selection bias. On the downside, this approach does not focus on the 'why' or 'how' and is weak at generalising results since it excludes analysis of the context. The approach can therefore only prove whether an experiment worked in a given context, and not if it might work in a different one (ibid.). As this evaluation aimed to understand how and why several mechanisms facilitate uptake work, and how they could be transferred to another context, the counterfactual approach could not be applied here. Moreover, the evaluation subject did not allow for an experimental design.
- The *multiple causation approach* stems from the idea that an effect is caused by a combination of causes. In order to evaluate impact using this approach, the evaluators need access to a sufficient number of cases with comparable characteristics. This approach is useful when dealing with cases of limited complexity in order to, for example, identify typologies. Conversely, this approach is limited in its ability to interpret highly complex combinations of causes within a selected (set of) case(s) (ibid.). As this was the case for the present evaluation, this approach could not be applied either.
- Finally, the *generative/mechanisms approach* relies on identifying the 'causal mechanisms' that generate a desirable effect. The approach is based on an existing theory (in this case, **both the**

reconstructed theories of change for each individual intervention and the conceptual framework which allows for generalizations beyond the individual project) for the intervention in question, which allows the evaluator to understand the factors that cause the observed effect (e.g. uptake of new knowledge, services and applications). As a result, this approach permits an in-depth understanding of the case and its context and is mainly used in 'theory-based' and 'realist' evaluation designs (ibid.). As this approach is closest to the objectives of this thematic evaluation and knowledge interest of VLIR-UOS, and because it is methodologically feasible, it constituted the 'backbone' of the chosen evaluation design.

3.1.1 Contribution analysis

Based on the generative/mechanisms approach, it was decided to implement a **contribution analysis** (i.e. a theory-based evaluation design). This specific analytical approach assesses whether a realized outcome (e.g. improved research and education capacity of a department, uptake of new knowledge, or the possible broader use of new knowledge/applications/services) can possibly be ascribed to an intervention and which factors functioned as drivers and inhibitors to realizing the desired outcome. The approach was originally developed by Mayne (Mayne, 2001, 2008, 2011) to assess the performance of policies and programmes towards an impact or several impacts. This type of analysis was developed for situations where designing an 'experiment' to test cause and effect is impractical (see counterfactual approach). A contribution analysis attempts to address this by focusing on questions of 'contribution', specifically to what extent observed results (whether positive or negative) are the consequence of the policy, programme or, in this case, the selected departmental project (ibid.). By developing a theoretical model specifying the links between the outputs, outcomes, impacts and the context of the selected project, and by collecting evidence from various sources to test this theory, the aim is to build a credible (or plausible) 'performance or contribution story'. This can demonstrate whether the selected project was indeed an important influencing factor in driving change, perhaps along with other factors (ibid.).

The advantage of this evaluation design is that it offers an in-depth analysis of the selected projects regarding their causal mechanisms to create conditions for research uptake. By building on the conceptual framework (see chapter 4.2), it focuses on answering how and why these changes occurred and thus delivers explanations on how this kind of impact and conditions can be replicated in other projects. Theoretically, the contribution analysis will be based on the conceptual framework as well as reconstructed theories of change for each selected project. Because the contribution analysis strives to explore the most likely explanations and presenting evidence to discuss and – potentially – discount them, it is based on the following 'established' hypotheses from the conceptual framework (see chapter 4.2). This approach to incorporating the conceptual framework allowed us to test and refine it on the basis of the collected evidence.

Based on a literature review on research uptake and related expert interviews, the following 'established' hypotheses were identified. 'Established' thus refers to the degree of consent in the academic literature ascribed to each mechanism.

The hypotheses provide the basis for the contribution analysis and process tracing (see below). The 'strength' of hypothesis is indicated as:

*** widely accepted/verified; ** considerable support from experts/academics; *stated but not clearly verified; ~ disputed.

# [3]	**Established hypotheses**
Uptake of research is facilitated	
1	if the researcher has a **good understanding of the broader system/context** in which the project operates (e.g. structural barriers, timing of elections, budgetary cycle, ethical questions) **
2	if the researcher has a good understanding of relevant **stakeholders, potential beneficiaries and/or intermediaries** (e.g. local NGOs, private sector actors, international agencies, civil servants, legislators and political parties, intermediaries, the media, local communities). **
6	if **collaboration** exists between researchers and end-users. ***
10	if the researcher has a good understanding of **policy priorities** ***
11	if research is **relevant** to users and the (policy) sector, i.e. targets a (developmental) problem. ***
12	if research is needs-oriented and **demand-driven**, e.g. mechanisms exist/are strengthened for guiding interventions based on the knowledge of local people and those affected by problems. ***
13	if research involves potential end-users in the research **design phase**. **
14	if research is **transdisciplinary**. **
15	if research is **participatory**, i.e. involves potential end-users in the data collection phase. **
16	if the researcher has additional (soft) **skills in storytelling, networking, and translating research** results. **
19	if **organizational structures, processes and resources on user side** are supportive (e.g. administrative support, capacities to articulate research needs) **
21	if **intermediaries** translate and communicate knowledge to target audiences. ***
22	if dissemination of research is **well targeted** and research is easily **accessible**. ***
23	if **research products are adapted to users' needs**. **

Based on the approach articulated by Mayne, the thematic evaluation was rolled out in the following six steps:

1. **Setting out the attribution problem to be addressed**: in the case of the VLIR-UOS departmental projects this included strategies, approaches and activities that contributed to the uptake of new knowledge, services and applications by actors external to the project.
2. **Developing** (or reconstructing) **a theory of change**: based on the general ToC of VLIR-UOS, a ToC for each specific case study was reconstructed.
3. **Populating the model with existing data and evidence**: data to populate the models was collected during case studies of nine SI and TEAM projects in three countries. Additional data was gathered through an online survey.
4. **Assembling and assessing the 'performance story'**: based on the data and evidence assembled during the evaluation, the conceptual framework and model of research uptake was critically assessed.
5. **Seeking out additional evidence**: during the data collection phase, continuous assessment was undertaken on to what extent the gathered data confirmed or rejected the hypotheses.

[3] As in the inception report and in the evaluation grid.

Based on this assessment, it was determined which hypotheses needed additional data in order to arrive at a clear judgement.

6. **Revising the 'performance story'**: the collected evidence was used to refine the conceptual framework. This laid the foundations for developing recommendations.

A challenge of this design, however, is that it only shows a snapshot of one point in time. Consequently, the baseline situation as well as the size of the observed effect and its causal inference to the respective projects must be carefully reconstructed by other qualitative research such as additional data collection methods and process tracing (see below). In this way, observed impacts of the projects can be approximated.

3.1.2 Process tracing

To complement the contribution analysis and to identify or eliminate *alternative explanations* for the (putative) successful uptake, a **process tracing** analysis was further employed. Process tracing is an approach for causal inference that sets out to untangle the causal links between putative causes and outcomes by identifying the intervening causal processes or mechanisms at work (George & Bennet, 2005; Reilly, 2010). In contrast to contribution analysis, it lays down an ex-ante process to identify alternative explanatory factors besides to the intervention itself, and to deduct whether the intervention caused the observed change or if it is the result of factors beyond the control of the intervention. Based on the literature review (see chapter 4.2), the following alternative or 'contested' hypotheses were identified:

# [4]	**Alternative hypotheses**
Uptake of research is facilitated	
3	in **sectors** where there is a high need and absorption capacity for technical knowledge (e.g. agriculture, engineering). *
4	in sectors which are **not politicized** and/or shaped by economic interests. ~
5	if **opportunities** for direct contact and communication of research exist ~
7	if interaction between researchers and users is **frequent and long-term**. *
8	if the relationship is characterized by **trust and mutual respect**. *
9	if a **mutual understanding** exists between researchers and users, e.g. agreement on policy relevant questions and the kind of evidence needed to answer them. *
17	if capacity development interventions address **end-users' skills for evidence use and access ***
18	if the researcher has a **clear intention towards uptake** (also at the expense of academic achievement, e.g. publication in peer-reviewed journals). *
20	if intra-**organizational linkages** exist that promote knowledge sharing across the organization. *
24	if research is perceived as **unbiased and of high quality** by potential users. *
25	if the **timing** of dissemination is 'right' (e.g. matches relevant events and users' time horizons) *

[4] As in the inception report and in the evaluation grid.

For this purpose, four empirical tests (straw-in-the-wind, hoop, smoking-gun and doubly decisive) were applied to previously developed (alternative) hypothesis (see above) which could explain the project's (un)intended outcomes and impacts. This complements the contribution analysis by placing a particular focus on potential alternative explanations.

Process tracing adds three additional/complementary steps to the six stages of the contribution analysis:

1. **Process induction**: based on the literature review and expert interviews, a set of alternative hypotheses on success and hindering factors for uptake were developed.
2. **Data collection**: when collecting data for process tracing, it is essential to understand the actual processes or mechanisms generated by the SI and TEAM projects. This involves – in our experience – an explicit construction of a chronology of the process under investigation. This was primarily done using qualitative methods in the field missions. The results were collected in the form of a narration.
3. **Process verification**: to infer causality, the collected evidence was analysed for congruence or incongruence. For this purpose, the aforementioned four process tracing tests were used in order to substantiate or invalidate the causal claims of the (rival) hypotheses.

Finally, cross-cutting to the assessment of impact and effectiveness, the evaluation design considered the specificities of the different project types and VLIR-UOS' portfolio approach (see evaluation grid in annex 3).

3.1.3 Evaluation criteria and indicators

Evaluation criteria and indicators are outlined in the evaluation grid in **annex 3**. It specifies the questions to be examined during data collection and synthesis and allocates indicators and/or descriptors as well as sources of verification to the evaluation questions.

3.1.4 Data collection methods

Methods of data collection for this thematic evaluation included document analysis, an online survey among the Northern and Southern promoters of all projects in the sample, as well as qualitative interviews with the promoters, PhD and Master students and stakeholders of nine selected projects (see chapter 3.2 for case selection). The field missions and thus the in-depth analysis of the nine selected projects were conducted jointly by an international evaluator from Syspons and a local evaluator.

3.1.5 Approach to triangulation

In order to generate valid and reliable evaluation results on which conclusions and recommendations could be developed, the evaluation incorporated three different triangulation approaches in the design of this thematic evaluation. First, data collection was carried out using different methods (e.g. interviews, field mission, surveys, etc.) (*methodological triangulation*). Second, the evaluation applied a *data triangulation* by comparing the different perspectives of different stakeholders (e.g. experts, Northern and Southern promoters, external stakeholders to the projects, etc.) and by using both quantitative and qualitative data. Finally, a *researcher triangulation* was implemented by conducting an internal synthesis workshop, in which – based on synthesized data – judgements with all involved evaluators were considered. The central objective of triangulation therefore was to minimize systematic mistakes within individual data collection techniques by comparing different perspectives and thereby increasing the reliability of the evaluation results, conclusions and recommendations.

3.1.6 Quality assurance

Quality of the evaluation is assured through the structure of the evaluation team, composed of five international (Syspons) consultants, three local consultants who accompanied the respective field missions, and one academic expert in research/knowledge valorisation and evaluation. The Syspons core team has been responsible for all activities related to the evaluation. All analytical tools, the survey, interview guidelines etc. were developed by this team, which ensures knowledge sharing between the team members and a harmonised approach in the implementation of field missions. Harmonization of the three field missions was further assured by means of an internal preparatory workshop prior to the three missions, which were followed by an internal synthesis workshop. The team lead, an experienced expert in evaluation methodology, was responsible for the quality assurance of the methodology and reports. Finally, an academic expert provided feedback on the developed theoretical model (as basis for the analysis) and the conceptual framework summarized in chapter 4.2.

3.1.7 Limitations

As described above, a tailor-made evaluation design was developed for this thematic evaluation that considered the specificities of the VLIR-UOS thematic projects. Following current academic debates, the evaluation followed the approach of Stern et al. (2012), according to which the most rigorous design is no longer equated with the experiment counter-factual approach, but with the quest to find the most appropriate design for a given context. This also means that it is possible to use more than one design – if possible – to compensate for the weaknesses of other designs. Finally, it means striving not only for a combination of designs, but also for a combination of methods. Nevertheless, each evaluation design also has its limits, which are as follows:

- The chosen sample for the field mission was a purposive sample as it should represent the diversity of VLIR-UOS projects (variety of disciplines, implementing modalities, focus on either applied research or educational development, etc.). In addition, the projects chosen for this sample were identified as good practice examples based on the available documentation to identify lessons learned for the creation of conditions of uptake. As a consequence, the gathered information from the field studies cannot be considered as representative for the whole VLIR-UOS portfolio. To draw general conclusions for the thematic projects of VLIR-UOS, the evaluation thus implemented an online-survey among all Northern and Southern promoters to triangulate the findings of the field missions. The study therefore can be expected to make robust and general conclusions about the effectiveness, impact and uptake of research of the thematic projects under investigation.
- Given that the hypotheses first introduced in chapter 3 were derived from the wider (academic) literature – in contrast to hypotheses that are specific to particular projects – it can be argued that this evaluation's findings and conclusions are relevant beyond the VLIR-UOS departmental projects. However, as evidence gathered to test those hypotheses is based on a sample of only 47 departmental projects from one specific funding scheme, the evaluation's representativeness for a wider population of (non-VLIR-UOS funded) projects and programmes aiming at uptake of research and/or knowledge must be regarded as limited.
- Statistical analysis was applied to generate conclusions from the online survey. More precisely, correlation analysis was used to infer conclusions about the relationships of the variable of interest (e.g. research uptake) and the different operationalized hypotheses. In contrast to the case-studies, the analysis aimed to make inferences based on the perceptions of stakeholders (e.g. Northern as well as Southern promoters) of all relevant 47 VLIR-UOS projects. A limitation

of the statistical analysis, however, was the relatively small number of resulting observations, which (in combination with applied filters in the survey) challenged the reliability of the generated estimates. As a result of the small sample size, we were less likely to generate results that are statistically significantly different from zero. In order to mitigate this challenge, the analysis therefore employed additional techniques to increase confidence in the results (besides an iterative triangulation with other data sources throughout the process). Consequently, multiple definitions of the outcome of interest (e.g. research uptake) were defined and correlated against operationalized hypotheses to find 'robust' results across the definitions. In this way, we operationalised variables such as research uptake in multiple possible ways to examine whether the results would remain the same across the different approaches. For example, we ran one analysis in which research uptake was based on the indication of uptake within any of the relevant user groups and a further analysis, which defined research uptake according to the averaged uptake across user-groups. In this way, we could compare whether the results remained stable across the different operationalisations. In the final overview of the correlation figures – presented in 4.2 – all results are 'robust' in the sense that the coefficients remain stable, irrespective of the way in which we operationalised the variables. For more details on the data collection, turnout and analysis see chapter 3.3.2.

- Furthermore, during the data analysis for this evaluation, it became apparent that there were notable differences in perceptions between Northern and Southern promoters about their projects. This was particularly the case in the online survey. This limited the possibility for analysis on the individual project level, as some projects were only represented by one promoter (Southern or Northern). In order to integrate this observation into the analysis, the data was analysed on a general level using the individual responses of survey respondents. The differences in perception were confirmed and explained by the additionally implemented qualitative data collection methods, since a distinct 'division of labour' between Northern and Southern promoters could be observed in almost all projects (see chapter 4.1).
- A more detailed analysis of the individual projects, particularly the individual theories of change developed for individual case study projects, was – due to time constraints of this evaluation – compromised for an emphasis being placed on lessons learnt from and an overall assessment (in terms of effectiveness and impact) of VLIR-UOS funded departmental projects.
- One of the field missions was accompanied by a member of the VLIR-UOS evaluation unit to learn about the evaluation practice of the contractor and the evaluation in general. It can therefore not be excluded that the responses of selected interview partners were influenced by the presence of a VLIR-UOS representative. The evaluation team, however, had the right to conduct interviews alone at any time if deemed necessary.

The evaluation was conducted by independent evaluators and evaluation results were subject to data, researcher and methodological triangulation in order to maximize the reliability of the evaluation results, conclusions and recommendations (see above).

3.2 Sampling

The sample for this evaluation includes 47 departmental projects in five countries. For Cuba, the sample comprises five South Initiatives and two TEAM projects, while in the Democratic Republic of Congo (DRC), ten SI and five TEAM projects were implemented in the relevant time period, i.e. between January 2013 to January 2019. Moreover, three SI and two TEAM projects were implemented in South Africa in the given period. For Tanzania, the sample comprises eight SI and two TEAM projects. From the last country, Uganda, five SI and five TEAM projects were included in the sample.

The selection of projects to be subject to a case study was guided by the objectives to ensure diversity in the final sample, to ensure practical evaluability, and – most importantly – to identify and select those SI and TEAM projects from which learning can be capitalised most. To these ends, a two-step selection process was applied.

In a first step, the following selection criteria were used to reduce the number of projects for the subsequent detailed assessment of learning potential.

Pre-selection criteria:

- *Type of projects*: the sample should include TEAM projects as well as SI. Regarding the latter, the sample should also include 'explorative' SI, 'stand-alone' and 'extension' SI, i.e. SI that broaden the scope of the current or past research project.
- *Variety of disciplines*: the selected projects should reflect a diversity of academic disciplines. In the first step, a differentiation was made between natural and social sciences. In the second, the variety of disciplines within the two fields was considered.
- *Implementing modalities*: moreover, the final sample should include projects among only one Northern and one Southern institution, and projects with multiple partner institutions (multi-actor projects).
- *Different generations of projects*: the sample should consist of projects that started and ended early, and projects that started and ended late in the given time period of January 2013 to January 2019.
- *Focus of projects*: within the sample, projects aiming at improvements in the field of research and projects targeting the field of education should be represented.
- *Practical evaluability*: the projects in the sample, including locations where field work/community engagement was implemented, should be easily accessible within the respective countries to minimize travel time and costs. This was necessary to conduct three in-depth analyses per country. Therefore, clusters of diverse projects were identified to be subsequently tested against one another. Due to travel constraints and a lack of diversity within one single location (i.e. cluster), projects in DRC were excluded during the pre-selection process.

In a subsequent step, the following 'theoretical evaluability criteria' were applied to decide on the final sample of projects to be assessed during the field missions. This second step consisted of an assessment of the 24 pre-selected projects according to their learning potential in terms of effectiveness and impact, i.e. their ability to create conditions for research uptake. Furthermore, the pre-selected projects were assessed according to the hypothesis from the theoretical model in order to be able to cover as many hypotheses as possible in the analysis of the field missions. This allowed for the testing and improvement of the conceptual framework, and for the development of a consolidated conceptual framework for VLIR-UOS.

The theoretical evaluability criteria are:

- *Achievement of objectives* in education and/or research (on a scale: not effective, partly effective, effective)
- *Observed uptake of knowledge/services/applications* beyond the academic sector
- *Diversity of approaches* regarding the creation of conditions for uptake
- Diversity and number of *hypotheses* (see chapters 3.1.1 and 3.1.2) that could be tested by the design of the project and its outcomes

The qualitative assessment was based upon data from the pre-selected projects' documents, i.e. the project proposal and the final annual report, and further informed by the explorative interviews with VLIR-UOS programme managers. Projects in Tanzania were discarded as only two projects met the given criteria. The **inception report** provides an overview of the 24 pre-selected projects and insight into the assessment.

The final sample of **nine projects** includes six SI and three TEAM projects in three countries, namely **South Africa, Uganda and Cuba**.

These six SI and three TEAM projects were diverse with regards to:[5]

- *Type of projects:* the final sample comprises both SI and TEAM projects. The larger share of SI in the final sample equals the larger share of SI vis-à-vis TEAM projects in the overall sample.
- *Variety of disciplines*: the selected projects reflect a wide variety of academic disciplines, namely sociology, agriculture, medicine and health, economics, earth sciences, education, and (chemical) engineering. The final sample thus represents both social and natural sciences projects and different research traditions.
- *Implementing modalities*: the final sample includes both projects among only one North and one South institution, and projects with multiple partner institutions.
- *Different generations of projects*: the final sample includes SI (starting in 2014 or 2017) and TEAM projects (starting in 2013 and 2015) from different generations.
- *Focus of projects*: as in the original sample, most projects in the final sample aim at improvements in research. However, two projects also target education. In line with the theoretical evaluability assessment, most projects in the sample formulated an explicit vision for uptake.
- *Achievement of objectives*: the projects selected for the sample were judged effective (two partly effective) based upon the conducted document analysis. This rating concerns the overall achievement of the projects' objectives (most often research-focused) and should not be confused with the successful uptake of projects' results.
- *Diversity of approaches regarding the creation of conditions for research uptake*: The projects in the final sample apply approaches as diverse as participatory research, consulting assignments and collaborations, diverse training formats for farmers, community health workers and other stakeholders, policy briefs, (academic) conferences and publications in peer reviewed journals, (social) media and ICT. This diversity of approaches was also crucial to test the hypotheses from the conceptual framework.

As the great diversity of formats and approaches used to facilitate uptake shows, end-users vary among the projects in the final sample. However, all projects in the final sample were chosen based on the potential to learn from an assumed – based on only project documents and explorative interviews –

[5] The sample is moreover as diverse as possible for each of the three countries.

uptake of the research (results), or at least the successful creation of conditions for uptake. Finally, the projects in the sample were, based on the assessment, expected to allow all hypotheses introduced in chapter 3.1.1 and 3.1.2 to be tested.[6] The following chart provides an overview of the **nine selected projects**.

[6] Theoretical evaluability was found given in all projects which are not basic research, i.e. which have produced/disseminated extension products and/or which have defined clear collaboration partner and/or intended end-users.

Table 1 | Overview of projects selected for field missions

VLIR-UOS Programme	Title (Northern promoter last name)	Discipline	Start year	Flemish (main) institution	South (main) institution	Modality	Project focus	Specification project type (SI)
Cuba								
South Initiatives	Strengthening co-responsible elderly care in current Cuban context through gender equity mainstreaming and elder´s wellbeing *(elderly care project)*	Sociology	2017	Universiteit Gent	Universidad de La Habana	**Multi-actor:** co-promoter UPR	Practice-based research project	**Stand-alone project**
South Initiatives	Emulsified systems for biofuels. Assessment of their performance in diesel engines *(biofuels project)*	Engineering and Technology	2014	Universiteit Gent	Universidad Tecnológica de La Habana "Jose Antonio Echeverría" (Havana)	**Basic**	Practice-based research project	**Extension** of Own Initiative project Knowledge cell on biofuels (southern promoter was also manager of previous OI)
TEAM projects	A Cuban network of cleaner production (CP) centres and strengthening education and research on CP *(cleaner production project)*	Engineering and Technology	2015	KU Leuven	Universidad de Cienfuegos (Cienfuegos)	**Multi-actor** (Instituto Superior Minero Metalúrgico de Moa, Universidad de Matanzas; University of Hasselt)	Practice-based research project	*not applicable to TEAM projects* - builds on earlier VLIR-UOS projects, i.a. a previous TEAM project

VLIR-UOS Programme	Title (Northern promoter last name)	Discipline	Start year	Flemish (main) institution	South (main) institution	Modality	Project focus	Specification project type (SI)
South Africa								
South Initiatives	Improving home garden soil fertility management to enhance multinational security among rural homesteads in Vhembe *(soil fertility project)*	Agriculture	2014	Universiteit Gent	Tshwane University of Technology (Pretoria/Limpopo province)	**Basic**	Practice-based research project	**Explorative** (no previous VLIR-UOS project but building on long-term relationship between two promoters; aims at "formalization" of collaboration)
South Initiatives	Community of Practice as a strategy to strengthen capacities of community health workers *(CHW project)*	Medicine and health	2017	VIVES Zuid (University College)	University of Venda (Venda)	**Multi-actor**: Other partners: University of Western Cape and Institute for Tropical Medicine (BEL)	Educational development project	**Explorative** (followed up by JOINT Project)
TEAM projects	Understanding the unemployment experience in South Africa in order to develop an evidence based intervention together with the local community* *(unemployement project)*	Psychology	2013	KU Leuven	Northwest University (Potchefstroom)	**Multi-actor** (Hogeschool-Universiteit Brussel)	Practice-based research project	*not applicable to TEAM projects* - no previous VLIR-UOS projects

* Due to the accessability of end-users the previously selected TEAM project Development of tools for sustainable utilization and management of aquatic resources in South Africa. Case study: the Lower Phongola River and floodplain was exchanged for this project

VLIR-UOS Programme	Title (Northern promoter last name)	Discipline	Start year	Flemish (main) institution	South (main) institution	Modality	Project focus	Specification project type (SI)
Uganda								
South Initiatives	Strengthening Business Practices of Small Scale Fish Farmers *(fish farmers project)*	Economics	2017	Universiteit Gent	Mountains of the Moon University (Fort Portal)	**Multi-actor**: Co-promoter: Busitema University; collaboration with NGO TRIAS	Practice-based research project	**Extension** of prior TEAM project; existing IUC at MMU
South Initiatives	Enhancing community-based natural resources and hazard management in Rwenzori Mountains *(community-based hazard management project)*	Earth sciences	2017	Vrije Universiteit Brussel	Mountains of the Moon University (Fort Portal)	**Multi-actor**: Co-promoter Uganda Martyrs University (UMU) and KU Leuven	Practice-based research project	**Extension** of prior TEAM project; according to interviews followed up by TEAM project; existing IUC at MMU
TEAM projects	Mitigating adverse sexual and reproductive health outcomes through a comprehensive primary school sexuality education programme *(sexual education project)*	Education	2015	Universiteit Gent	Mbarara University of Science and Technology (Mbarara)	**Multi-actor**: Partner: Uganda Martyrs University and Free University of Brussels	Educational development project	*not applicable to TEAM projects* - built on prior TEAM project

3.3 Implementation of the evaluation

The *Thematic Evaluation of Departmental Projects: Creating the Conditions for Impact* was implemented in three phases: an inception phase, a data collection and analysis phase (including the implementation of the online survey and the field missions), and a synthesis and reporting phase.

Figure 2 | Evaluation design

Source: Syspons, 2019

3.3.1 Inception Phase

The **objective** of the inception phase was to obtain a detailed overview of the academic discourse on research uptake as well as the SI and TEAM projects of VLIR-UOS. It further aimed at developing a first version of the conceptual framework for research uptake and an analytical framework for the evaluation. Both frameworks were meant to include all analytical aspects and evaluation questions and to reflect the perspectives of all relevant stakeholders.

The evaluation was kicked off with a **constitutive coordination meeting** in Brussels on 26 March 2019. At this meeting, Syspons presented its proposed evaluation design and detailed planning of the thematic evaluation, and agreed with VLIR-UOS on methodological and organizational aspects of the evaluation.

The inception phase subsequently started out with a **desk research** of VLIR-UOS call documents in order to gain a thorough understanding about the different SI and TEAM projects. Furthermore, **explorative interviews** with seven VLIR-UOS staff members (director, quality and strategy advisor, head of programmes, and four programme managers) were conducted on 26 March 2019, which contributed to a better understanding of VLIR-UOS departmental projects and highlighted aspects the evaluation should pay specific attention to. The desk research and explorative interviews moreover identified several possible mechanisms calls for proposals and approaches from the projects' implementation which already aim at fostering research uptake, such as a participatory research design or collaboration with key stakeholders (see also inception report).

In parallel to the desk research, a **literature review** was conducted on relevant academic and 'grey' literature regarding research valorisation and uptake. Findings from the literature review and further approaches, success and hindering factors to successfully create the conditions for research uptake were discussed in five in-depth interviews with experts from academia and think tanks. A preliminary draft of the conceptual framework was presented and discussed during VLIR-UOS 'societal change' workshop on 1 April 2019.

Based on these previous steps, a conceptual framework for research uptake was developed (see chapter 4.2). In addition, the literature review and expert interviews identified and established alternative hypotheses on what does and does not work in facilitating research uptake, and which constitute the theoretical basis for the contribution analysis and process tracing (see chapter 3.1). As a next step, an

evaluation grid was developed which takes up established and alternatives hypotheses from the conceptual framework.

Finally, the **sample** of six SI and three TEAM projects to be assessed in the field missions was selected from the overall sample of 47 projects (32 SI and 15 TEAM projects) in a two-step process considering practical and theoretical evaluability as well as diversity (see chapter 3.2).

3.3.2 Data Collection and Analysis Phase

The **objective** of the data collection and analysis phase was to collect a valid and comprehensive data base on the basis of which the effectiveness and impact of the SI and TEAM projects could be evaluated, and successful approaches for the creation of conditions of research uptake could be identified and validated.

In the first part of this phase, a questionnaire for a brief **online survey** among the Northern and Southern promoters of all 47 projects in the sample was developed. The objective of the survey was to validate the developed conceptual framework for the valorisation and uptake of research on a general level among all 47 SI and TEAM projects. For this purpose, the developed conceptual framework was operationalized, and promoters were asked to what extent they used different approaches in their project and how they assessed their success with regards to the creation of conditions for research uptake. The draft of the questionnaire was developed in close cooperation with VLIR-UOS. A pre-test was conducted before the actual start of the online survey, which was realized with our survey software SurveyXact©. To achieve a high response rate (50% in the final turnout, or 47 of 94 promoters who had been invited), the evaluators, in cooperation with VLIR-UOS, prepared an invitation and a reminder, which were sent out by VLIR-UOS prior to the survey/prior to the end of the four-week response period respectively. The survey was implemented between 16 May and 11 June 2019. At the end of this period, a total of **47 promoters from 37 projects** (of 47 projects) had participated in the survey, among them 21 Northern and 26 Southern promoters.

Figure 3 | Turnout of online survey

	Frequency	Percent
North	21	44,7
South	26	55,3
Total	*47*	*100,0*

Source: Syspons, 2019

The collected data was verified, validated and subsequently analysed anonymously and confidentially. From a methodological point of view, the data analysis was divided into two steps. In the first step, data was analysed using univariate statistical analysis such as frequencies, percentages or means. Visualizations of this analysis provide an overview of the general results. On this basis, the most relevant aspects were identified and further investigated. Data was edited accordingly. In the second step, bivariate analysis was carried out in order to find correlations between important variables, e.g. between different mechanisms and/or pre-conditions and subsequent uptake. Methods included mainly chi-square tests and correlation analysis based on Spearman & Pearson. In combination with the field missions (see below), the data gathered through the online survey allowed the investigation team to draw more valid and causal conclusions on what does and does not work in creating the conditions for uptake (see chapter 4.2).

In the second part of the data collection phase, **three case studies**, each one-and-a-half weeks long, were conducted in **June and early July 2019** jointly by an international (Syspons) and local consultant.

Following the two-step selection process, field missions were conducted in Uganda, South Africa and Cuba, and comprised a total of nine projects listed in chapter 3.2. The field missions were organized by Syspons in close coordination with VLIR-UOS, in particular the respective country managers.

Prior to the field missions, Syspons prepared a **portfolio** for each mission that consists of the following documents: short summary of the three projects, stakeholder maps and reconstructed ToC for the three projects, a note on the methodology including of central aspects of the evaluation (i.e. the inception report), standardized debriefing notes, standardized data collection instruments (questionnaires), essential contact information and a detailed mission planning, all project documents as well as the analytical grid. Debriefing notes and data collection instruments were jointly agreed upon by VLIR-UOS. The central aspects of the evaluation, including the portfolio, were presented to and discussed with all international and local consultants at an internal workshop.

In preparation for the field mission a **context analysis** was conducted for each of the nine projects, including important contextual factors, political priorities in the respective sector as well as relevant information regarding the Southern partner institution. In the context analyses, special emphasis was paid to possible alternative explanatory factors for observed impacts, such as funding by other donors, governmental policies or changing external framework conditions. The context analyses were based upon a desk research of all relevant project documents as well as the interviews with the Flemish promoters (see below). All information was summarized in a descriptive text, which informed the field missions and overall data analysis.

Based on the desk research of the context analysis, the international consultant reconstructed the **theory of change of each selected project**. In **telephone interviews** with the Flemish promoters prior to the field mission and later in interviews with the Southern promoters, the evaluators discussed and validated the reconstructed theory of change.

Having concluded all preparations, each field mission was implemented jointly by an international and a local consultant. At the request of VLIR-UOS, the mission to South Africa was (partly) accompanied by a member of the VLIR-UOS evaluation unit. In each field mission, two SI and one TEAM project were assessed, in which the involved stakeholders and the schedules were similar. For each selected project, the evaluators started with an **interview with the main promoter from the Southern partner institution** in order to obtain a better overview of the project, to validate the developed theory of change and to test the developed hypothesis from the theoretical model. If applicable to the project, an additional interview, either in person if his/her location was accessible or via telephone, was conducted with the (Northern/Southern) **Co-promoter**. This was the case for two projects.

Afterwards, the evaluators conducted **interviews with the PhD candidates and/or Masters students** involved in the project in order to triangulate the findings on the theory of change and the hypothesis of the conceptual framework. Furthermore, interviews with the **respective top management of the university** and **superiors of the team leader** (e.g. dean or vice-rector) were conducted to gain an external perspective on the project, the situation at the department prior to the project, potential synergies with other VLIR-UOS interventions, and the projects' impact. These meetings were complemented by **interviews, focus groups or project site visits with external stakeholders such as local government agencies, civil society actors** (incl. community leaders)**, stakeholders from private/public companies, research institutes or beneficiaries** (e.g. farmers, health workers). The objective of the latter was to assess the impact of the projects on the ground and to identify possible factors that contributed to or hindered research uptake.

At the end of each field mission, a **short debriefing** with the main Southern promoters and other relevant stakeholders (e.g. ministries) was conducted, if requested. Furthermore, **debriefing notes** were shared with VLIR-UOS after each field mission.

3.3.3 Synthesis and Reporting Phase

The **objective** of the evaluation's third phase, the synthesis and reporting phase**,** was to synthesize and systematize all evaluation findings in a clear and concise report.

Once all data collection steps were concluded, the gathered data was systematically aggregated and synthesized using the evaluation grid. As different data collection methods (e.g. online-survey, explorative/expert interviews, field mission, etc.) were combined, it was possible to draw on qualitatively as well as quantitatively collected data from different stakeholders regarding all analytical dimensions (data and methodological triangulation). In addition, the evaluators reflected on the findings in an internal synthesis workshop with all international consultants and compared and assessed the findings regarding the evaluation questions (researcher triangulation), which further increases the reliability of the data. This allowed the investigation team to refine and validate the developed conceptual framework for research uptake. The internal synthesis workshop further served to develop first options for **recommendations**, on the basis of which recommendations were developed in close contact with VLIR-UOS at later stages. These should consider VLIR-UOS roles, structures and procedures so that they can be used by VLIR-UOS to e.g. structure future calls and manage projects that are better able to create conditions for research uptake.

At the end of the synthesis and reporting phase, Syspons delivered the present evaluation report to VLIR-UOS in August 2019.

The findings of the evaluation report were presented to VLIR-UOS and a newly formed expert group on uptake in a **restitution session** on 26 September 2019. This session served to discuss and further develop recommendations with all stakeholders in order to generate understanding and ownership for the advices. All received feedback was incorporated into the final version of the **evaluation report** by Syspons, which was submitted to VLIR-UOS on 18 October 2019.

4. Thematic evaluation

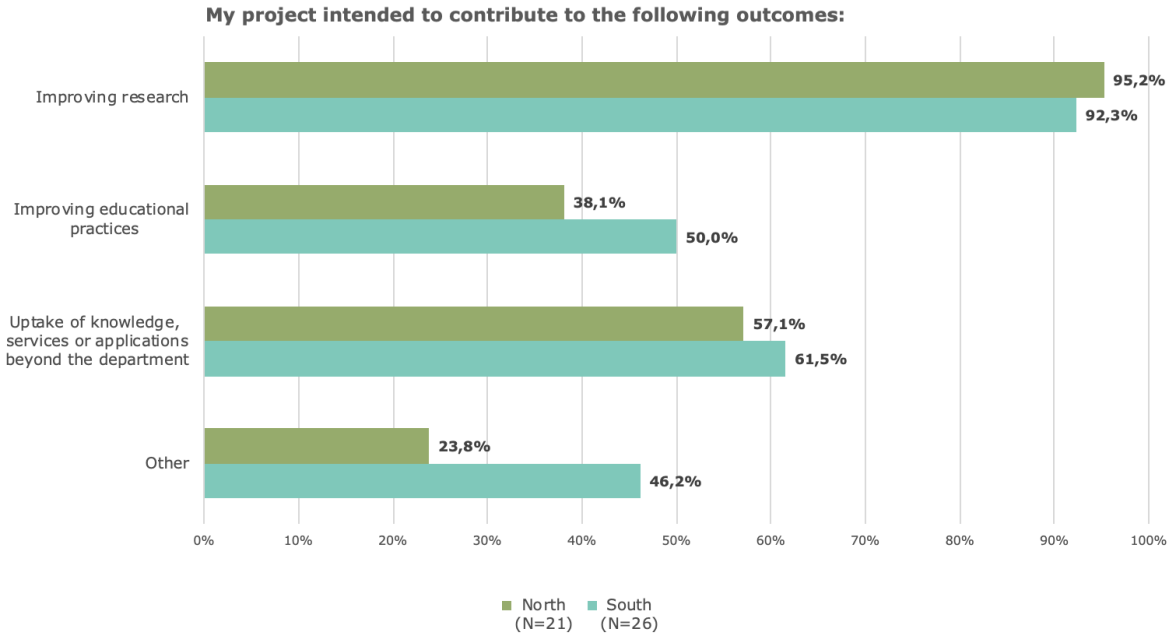
4.1 Assessment of effectiveness and projected impacts of departmental projects

4.1.1 Analysis of departmental projects' effectiveness

The criterion of effectiveness centres on the extent to which the intervention under consideration has reached its objectives and which factors mainly influenced this achievement or non-achievement. As shown in the VLIR-UOS Theory of Change (see chapter 2), South Initiatives and TEAM projects can first aim at **improving the research of (a) partner institution(s) in the Global South**. Second, they can aim at **improving education practices of the partner institution(s)**. Third, they can aim to **generate new knowledge, applications or service and create the conditions for their uptake**. Projects are free to concentrate on one, two or all three focus areas. As a thematic evaluation comprising a total of 47 diverse projects with varying overall and specific objectives (see also performance stories in annex 5), conclusions on the effectiveness of departmental projects can only be drawn on a general level. The following analysis will focus on the extent to which departmental projects have improved research and/or educational practices at the Southern partner institutions and/or generated new knowledge, applications or services. The creation of conditions for uptake will be addressed in detail in chapter 4.1.2.

In the online survey, almost all participants indicated that 'their' project aimed at improving research at the partner institution. In addition, up to half of the participants indicated that the project also aimed at improving educational practices. A further 60% of respondents indicated that they aimed at achieving uptake of new knowledge, applications or services (see Figure 4).

Figure 4 | Online survey: Specific objectives of projects in the sample



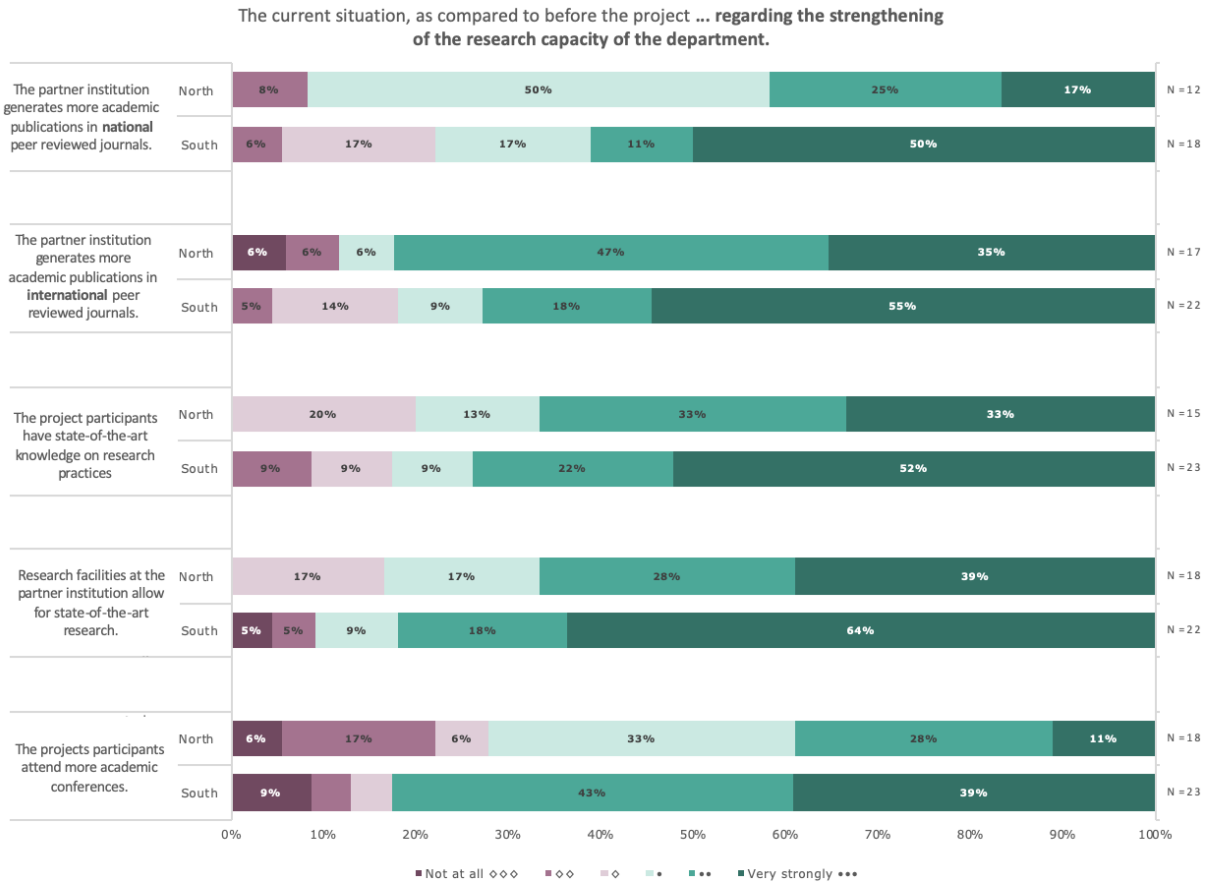
Source: Syspons, 2019

Attainment of outcomes: Improving research in the partner institution(s) in the Global South

The VLIR-UOS Theory of Change envisions that South Initiatives and TEAM projects improve research and thus research capacity in (a) partner institution(s) in the Global South. More precisely, this includes an improvement of thematic research capacities related to the specific research area (e.g. methodological competences), increased skills in publishing high-quality research articles in national and/or international journals, trained staff (e.g. PhD students, researchers and Masters students), and an upgrade of research facilities at the partner institution(s).

With respect to improving the research in the partner institution(s), data gathered from the online survey and field missions reveals a clear positive effect of the projects. The respective results of the online survey are depicted below and further illustrated with evidence from the field missions.

Figure 5 | Online Survey: Strengthening of the research capacity of the department



Source: Syspons, 2019

With respect to academic publications, projects implementers who participated in the online survey perceive a boost in the publication of research articles in both national and international peer-reviewed academic journals. The situation for publications in international journals, as to the respondents, thereby improved even more than for national journals. Evidence from the field mission corresponds with the survey data in so far as all projects except for one[7] report an increase in the department's publications, and the publication of research articles based on the projects' findings in particular. TEAM projects were thereby found to have a greater focus on academic publications; SI projects published at least one article

[7] The publishing of an article was foreseen by the given project but could not be realized due to additional responsibilities and subsequently time constraints of the Southern promoter.

in a peer reviewed journal. In addition, the survey showed differences in perception between Northern and Southern project implementers: Northern promoters perceive increases in the publication of articles in national journals as more modest, and improvements in publications in international journals as slightly higher. As indicated in chapter 3.1.7, this difference in perception can be traced to a typical 'division of labour' between the two parties: Northern promoters act primarily as a mentor and sparring partner for academic research (in particular regarding publications in international peer-reviewed journals), whereas Southern promoters are regarded as primarily responsible for dissemination of the research results and/or for creating the conditions for a wider uptake of knowledge/services/applications developed by the project.

Alongside academic publications, survey respondents also perceived an increase in the attendance of academic conferences by project team members. Again, this can be confirmed by evidence from the field missions, which indicates that the emphasis on/relevance of (increased) participation in academic conferences is higher particularly in TEAM projects. Apart from the academic 'benefit,' participation in conferences offered, at least for one project, important opportunities to increase uptake. In the case of the community-based hazard management project, the participation of the project's Southern promoter in conferences and networking activities raised awareness for the project on the national level, namely among the Office of the Prime Minister and the National Environment Management Authority (NEMA). The latter included data collected by the project into its national report on the state of the environment.

Concerning thematic research capacities, evidence from the field missions supports the survey data: respondents perceive that researchers who participated in the project have state-of-the-art knowledge on research practices in their respective research fields. In the field missions, all nine projects strengthened the thematic expertise and methodological competencies at the Southern partner departments. Apart from project specific competencies, several projects reported an increase in the researcher's skills in working with communities from a research perspective. Such an increase was achieved either through practical experiences in working with communities, and/or through methodological training in **community engagement**. For example, at MMU, the Belgian NGO Trias provided a training on rural innovation and community engagement, in which 19 researchers from the School of Business and Management participated. Originally coming from a pure business and management perspective, the training also strengthened the researchers' capacities with regards to transdisciplinary research. The field missions further provided insights into how the quality of training for researchers was improved. Interviewees, and in particular Northern promoters, emphasized that training is provided by formal training courses (e.g. research methodology), but more importantly through feedback on draft articles from the Flemish promoters, participation in international conferences, research stays in Belgium, and participation in a research project 'as such.' This was aptly summarized as 'mentorship' by one interview partner, who stressed its positive effect for SI.

The online survey respondents observed that research facilities had improved when compared to before the project, allowing for state-of-the-art research in the respective field. In the sample for the field missions, an upgrade of research facilities had taken place in three of the analysed nine projects. For example, interviewees from the soil fertility project reported that equipment for measuring nutrition in soil, as well as glassware and chemicals for experiments, had improved research and education quality at the department.

Finally, interviewees highlighted the long-term effects on research and research capacity at the Southern partner institution(s) and synergies resulting from long-term, continuous VLIR-UOS projects. Follow-up projects' outcomes, for example, were likely to increase as they could benefit from previously updated research facilities and skilled researchers. This is illustrated by one example from Cuba, where the

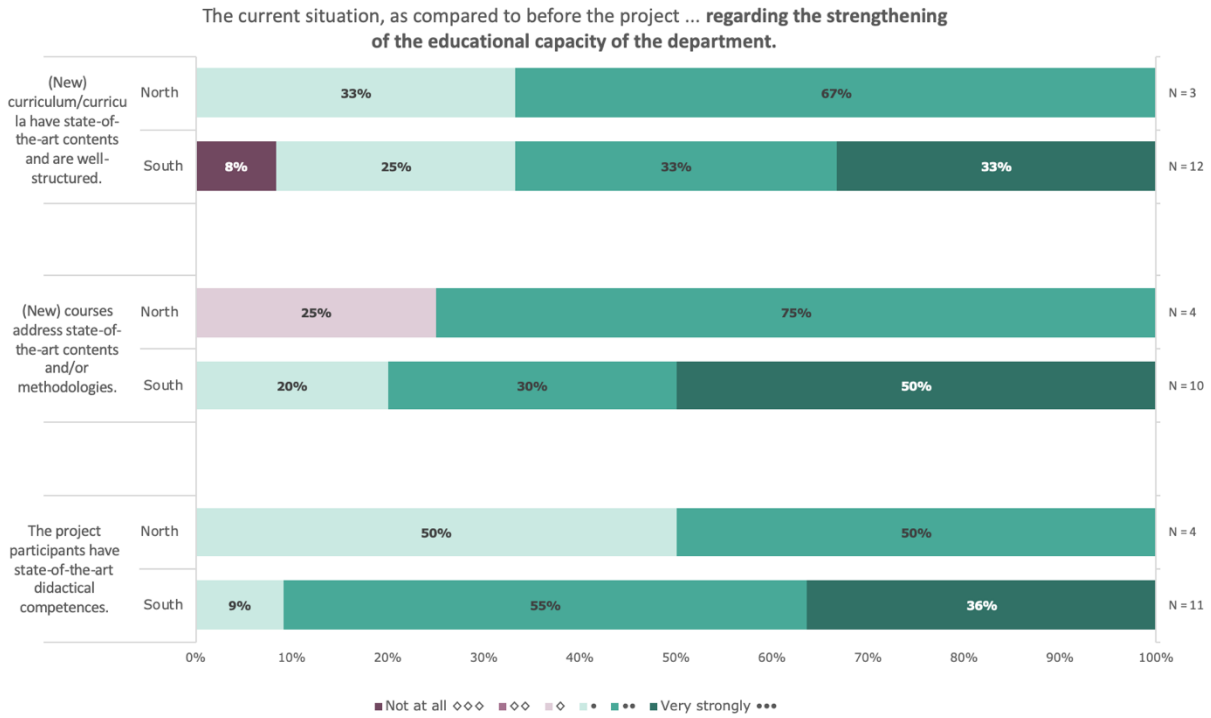
promoter explained that the project was able to base its research on state-of-the art equipment purchased within the context of the preceding VLIR-UOS funded project, which allowed the project team to reach their objectives in terms of generation of new knowledge on biofuels.

Attainment of outcomes: Improving education practices in the partner institution(s) in the Global South

South Initiatives and TEAM projects, as envisioned by the VLIR-UOS Theory of Change, may further aim at improving education practices in the Southern partner institution(s). This objective may include either the development of new or a substantially updated existing Masters programmes (curricula), or the development of new courses, or a combination of both.

With respect to improving educational practice, data gathered from the online survey and field missions reveals a positive effect of the projects. Figure 6 below depicts the results of the online survey. These are further explained, along with evidence from the field missions, in the following section.

Figure 6 | Online survey: Strengthening of educational capacity of the department



Source: Syspons. 2019

In general, fewer respondents and in particular fewer Northern promoters assessed the projects' effect on educational practices (smaller N), due to the fact that they previously did not rate it as a formal objective of 'their' project.[8] However, on the basis of evidence from the field missions, it can be concluded that an improvement of education practices, while not being a formal objective of most projects, was achieved through 'side effects' of applied research projects, which lead to updates in curricula and courses.

Respondents to the online survey largely perceived the improved and/or high-quality structure and state-of-the-art content of new or updated curricula. This result is in line with evidence from the field mission, which supports the overall positive findings from the online survey: in those projects that aimed at (also)

[8] Lower turnout in this question due to a filter in the question on the projects' inteded outcomes (see figure 4).

updating curricula, this objective was generally achieved. For example, in the community health workers project, best practices and theoretical advice on the establishment of a Community of Practice (CoP) was introduced in the curriculum of the Department of Public Health. However, interviewees stated that this was not achieved through a structural integration of CoP in the curriculum, but was integrated informally by the lecturers involved, which renders the effects sensitive to personnel turnover.

In addition, the data illustrates how educational practice is improved as a 'side effect' of research: For example, the agroecology curriculum for Masters students at MMU received inputs from researchers involved in the community-based hazard management project, and the project team was also involved in the elaboration of a curriculum for a future PhD programme. Educational practices are thus not explicitly included in the project's specific objectives, but the experiences gathered in the project indirectly contributed to positive – unintended – effects. Another project reported that the insights of the research as well as a new method (see good practice example below) were integrated into a newly developed advanced postgraduate certificate course (Advanced Diploma in Crop Science, a 4th year programme) at Tshwane University of Technology (TUT) which is taught annually to 120 students.

Alongside curricula, project implementers who participated in the survey as well as interviewees from the field missions further reported that courses address state-of-the-art knowledge, both content-related and methodologically, and that projects had a positive effect on the team members' didactical competences. As found in the field missions, new (individual) courses mostly target the methodological competencies of Masters and PhD students. Thematic contents were addressed, for example, in the Cuban SI on elderly care: here, interviewees explained that the offer of a facultative course on the development of elderly-friendly cities was received with much enthusiasm as 45 students took this course, including male students. As emphasised by the interview partners, raising interest among male students was particularly important for the female-dominated study field of elderly care. The field missions moreover identified that besides courses integrated into the universities' curricula, independent training modules were developed in some projects. These, beyond fostering incremental behavioural change among the participants/beneficiaries, contributed to improving the didactical competences of the PhD and Masters students who teach these short courses. Interviewees moreover stressed the projects' overall effect on the team members, in particular PhD students, with regards to improved didactical competences.

Attainment of outcomes: Generating new knowledge, applications or services and creating the conditions for their uptake

A third (possible) outcome of South Initiatives and TEAM projects, as envisioned by the VLIR-UOS Theory of Change, is the generation of new knowledge, applications or services and the creation of the conditions for the uptake thereof. VLIR-UOS thereby makes clear that effective uptake is subject to a variety of factors, which partly lay beyond the sphere of influence of the projects. As the uptake and the creation of conditions therefore was the main interest of this evaluation, both are addressed in detail in the chapters 4.1.2 (uptake) and 4.2 (conditions for uptake).

With regards to the generation of new knowledge, applications or services, evidence from the field missions indicate that this was a main objective – in line with research – of all projects. It can furthermore be concluded that this outcome, being a major focus of the projects, is generally achieved. Projects were therefore found to focus on developmentally relevant research gaps. The following example illustrates the development of new and developmentally relevant knowledge by one of the analysed projects in the field missions.

Good practice example: The 'pot method'

Under the scope of the SI 'Improving home garden soil fertility management to enhance nutritional security among rural homesteads in Vhembe', a new technology to measure the nitrogen content of plants without using costly laboratory tests was developed. The method is labelled 'pot experiment' or 'pot method.' Crops are planted in different pots using the Isotope Nitrogen 15, in which one pot is used as control group, one pot uses manure, and in the third, chemical fertilzer is applied. The biomass of the harvested plants, as a proxy indicator for fertility, is compared between the three groups (or pots) after 42 days; the difference shows the effect of the respective fertilizer. The method, according to one interviewee, 'shows if something is working or not – and that is the important results for a development context.' Due to low costs and ease of application, the method can be used in low-income environments.

As far as the creation of conditions for uptake is concerned however, the data shows mixed results: few projects strategically considered creating conditions for uptake; most focussed on the mere generation of knowledge, services or applications. An exception are two projects in Uganda. Here, key project personnel had a very deliberate approach to facilitating research uptake. In both cases, individuals involved in the projects had previously received training in communicating research results to various audiences, or in research uptake. Two interview partners specifically credited DRUSSA (Development Research Uptake in Sub-Saharan Africa), a DFID-funded programme supporting 22 universities across Africa to strengthen the management of research uptake.

Qualitative comments from the online survey as well as evidence from the field missions moreover indicate that both sides are not perceived equally responsible for the creation of the conditions for uptake: outreach, dissemination and finally uptake of new knowledge, services or applications developed by the projects were primarily seen as the responsibility of the Southern promoter. The Northern promoters in turn saw their primary responsibility as being a mentor and sparring partner with regards to the research design and (international) academic publications. One interviewee noted that s/he perceived establishing an equal relationship with regards to academic roles and qualifications as difficult, and that the research was strongly led by the Flemish part.

4.1.2 Analysis of departmental projects' (projected) impact

The criterion of impact looks at the long-term effects that result from an intervention, examining primary and secondary, positive and negative, intended and unintended consequences. Departmental projects, according to the VLIR-UOS Theory of Change, aim in the long-term to contribute to the fight against poverty in the concerned region/country and generate in the end (mostly after the intervention) developmental change. **Uptake**[9] of the projects' results and approaches can be regarded as a precondition towards achieving impact, as also represented in the VLIR-UOS Theory of Change (see chapter 2). In order to derive conclusions on the long-term effects of departmental project, the evaluation hence examines to what extent knowledge, applications and services generated by the projects have been taken up by its intended users. The evaluation further assesses the possible broader use of new knowledge/applications/services by communities, governments, organisations, etc. Good practice examples from the nine case studies are used to illustrate success and hindering factors for uptake. These represent an excerpt from the more general **performance stories** for each project, which can be found

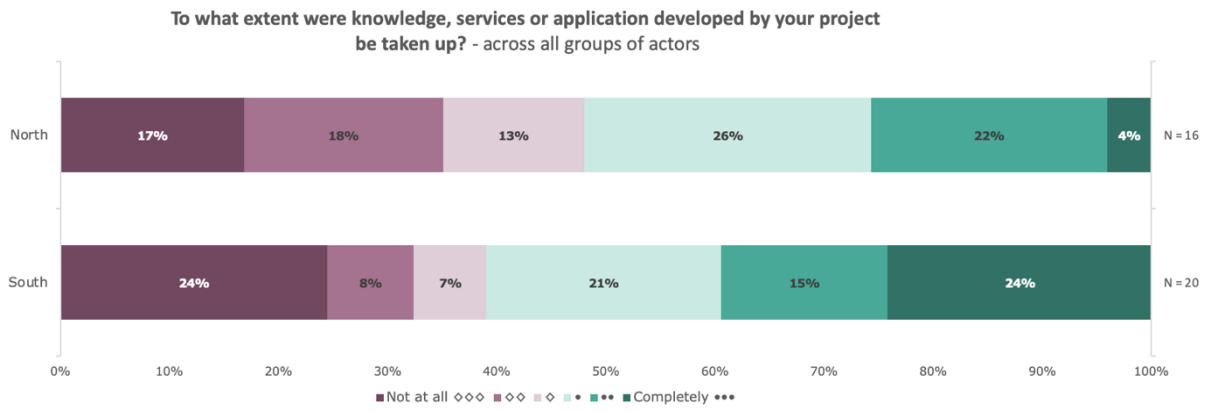
[9] Uptake means that actors outside the university (e.g. private companies, civil society actors, civil servants and governmental actors/authorities, local communities, or other research institutes) are using new knowledge, services and/or applications developed by the project. It is thereby expected that the (applied) research leads to an improvement/innovation in the professional practice/work field (incl. behavioural change), and that new knowledge etc. are introduced to and adapted for a new context (see also chapter 2).

in Annex 5. The performance stories most often combine several success and hindering factors, strategies and approaches, and therefore illustrate the **interplay** between them.

Uptake of knowledge, services and/or applications

With respect to (immediate) uptake of knowledge, applications or services by the projects' intended users, the evaluation found a rather mixed picture, as illustrated in Figure 7. 52% of Northern promoters and 60% of Southern promoters who responded to the survey (rather) agree that (new) knowledge, services and/or applications developed by 'their' projects were taken up by actors outside the department/university (see Figure 8 for uptake by actor groups). Consequently, 48% of Northern promoters and 39% of Southern promoters believe that (research) outputs were not taken up and/or used on a broader scale. Southern promoters thereby tend to be more definite in their judgement, both positive and negative, and more optimistic about uptake than Northern promoters, but the overall picture for both respondent groups corresponds.[10]

Figure 7 | Online survey: Uptake of (new) knowledge, services or applications

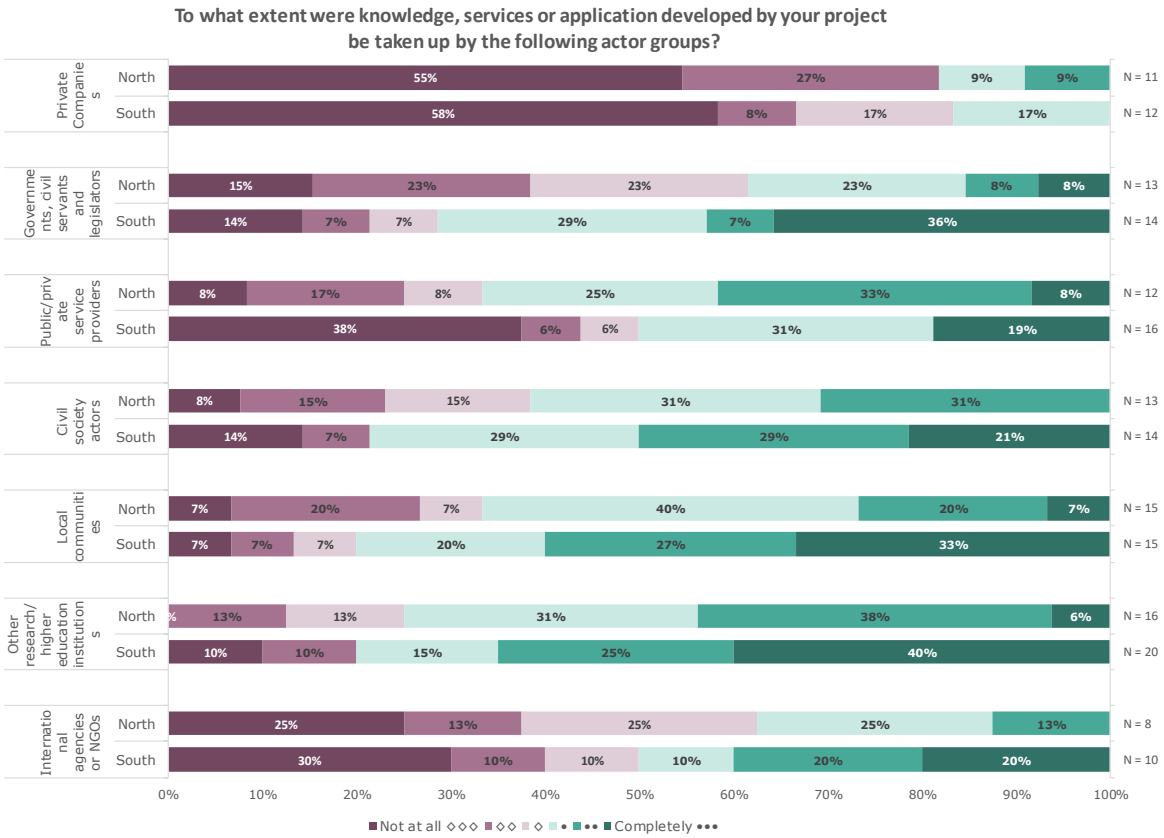


Source: Syspons, 2019

Examining the survey data in more detail (see Figure 8), it becomes apparent that uptake is least common among (private) companies as well as international agencies and NGOs, and most common among civil society actors, including media (e.g. local radio stations), and local communities.

[10] Figure 8 indicates that the largest difference in the perception of Northern and Southern promoters was found for governments, civil service or legislators. As already explained in the previous chapter 4.1.1, this difference was further explored with the help of qualitative data, which indicated that Southern promoters – by both sides – are generally regarded as primarily responsible for outreach and uptake.

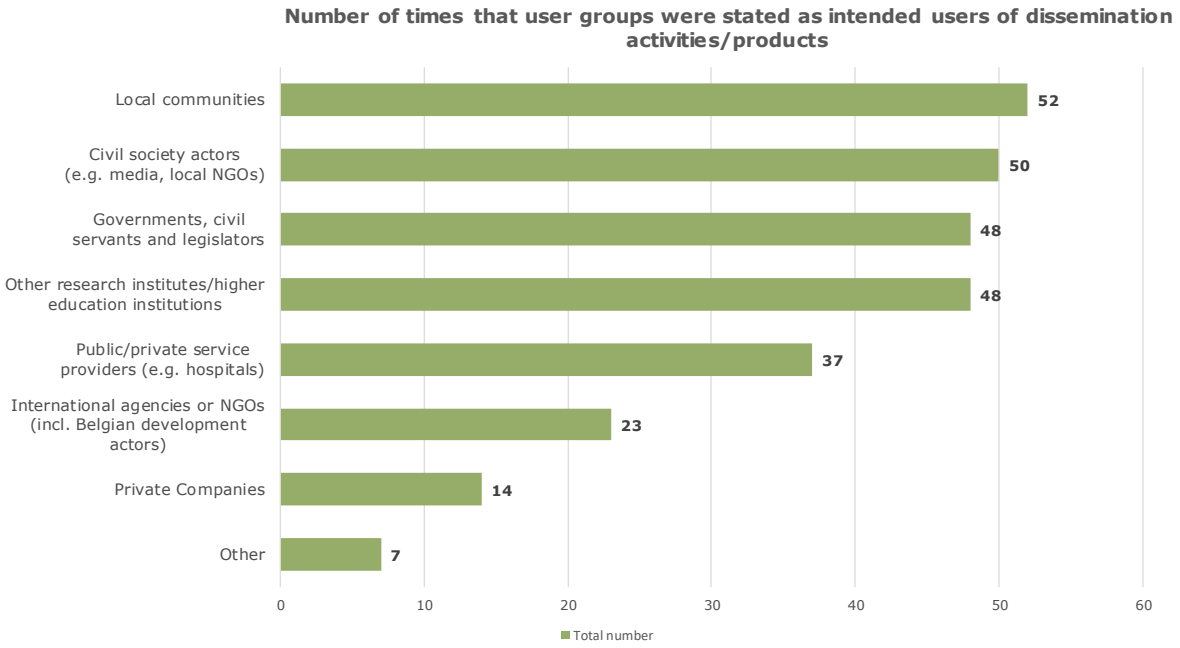
Figure 8 | Online survey: Uptake by actor groups



Source: Syspons, 2019

As the qualitative comments highlight, uptake among local communities was most common among communities the project had directly worked with. Interestingly, this image corresponds with survey data on another aspect: private companies and international agencies/NGOs were also the groups least targeted by dissemination products and/or activities whereas local communities, civil society and governmental actors were most frequently targeted by dissemination products and activities. This is illustrated in Figure 9.

Figure 9 | Online survey: Intended users



Source: Syspons, 2019

The data moreover indicates a positive tendency for uptake of knowledge/services/applications by other research institutes. Based on the qualitative comments provided by Northern and Southern promoters to the online survey, it can be assumed that all uptake within the academic sphere (e.g. publications in international journals and citations of the published articles) and uptake by Co-promoters' organizations was included in the assessment of uptake by 'other research/higher education institutions.' Moreover, half of all Southern promoters (50%), and 66% of all Northern promoters participating in the survey report an uptake by public or private service providers. These are primarily schools and hospitals referring to the qualitative comments from the online survey. With regard to uptake by governmental actors, and as highlighted by the qualitative comments from the survey, survey respondents report that Southern promoters are drawn in by the government as experts on specific questions related to the research field/focus of the project. For example, one respondent reported that the Southern promoter became a renowned expert on African swine fever, who also advises the government on this issue. In addition, data generated and labs established by the projects are used by (regional/national) governments.

Success and hindering factors for uptake

When looking at the aggregated data produced by the field missions, the following **success and hindering factors for uptake** could be identified. These factors provide relevant insight into the mechanisms which foster a broader usage of new knowledge/applications/services by communities, governments, organisations, etc. In this regard, the following success and hindering factors could be identified based on data collected throughout the field missions (Figure 10). They are elaborated in further detail below, illustrated by performance stories from the nine project case studies.

Figure 10 | Success and hindering factors

Success factors	Hindering factors
• Pre-existing and strong relationships with relevant stakeholders • Continuity • Integration of end-users	• Lack of direct interaction with and access to the intended users • Lack of capacities and resources for a wider roll-out and personnel turnover • Lack of capacities and resources of the Southern promoter (e.g. time)

Source: Syspons, 2019

A first success factor, found in the majority of successful (in terms of uptake) projects, were **pre-existing and strong relationships with relevant stakeholders**. Interviewees mentioned that this was particularly helpful for Southern Initiatives to achieve impact, given their short time frame. However, TEAM projects could also benefit from pre-existing relations to stakeholders, as the following performance story illustrates. Strong and pre-existing relations with stakeholders, as found in the field missions, may either results from previous/predecessor projects, from structural factors (e.g. Cuban universities are particularly well-connected to public companies in the country), or from collaboration with intermediaries, e.g. a well-connected extension office.

Good practice example: valorising strong relations to stakeholders for uptake

The cleaner production project was characterized by very close relations with Cuban companies, which are the intended users of research results on Cleaner Production. This was ensured by the fact that Masters students remained (part-time) employees of their companies during their studies and research. Masters students in Cienfuegos, Matanzas and Moa therefore work on problems that often have been prioritized by their companies (e.g. Thermoenergetic Company, Teneria, Empet, CITMA, Fuel Distributor, Citrus, Dairy and Labiofam) through a 'problem inventory' (*banco de problemas*). Their research findings and solutions are first discussed at the university and then in their companies, with colleagues and relevant stakeholders (superiors, decision-makers). Research was thus very close to users' (i.e. companies) needs as the formulation of the specific graduate or post-graduate research proposals were based on specific problems of the companies. This was a main success factor in this project. Moreover, the strong connection with the target group (i.e. companies) ensured that the research was being done on companies' core challenges, and created a strong commitment from the end-users to apply the research results. The practice-oriented research resulted in many concrete examples of adaptations of production processes, which in its turn led to savings (in energy, water, etc.) and diminution of contamination, e.g. in the coffee sector, cement production, oil refineries, etc. The project's success was further facilitated by the fact that Cuban universities in general have strong relations with their environment (as did Ucf with companies), the fact that only working students can apply for a Masters degree and that Masters students are financially supported by their employer, as well as the fact that the project could build on the relations and experiences of a predecessor TEAM project on Cleaner Production.

A second success factor is **continuity**. As found in the field missions, a major success factor for all except one project that achieved (immediate) uptake was the fact that they were follow-up projects, i.e. they could build on a previous VLIR-UOS projects but also projects funded by other donors. More precisely, three projects visited in Uganda, and two (of three) projects visited in Cuba were follow-up projects to previous TEAM projects or Southern Initiatives. One project in South Africa had emerged from a previous project funded by the Water Research Commission and dealt with irrigation schemes for small-scale holders. In terms of uptake and impact, continuity was judged crucial by the interviewees as it had allowed the projects to build on the research results of predecessor projects. In addition, it was

stated that the design of follow-up projects tends to be geared towards translating previous findings into practice by providing education/training or piloting a solution to an identified problem. Moreover, follow-up projects could build on and extend previous collaborations and contacts with policy makers, local governments, community representatives, etc. (see above). Finally, predecessor projects offer an opportunity to pick up on specific needs identified in a predecessor project, as the following example illustrates. Continuity is discussed in more detail in chapter 4.1.3 on the 'portfolio approach.'

Good practice example: making use of a predecessor project for setting-up the follow-up

In the community-based hazard management project, needs of the beneficiaries (local authorities and population in hazard affected areas) to systematically record information about natural hazards to inform disaster risk management was identified in the predecessor TEAM project (Afrislide). The predecessor project's findings and the SI project's strategy to address this need were presented to and validated with local authorities and CSOs during a dissemination meeting at the end of the predecessor project. It was found that the local government was ill-equipped to monitor natural hazard in real time and therefore did not systematically record hazards, which in turn limited the ability to predict hazards or develop appropriate mitigation measures. These lessons learnt were taken into account by the SI: by involving volunteers to collect data from remote areas and sending them to a centralized level (the MMU GIS lab established by the project) through smart phones, the project implemented an innovative apporach to monitoring natural hazards. As this approach was in line with political priorities, it caught the attention of governmental actors, who took the project's approach into account in the elaboration of guidelines for communications on disaster risk management (DRM).

Finally, the active **integration of end-users** was generally seen as a success factor for uptake by the interviewees. As further illustrated in the following chapter on mechanisms for research uptake, this may take various forms: from participatory research and joint workshops, to the long-term integration of stakeholders through an advisory board, to 'structural' integration due to legal/structural contextual factors, as evident in the relations between universities with companies in Cuba. Previous experience in community engagement, as reported by two Southern promoters of projects in Uganda (one of whom had their researchers trained in community engagement by an international NGO), can thereby function as a facilitating factor; the lack thereof was a major hindering factor for team members of an unemployment project.

Good practice example: involving end-users in the development of research outputs

The elderly care project's main output was a list of indicators on gender mainstreaming in ageing and elderly care, which is adjusted to the Cuban context and specialized into caregiver guidance in formal and informal elderly care. The project worked closely with the intended users of the indicators, mainly NGOs and CSOs (e.g. 'Cátedra del adulto mayor' at UH). They participated in three workshops to discuss and adapt the list of indicators. The joint formulation and adaptation of the list of indicators in participatory research workshops with all stakeholders was the project's main dissemination strategy. It also succesfully created ownership and a platform for uptake, and thus constitues an important success factor for uptake (i.e. application of the list by the NGOs/CSOs). The list was shared with all stakeholders who had participated in the workshops, and online via the project team's Facebook page. The fact that the project was implemented together with the stakeholders led to immediate effects among those stakeholders through awareness and acknowledgement of the importance and relevance of what they were doing. It was reported that all actors involved have appropriated the contents and are aware of the indicators of gender mainstreaming in elderly care.

Next to the above-identified success factors for uptake, hindering factors across all three field missions were also observed. These were: a lack of direct interaction with the intended users; the lack of capacities of local authorities and high personnel turnover; as well as a lack of (timely) resources of the Southern promoter and the institutions in general.

The **lack of direct interaction with and access to the intended users** was named as a hindering factor by interviewees. Intermediaries, who in turn took over the role to reach out to users (e.g. extension office) or to inform them about the (new) knowledge, available services, etc. (e.g. radio broadcasts) were generally found less effective in terms of uptake, as the following example illustrates: radio broadcasts, as reported by two projects, did not result in long-term changes in behaviour with the community; while team members of another project reported that the extension service, originally involved to gain access to farmers, did not live up to its potential.

Poor practice example: lacking direct interaction with users

The biofuels project studied the research problems associated with the use of emulsions and/or microemulsions where a vegetable oil is the oil phase. It did involve representatives of companies, most importantly the experimental station 'Indio Hatuey' as one of the two national oil refineries. Research, however, was mostly done in the academic environment (labs or diesel engine bench), on the basis of the inputs (primary material) provided by the experimental stations. The latter are – in a way – the link between the project team and the end-users who use the blend of biofuel in their machinery. However, no specific activities were undertaken to actively reach out to them. Consequently, uptake of the research results is so far limited.

The second hindering factor was found to be a **lack of capacities and resources for a wider roll-out** of the projects' approaches to governmental authorities, in particular at the local or regional level. Interviewees reported that the projects could not achieve a wider uptake of the knowledge/services/applications developed due to a lack of capacities and resources at local/regional authorities, even if they were convinced by the approaches developed in the project. The involvement of different, e.g. higher-level authorities and/or a greater number of officials, which was referred to as potential solution by interviewees, in turn surpassed the projects' resources and capacities. **Personnel turn-over** at the level of (local) authorities involved in the project was furthermore referred to as a challenge for the use of evidence as buy-in for research uptake. Both are illustrated as follows.

Poor practice example: lacking capacities for a wider roll-out of the project's approach

The small-scale fish farmers' project focussed on conducting training for fish farmers, comprising the 'Enabling Rural Innovation' (ERI) approach. In addition, the farmers themselves were invited to participate in data collection for market research. Linkages with District Fisheries Offices and fish-farmer platforms were established to access beneficiaries and mobilize them to participate in project activities. With regards to uptake, interviewed farmers reported that they had adopted practices on which they had been trained. These include conducting market research, keeping records, and calculating profits and losses. Moreover, this creates conditions for a broader use of the projects' approach as local authorities are convinced of its worth. However, a wider uptake did not occur due to a lack of mandate and capacities at the local authorities to implement/roll-out the approach. This as well as personnel turnover at the local authorities were a hindering

Finally, another aspect which came up in several interviews is a **lack of capacities and resources (time, in particular) of the Southern promoter**. As the Southern promoters are widely perceived as the partner responsible for dissemination and uptake, limitations in terms of (e.g. time) resources were reported to have a large impact on uptake. In one case, for example, the Southern promoter explained that he had taken over the teaching load of a colleague who had retired, and in turn could not find the

time to conduct the dissemination activities as planned (see example below). Another Southern promoter stated that the completion of his PhD limited his resources for the project.

Poor practice example: lacking capacities for dissemination of research results

The soil fertility project aimed at developing preliminary guidelines for the management of soil fertility in rural home gardens in Vhembe. The project thus investigated the existing nutrient management of garden soils, the materials used to maintain or to raise the nutrient content of these soils, and the crops grown in gardens. Focus was on the use of manure as an alternative to chemical fertilizer, which incurs high costs for farmers. However, resources were limited to develop these guidelines for the use of local resources (one of two specific objectives) as the Southern promoter had taken over teaching from a colleague who retired. As a consequence, the uptake strategy of his project was not implemented accordingly. New farming methods (a system to grow crops using compost and manure as a fertilizer) developed by the project were therefore not taken up and are are unlikely to be used in a broader context, given the need for irrigation.

(Projected) impact of VLIR-UOS departmental projects

Following the VLIR-UOS Theory of Change, impact (poverty reduction and developmental change) is achieved through a **broader use of the new knowledge/applications/services** by communities, governments, organisations, etc. at local, regional, national or regional (multi-country) levels.

However, evidence from the field missions indicated that new knowledge, applications or services are not used on a wider scale. With respect to **communities** other than those directly involved in the project (and subject to immediate uptake), only in one case did interviewees confirm that knowledge had spread beyond the immediate target group: community health workers (CHW) themselves took up knowledge on NCDs to improve their own health, but the practices were also taken up in the villages. This includes organised exercise groups among the elderly (a cultural taboo in South Africa) or providing better advice to the CHWs' patients. Incremental **changes in the behaviour** of participants/beneficiaries, as indicated by several interview partners from different projects, can furthermore be expected to result from training modules. With regards to impact, it is however too early to observe whether the intended behavioural change is achieved by the training models, as participants (e.g. farmers) are just starting to put the acquired competencies into practice. With respect to **governments**, again, interviewees stated that research results were fed into policymaking for only one project: data on natural hazards collected by the respective project was fed into the National Environment Management Authority's (NEMA) national report on the state of the environment. In order to make this uptake sustainable, a follow-up phase is supposed to focus on this link. In all other projects, the projects' results did not find their way into the policy cycle; and prospects for a wider uptake of knowledge/services/applications developed by the projects remain limited (due to e.g. limited capacities of the targeted authorities, or insufficient integration of more powerful political actors).

4.1.3 Portfolio approach

The 'portfolio approach,' as explained in chapter 2, refers to the complementarity of SI and TEAM projects as well as their relation to other VLIR-UOS interventions. In order to derive conclusions on this model's contribution to generating more impact and conditions for research uptake, the evaluation therfore examines:

- to what extent there have been synergies between different interventions of VLIR-UOS, which strengthened the observed impact;

- to what extent the fact that projects were preceded by other VLIR-UOS projects ('seed funding') increased the project's capacity to create conditions for uptake;
- to what extent the project type (stand-alone, extension/explorative) affected SI capacities to create the conditions of uptake; and
- to what extent expectations on uptake for TEAM projects and SI should be different.

With respect to the first question, potential for synergies with concurrent VLIR-UOS interventions (i.e. interventions at the time the project was implemented) could only be found in Uganda. In South Africa and Cuba, no other VLIR-UOS projects in the evaluation sample or projects linked to the project under evaluation were implemented at the Southern universities of those selected projects. In Uganda, an IUC exists with Mountains of the Moon University (MMU), where two of the projects subject to a case study were implemented but, in the interviews, this IUC was not cited as creating significant thematic synergies with the two SI projects.

In contrast to current VLIR-UOS interventions, preceding VLIR-UOS projects were deemed highly important for uptake and impact by the interviewed Northern and Southern promoters and their respective university management. Of nine projects subject to a case study, five indicated that synergies were created with/through previous projects.

- In the case of the biofuels project, scholarships for the Southern promoter, supported by the preceding TEAM project, and for the current PhD student, were referred to as complementary with the former acting as the supervisor of the latter. Moreover, interviewees stated that the follow-up project (i.e. the project under evaluation) allowed the department to keep growing and evolving.
- The TEAM project ‘A Cuban network of cleaner production (CP) centres and strengthening education and research on CP’ had been preceded by 10 years’ continuous support (from 2008 until 2018) from two TEAM projects and one SI. According to the interviewees, this ensured that academic processes were consolidated and could be extended to other regions, namely Matanzas and Moa (Co-promoters’ universities).
- In the small-scale fish farmers project, interview partners reported that grassroots organizations (fish-farmer platforms and groups) and contacts to governmental authorities established by a predecessor VLIR-UOS project allowed the project to access and mobilize end-users (fish-farmers).
- Lastly, the community-based hazard management project could rely on networks with local authorities and CSOs established or strengthened in the predecessor project for outreach. The focus of the current project was derived from the previous one which, according to the interviewees, contributed to the needs orientation of the project. The fact the SI worked with the same students and researchers as the predecessor TEAM project meant that the project team did not have to spend much time on its inception phase, as stated by one project team member.

With respect to the third question (the extent to which an SI is a stand-alone, extension or explorative project), interviewees from two SI stated that they could build on collaborations and contacts established by the predecessor projects and rely on previous research (findings) and previous project staff. This was an important success factor given the SI’s limited budget and time frame. In addition, one interviewee stated that stand-alone SI are more modest in their impact than SI that can build on previous projects, but that they can be instrumental in motivating stakeholders and students and strengthening networks.

4.1.4 Assessment of departmental projects' effectiveness and impact

Based on the analysis above, the evaluation can conclude that VLIR-UOS departmental projects tend to be effective with regards to their academic objectives (strengthening research and educational capacity and generation of new knowledge). However, room for improvement remains with regards to uptake and the broader use of knowledge, service and/or applications generated by the projects, and thus the attainment of the projects' developmental objectives and impact.

The evaluation identified major differences in perceptions between Northern and Southern promoters: Northern promoters tend to act primarily as a mentor and sparring partner for research, in particular the publication of research articles in international peer reviewed journals and the 'coaching' of the Southern promoter and project staff. Southern promoters, in contrast, are regarded – by both parties – as primarily responsible for dissemination and uptake. Similarly, Northern promoters tend to focus very much on research vis-à-vis its 'side-effects' on education (if education practices are not an explicit objective of the project). Southern promoters, through their proximity to the students, are more likely to see effects on educational practices even if the project did not formally concentrate on the development/update of curricula and courses. This typical 'division of labour' is not per se negative for the projects' effectiveness and impact. However, as the following chapter will elaborate, a better interlocking of research, dissemination and outreach would be necessary to achieve more uptake and thus more impact.

With respect to the VLIR-UOS portfolio approach, it can be concluded that the consolidation of VLIR-UOS departmental projects with other (VLIR-UOS) interventions has a positive effect on the strengthening of a department's research and educational capacity. It was further stated that the potential for impact increases through continuity. Southern Initiatives' impact is generally more modest (due to more limited duration and budget), but can be optimised, especially in combination with scholarships and/or preceding (TEAM) projects. Therefore, expectations must not only vary for SI and TEAM projects, but also for stand-alone and follow-up projects, mainly due to the fact that stand-alone project must devote significant resources to the establishment of crucial networks which limits the time and resources available for research and other dissemination activities.

Finally, the previous analysis shows that (the creation of conditions for) uptake is often not perceived as a priority by the researchers. However, it was stated that key personnel in two projects had previously received training in communicating research results to various audiences or in research uptake, which was found to be a major success factor for uptake. More precisely, a more strategic and integrated approach towards dissemination was found for those two projects, whereas in other projects, awareness that facilitating research uptake is part of the research process was rare. This highlights the fact that increased awareness for uptake on both the Flemish and the Southern promoters' side, sensitization and training can significantly contribute to improving projects' developmental outcome.

4.2 Creating the conditions for uptake

This chapter presents the theoretical model on (pre-) conditions and mechanisms that facilitate uptake of knowledge, services and applications. This model was initially developed based on a literature review and finalized by the assessment of impact and effectiveness of VLIR-UOS departmental projects. In the following, an overview of the academic discourse in knowledge and research uptake is provided. Next, the theoretical model is presented explaining in detail which (pre-) conditions and mechanisms facilitate – according to the literature and empirical evidence from the evaluation – the uptake of knowledge, services and/or applications from VLIR-UOS funded projects.

4.2.1 The academic discourse on knowledge and research uptake

The developed conceptual framework builds on theoretical and empirical research on the uptake of research and knowledge that could be identified within academic work on science-policy interfaces (also: science-policy nexus or, in more recent publications, knowledge-policy interface[11]). Research in this field addresses questions on how knowledge is used in the policy process and comprises theoretical work on knowledge utilization as well as more recent debates on evidence-based policy-making (Head, 2008, 2013, 2016; Kay, 2011), policy advisory systems (Craft, 2015; Craft & Howlett, 2013; Fraussen & Halpin, 2017), and innovation systems (Jones et al., 2009b). Moreover, evaluation research, and more specifically questions related to the 'usability' and uptake of evaluation results (Radaelli & Dente, 1996; Weiss, 1999; Mark and Henry 2004), have provided pertinent perspectives that were integrated in the framework.

Within the variety of these approaches, a common point of departure exists in the notion of a **'utilization paradox.'** Starting from the notion that 'the policy research community produces a wealth of policy information and analysis (supply)' (James & Jorgensen, 2009: 144) that is not taken up on the user side, this paradox refers to a mismatch between the producers and (intended) users of knowledge and/or research.

The notion of a 'utilization paradox' has directed scholarly attention to the utilization of knowledge since the 1970s; since the mid-1970s, knowledge utilization in the policy process has grown into an important research field in the social sciences. The work of Carol H. Weiss, and in particular her study *The Many Meanings of Research Utilization* (1979), is still cited as a central building block of the research field. Here, she identified a number of particularly influential models of knowledge utilization which posit the relationship as essentially problem-solving and knowledge-driven (Weiss, 1979). These models, following a **linear** and **one-dimensional** interpretation of research uptake, assume that researchers do high quality research and communicate it; it is subsequently taken up by its users. Researchers and practitioners are thereby understood as dichotomous, 'two communities' (Caplan, 1979), and communication helps to 'bridge the gap' between them (Nutley, 2003).

However, more recent work, e.g. on innovation systems,[12] has found that communication alone is not sufficient in getting research and evidence to inform policy and practice (Fox, 2018). Moreover,

[11] Knowledge is thereby understood as a broader concept than research. **Research** aims to investigate, learn and produce knowledge by gathering information, contemplation, trial, and/or synthesis (incl. action research or academic studies ranging from a pilot project to a laboratory experiment, consultation exercises, quantitative surveys, literature reviews, participant observation or participatory approaches). **Knowledge**, on the other hand, implies a practical or theoretical understanding of a topic and includes technical and scientific research, but may also refer to formal and informal sources of understanding (Jones et al., 2009b; Court et al., 2005). Knowledge can both be theoretical as well as empirical and context-specific. For this theoretical framework, we speak of 'knowledge' and thereby include 'classic' research-based projects but also educational development projects.

[12] Rather than focusing on research and researchers as the primary knowledge producers or policymakers proceeding in rational and sequential stages of decision making, innovation system frameworks take into account the processes and drivers behind

knowledge generation and professional practice are increasingly seen as **intertwined** and knowledge/research uptake thus as a **multidimensional** process. In contrast to earlier models, those approaches emphasize:

- the importance of both the **supply** ('push' of the research community) but also the **demand for knowledge** ('pull' of the users), i.e. the need to strengthen the demand side and for needs-based research and development (e.g. through feedback processes, strengthened mechanisms for guiding interventions based on the knowledge of local people and those affected by problems, multi-perspectivity through variety of sources/actors or transdisciplinary research);
- the importance of tacit knowledge besides explicit and codified knowledge (e.g. experiential knowledge of local ways of doing things along with information in manuals and from instructional videos). This can be grasped e.g. through participatory approaches;
- the fact that **structural factors** and (national) **context** shape often the use of knowledge. Projects' approaches should therefore be embedded within an understanding of the broader system/context in which they operate. Moreover, sectoral dynamics imply divergent actors having varying demands for new knowledge and capacities to use such knowledge;
- the fact that researchers are one amongst a diverse set of **actors** including NGOs, international agencies and civil servants, legislators, political parties, intermediaries, the media, private sector actors, and local communities and networks;
- the importance of **networks and linkages** as channels for increasing the uptake of knowledge, and the need to facilitate **trust and interaction** between a diverse range of actors; and
- the need for actors carrying out '**intermediary functions**' to facilitate continuous exchange between the 'supply' and 'demand' for knowledge (Jones et al. 2009b; Kirchhoff et al., 2013).

4.2.2 Theoretical model: creating the conditions for uptake

As stated earlier, the VLIR-UOS Theory of Change envisions that new knowledge and technologies are developed within the scope of its departmental projects and then adopted by early adopters and the wider population. For this purpose, VLIR-UOS assumes that conditions for uptake should be created by and/or integrated into the respective projects. However, prior to this thematic evaluation, little clarity existed on how the uptake of knowledge, services and/or applications takes place. Moreover, this evaluation found that **awareness** that facilitating research uptake is part of the research process is still rare among Northern and Southern promoters and other project personnel; and that little **orientation** exists on how to create the conditions for uptake. The following theoretical model intends to fill this knowledge gap, based on the academic literature on the one hand, and evidence from the thematic evaluation on the other.

The academic literature proposes a number of factors and conditions that facilitate or impede an uptake of knowledge, and of research results in particular. Hypotheses derived from the literature were subsequently applied and tested throughout this evaluation. Our theoretical model thus combines 'academic wisdom' with empirical data gathered throughout this evaluation that considers the characteristics of VLIR-UOS departmental projects. It thereby fills a void in the academic literature since empirical work on uptake is rare. The evaluation differentiates between **(pre-) conditions** or contextual factors that facilitate uptake on the one hand, and **mechanisms** to support uptake of (new) knowledge, services and applications on the other. They vary according to the degree of control the researcher (or producer

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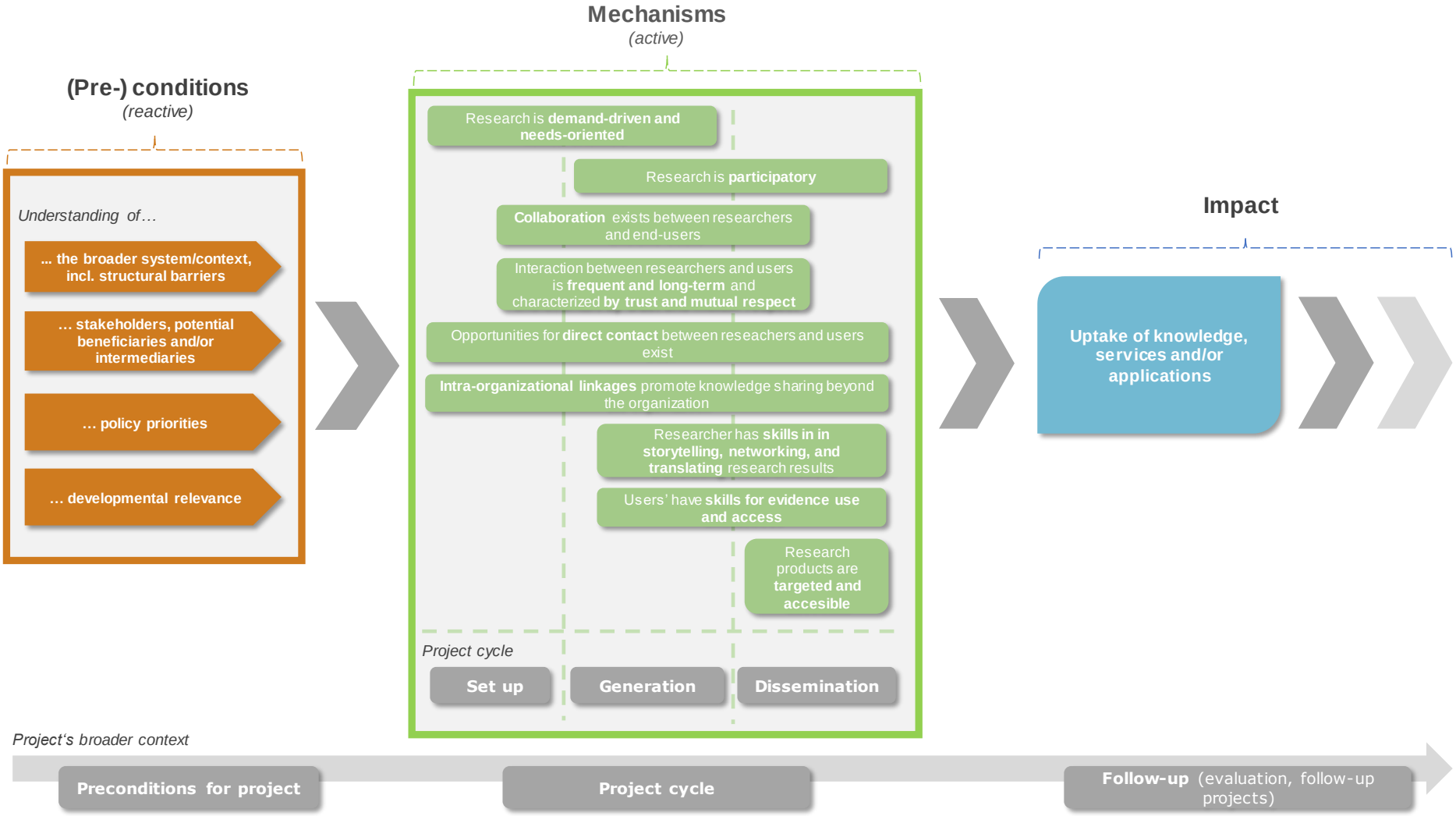
innovation, the use and uptake of new or existing knowledge. The innovation system framework is informed by a number of schools of thought, including institutional economics and systems theory (Jones et al. 2009b).

of knowledge) has on these factors and conditions: whereas **(pre-) conditions are primarily reactive** (i.e. the researcher understands/knows about certain aspects and reacts to them accordingly), **mechanisms assign an active role to the researcher**, who chooses and applies certain approaches and strategies to facilitate uptake.

The following figure illustrates the model. Facilitating and impeding conditions and mechanisms are explored in more detail in the following chapters.

Figure 11 | Conceptual framework: 'Creating the Conditions for Uptake'



4.2.3 (Pre-) conditions for uptake

The present and following chapter present hypotheses developed during the inception phase of this evaluation based on the academic literature on knowledge and research uptake. These are then contrasted with empirical findings gathered during the data collection and analysis phase of this thematic evaluation. Best practice examples illustrate findings, and boxes provide hands-on advice for the specific condition/mechanism.

In chapter 4.1.2 on the impact of VLIR-UOS departmental projects, the evaluation outlined that contextual (success and hindering) factors do significantly impact the successful uptake of knowledge. The same notion that knowledge and research utilization are embedded in and dependent on the **context** in which research and policy/practice operates is represented in the innovation systems framework (Jones et al., 2009a; 2009b). Contextual factors, their consideration and the incorporation of context sensitive solutions and mechanisms in the research project's design, are thus considered a **(pre-) condition** for research uptake. As derived from the academic literature, this was tested according to the following hypotheses:

Uptake of knowledge is facilitated

1	if the researcher has a **good understanding of the broader system/context** in which the project operates (e.g. structural barriers, timing of elections, budgetary cycle, ethical questions) **	[13]
2	if the researcher has a good understanding of relevant **stakeholders, potential beneficiaries and/or intermediaries** (e.g. local NGOs, private sector actors, international agencies, civil servants, legislators and political parties, intermediaries, the media, local communities). **	
10	if the researcher has a good understanding of **policy priorities** ***	
11	if research is **relevant** to users and the (policy) sector, i.e. targets a (developmental) problem. ***	
3	in sectors where there is a high need and absorption capacity for **technical knowledge** (e.g. agriculture, engineering). *	[14]
4	in sectors which are **not politicized** and/or shaped by economic interests. ~	[15]
25	if the **timing** of dissemination is 'right' (e.g. matches relevant events and users' time horizons) *	

Looking at the first hypothesis, Jones et al. (2009b) recommend undertaking a 'diagnosis' of the system (or context) in order to determine barriers and constraints, to identify opportunities where an intervention is most feasible and likely to promote innovation, and to respond accordingly. For example, they argue that in order for new research on new crop varieties to benefit farmers' income, the latter must have access to markets. As academic experts interviewed stressed, ethical questions should also be considered. Finally, understanding the context means being aware of power (im-) balances, cultural dimensions, social capital and the role of discourse in shaping the demand for new knowledge (Jones et al., 2009a; 2009b).

[13] Green: the hypothesis could be confirmed through the evaluation.
[14] White: the hypothesis could not be confirmed through the evaluation.
[15] Orange: the evaluation found a opposite (negative) effect of this aspect on knowlegde and research uptake.

In general, this hypothesis (*hypothesis 1*) is confirmed by the evidence collected in the field missions: a **good understanding of the broader context or system in which the project operated** was ascribed to all projects under analysis. However, it was found that **structural barriers**[16] were not sufficiently taken into account, which in turn hindered uptake. For example, the lack of local government capacities in Uganda prevented a wider uptake of the knowledge and applications developed by the projects. Alternately, the fact that provincial level politicians were very difficult to access hampered a wider uptake of research results on the psychological dimension of unemployment in the respective South African project. It can thus be concluded that a good understanding of the broader system and context in which the project operates is a precondition for uptake, but only if structural barriers are taken into account. In addition, the conduct of a formal context analysis, as assessed through the online survey, was found insufficient to facilitate uptake (.024)[17] if this does not go hand in hand with a truly deep understanding of the context. Therefore, the quality of understanding and an honest consideration of potential barriers are decisive. For example, the proposals for fish farmers and the hazard management project had been based on needs assessments conducted by previous projects. Second, in the majority of projects in the sample, the Southern promoters had played a main role in drafting the project proposal and thereby proactively identified structural barriers for uptake. Both 'pre-conditions' were regarded as having facilitated the success of the projects by the interviewees.

Good practice example: following-up on a predecessor project

In the SI 'Enhancing community-based natural resources and hazard management in Rwenzori Mountains', the needs of the beneficiaries (local authorities and population in hazard-affected areas) to systematically record information about natural hazards in order to inform disaster risk management had been identified in the predecessor TEAM project (Afrislide). These findings and the SI project's strategy to address this need were presented to and validated with local authorities and CSOs during a dissemination meeting at the end of the predecessor project.

As experience from the projects analysed shows the **understanding of the broader system/context in which the project operates** can be increased when:

- ... a **context analysis** identifies barriers and constraints and options to respond accordingly as well as opportunities where an intervention is most feasible and likely to promote innovation;
- ... the initiative for the project originates with the Southern partner institution(s), or if the **project is developed jointly** (again: quality of cooperation is decisive) with the Southern promoter and potentially other (future) team members at the Southern partner institution(s);
- ... the project can build on a **preceding cooperation/project** and takes into account lessons learnt and (potential) hindering and success factors for uptake.

With respect to the second hypothesis, the academic literature states that adapting to contextual factors requires a **deep understanding of relevant stakeholders**. For example, scaling up or rolling out a

[16] Structural barriers are barriers inherent in the project's context, and are caused by structural factors that the project cannot immediately influence (e.g. import restrictions in Cuba).

[17] **On the Methodology:** the figures in the brackets show correlation-coefficients between the respective hypothesis and research uptake (as operationalized through the online survey). Generally, the correlations represent values based on Cramers V, Spearman or Pearson depending on the type of question. The following applies to all: a value between 0.1 - 0.3 indicates a small relationship; 0.3 – 0.5 indicates a medium-sized relationship; and a value >0.5 corresponds to a strong relationship (in both directions). Further, there are no p-values on statistical significance reported as the survey did not sample the 'population', but included the whole 'population' of interest (all 47 departmental projects). Consequently, significance-levels do not apply. For a reflection on possible limitations as well as steps to overcome these, see chapter 3.1.7.

successful pilot project may require supportive networks beyond the specific local/regional project site, or intermediaries to access end-users. Stakeholder analysis should moreover consider different actors' demands for new knowledge and capacities to use such knowledge.

The second hypothesis (*hypothesis 2*) can again be confirmed by the evaluation. Projects that were generally successful in achieving uptake (or at least creating the conditions therefor), had carefully considered potential stakeholders, beneficiaries and/or intermediaries (see good practice example below); others that had overlooked relevant stakeholders were less successful in creating the conditions for uptake. As such, the evaluation found that one project had installed an advisory board that engaged the relevant stakeholders from the community but did not include the provincial policy unit. This, however, would have been crucial for the uptake of the intervention developed by the project. Data from the online survey further confirms this hypothesis: the outcome of this analysis shows a small positive relation (.251) between a stakeholder analysis and research uptake across all actors, with the strongest positive effect for local communities (.508). Survey data thus highlights that uptake can be facilitated if, in the first instance, end-users are identified, and dissemination products and/or activities are targeted accordingly.

Good practice example: bringing people 'on board' to address a sensitive issue

The sexual education project carefully considered the sensitivity of providing sexual education to adolescents in the Ugandan context (as evidenced by, among other things, a moratorium on the government curriculum for sexual education in schools). To address this, it established an advisory board involving the Ministry of Health, the Ministry of Education as well as religious leaders and other community representatives (e.g. teachers and parents) to open doors for the activities through an elaborate vetting process of survey questions and curriculum contents.

With regards to a **good understanding of relevant stakeholders, potential beneficiaries and/or intermediaries**, good practice examples propose to:

- ... conduct a **stakeholder analysis** jointly with the Southern partner institution(s), potentially including knowledgeable intermediaries (e.g. extension offices), which considers **users' demand for new knowledge** and their **capacities to use such knowledge**
- ... **identify end-users early on** (i.e. at the proposal stage) and **target dissemination activities and/or products accordingly**.

The next hypothesis on **(policy/problem) relevance** stems from a meta-study by Christopher Fox, published in 2018 (Fox, 2018). In the literature, assuring the relevance of research and/or development of services and applications requires a good understanding of the specific problem and its links to potential and/or intended end-users of research results.

In this regard, evidence from the field missions highlight that the general (developmental) relevance of the research conducted by the projects was confirmed in interviews with government authorities, intermediaries, or beneficiaries for all projects. A document analysis of VLIR-UOS call documents and explorative interviews with VLIR-UOS personnel indicated that to a large extent, this results from the fact that the selection process for projects applying for VLIR-UOS funding emphasises developmental relevance. For example, the calls start with highlighting the VLIR-UOS country strategy to assure 'relevance and complementarity,' whereby relevance addresses the needs and priorities of the partner country, in particular the national priorities in terms of poverty reduction and national policies for higher education.

Moreover, selection criteria include the relevance of the given proposal, as well as scientific effectiveness, efficiency, impact and sustainability. The good performance of projects in the sample however means that it was not possible to fully test this hypothesis (*hypothesis 11, also hypothesis 10*), as no negative example is available. Nevertheless, as academic consensus on this hypothesis is extraordinarily high, this aspect is considered as highly relevant with regards to creating the conditions for uptake.

Good practice example: sexual education in primary schools

The relevance of the sexual education project stems from the fact that prevalence of STDs and teen pregnancies in Uganda is high. The high share of teenage girls dropping out of school due to pregnancies and Uganda's high population growth constitute significant challenges for the country's development. In addition, many young girls miss school during their menstruation because of a lack of information about body changes, or lack of access to sanitary pads. Moreover, as body changes are not addressed by parents or schools, many young girls feel ill-equipped to react to advances from the opposite sex. Sexual education for adolescents, for which the project developed and tested a curriculum, addresses all these challenges.

With regards to developmental relevance, it is recommended to:

- ... keep the **emphasis on developmental relevance in the VLIR-UOS call conditions and selection criteria**.

Alongside a good understanding of the broader context and stakeholders, academic experts interviewed furthermore noted that use and uptake of research results etc. could be hampered in sectors that are **politicized and/or shaped by economic interests**, and facilitated in sectors where there is a **high need and absorption capacity for technical knowledge** (e.g. agriculture, engineering).

Neither hypothesis (*hypotheses 3 and 4*) can be fully confirmed based on the empirical evidence. First, the survey data demonstrates that a not politicised sector does *not* have a positive effect on overall research uptake (-.288). In contrast, it shows that there might be even less uptake when non-politicised sectors are specifically targeted for implementation, which is in line with evidence from the field missions. Here, it was found that the **'politicization' of an issue**, e.g. unemployment in South Africa or environmental problems in Cuba, in fact increase interest in the project/research, which is more likely to benefit than hamper uptake of policy-relevant knowledge. In turn, in the case of the elderly care project in Cuba, use of new knowledge (i.e. the list of indicators developed) was hindered by a lack of clear national policies and thus 'point of contact' on the issue of elderly care. A good understanding of policy priorities (*hypothesis 10*) can therefore be assumed to facilitate uptake if it is valorised accordingly.

In addition, survey data indicates a positive relation between overall uptake and a project design that targets sectors with a high absorption capacity for new knowledge. However, these findings vary for different actor groups: while targeting sectors with a **high need for technical knowledge** is positively related to the uptake by private companies (.156), other research institutes (.191) and international agencies and NGOs (.265), it decreases the likelihood of uptake by local communities (-.109). Evidence from the field missions is partly in line with this finding: in general, it has been found that a broader use of knowledge, services and/or applications is possible both for technical and other forms of knowledge (e.g. in from social sciences). Moreover, it appears logical that private companies, other research institutes and international agencies and NGOs have a higher capacity to absorb (understand) technical knowledge than local communities. In line with our findings for stakeholders, it can thus be concluded that users' absorption capacity should be considered when identifying the relevant end-users for the knowledge, services or applications generated by the project.

As experience from the projects analysed highlights, the **connectivity** (i.e. the degree to which the generated knowledge, technologies, services, etc. correspond to the targeted actors' capacities and needs) **of the knowledge, services or applications** generated can be increased when:

- ... the research addresses **political priorities** and the project team uses the 'politicization' of the problem to reach out to relevant stakeholders.
- ... **end-users' capacity to absorb (technical) knowledge** is taken into account when they are being identified (at the proposal stage).

Finally, the academic literature implied that the identification of potential barriers and opportunities has a timely dimension: projects should be aware of e.g. elections or the budgetary cycle on the one hand, and of their own time horizons in relation to uptake (e.g. rather long for basic research) on the other.

This hypothesis (*hypothesis 25*) can be neither confirmed nor discarded based on the evaluation data as **timing**, e.g. of the release of research results, was **not actively considered by the projects under analysis**. Continuity rather than timing, however, was referred to as a relevant success factor (see also chapter 4.1.2).

4.2.4 Mechanisms to facilitate uptake of knowledge, services and applications

Alongside the (pre-) conditions, the following mechanisms pick up on various contexts and offer opportunities to benefit from or rather counteract impeding contextual factors to facilitate uptake of knowledge, services or applications developed by the projects. In line with the last chapter, hypotheses developed during the inception phase of this evaluation will be presented and then contrasted with our empirical findings.

With reference to the academic literature, the influence of (social, institutional) linkages between users and researchers is the most prominent of the mechanisms, which researchers can actively use to foster research uptake. This was tested based on the following hypotheses:

Uptake of knowledge is facilitated		
6	if **collaboration** exists between researchers and end-users. ***	[18]
7	if interaction between researchers and users is **frequent and long-term**. *	
8	if the relationship is characterized by **trust and mutual respect**. *	
9	if a **mutual understanding** exists between researchers and users, e.g. agreement on policy relevant questions and the kind of evidence needed to answer them. *	[19]

Academics assume that **contact, interaction and collaboration** between researchers and potential users is one of the most important predictors of research uptake and utilization (Oliver et al., 2014; Landry et al., 2001a, 2001b, 2003). Mechanisms considered in these studies include meetings, congresses, conferences and scientific seminars, exchange via e-mail and the internet, and more formalized collaborations between e.g. research and private sector companies. In the expert interviews however, a trade-off was observed between collaboration with end-users and the independence (i.e. lack of bias) of research.

[18] Green: the hypothesis could be confirmed through the evaluation.
[19] White: the hypothesis could not be confirmed through the evaluation.

Looking at the data collected through field missions and the online survey, these theoretical assumptions are largely confirmed. In the online survey, every respondent asserted at least one existing **collaboration with end-users** (*hypothesis 6*). Our analysis indicates that the effect on uptake is therefore largest when collaborations with local communities (.367), civil society actors (.251) or governmental actors (incl. civil servants and legislators) (.217) were established. Moreover, a strong positive effect is observed on uptake by a certain actor when this actor was subject to collaboration. For example, collaborations with private actors had a very strong effect on the uptake of private actors (.765), collaborations with governmental actors had a strong effect for uptake by governmental actors (.570), and collaboration with service providers had strong effect on uptake by service providers (.607), and so on.[20] This finding, which was equally confirmed in the field missions, indicates that collaboration partners should be selected purposefully and that such choices should be guided by considerations about the intended end-users of the projects' outputs. It also shows that collaborations are most effective – with regards to uptake – if the collaborations partners are end-users of the knowledge, services or applications developed. This can be illustrated by the following example: in the biofuels project, and according to the interviewees, the most important collaboration partner of the project team was an experimental station, which provides inputs in the form of primary material for the projects' research. The intended users of the project's research results, however, are e.g. farmers, who may use the blend of biofuel in their machinery. Based on the academic literature and empirical evidence from the survey, the lack of direct contact between end-users and the 'providers' of knowledge was one reasons why the project's research results are finally not used/taken up (*hypothesis 5*).

Good practice example: turning end-users into researchers

In the cleaner production project, end-users, i.e. employees of Cuban companies, did research on cleaner production. More specifically, their Masters' research targeted problems that were often prioritized by their companies. Ownership and applicability of the research results is thus high, which leads to the result that scientific solutions are largely implemented by the companies.

Promoters can turn to the following 'modes of interaction', as identified in the best practices:

- **Meetings** or **workshops** with stakeholder where final/preliminary research results are presented and discussed; or jointly developed.
- **Training** of intermediaries (e.g. health workers) and end-users (e.g. local farmers), if possible, applying **'hands-on' teaching and exercising** (e.g. pilot scale demonstrations, on-site training, participatory research).
- **Integration of local partner institutions** – companies, community-based organizations, local co-operatives, local authorities (e.g. national parc management) etc. – into the research process, when formulating the research questions, through participatory or action research, or as members of an advisory board.

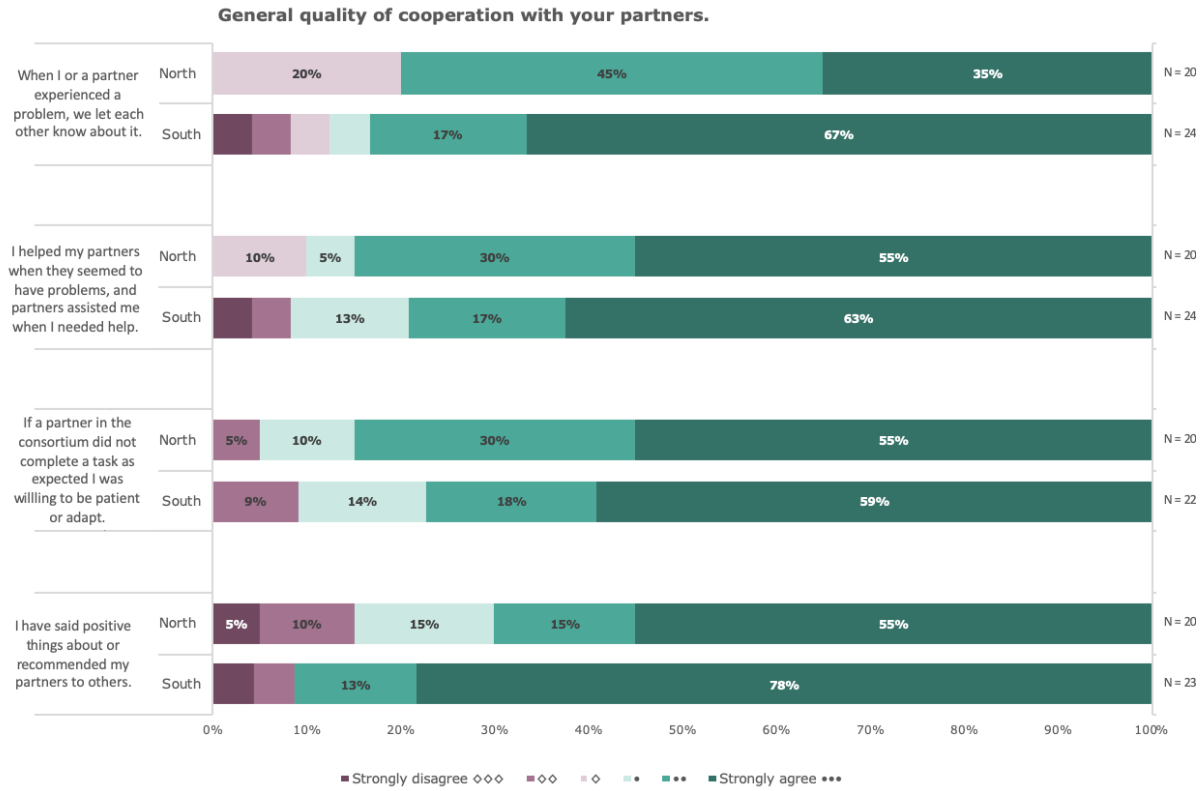
In addition, the hypothesis is made that the more 'sustained and intense the interaction between researchers and users, the more likely utilization will occur' (Landry et al., 2003: 195); and that long-term

[20] Only collaborations with other research institutes is not linked to a higher likelihood of uptake of these institutes. Qualitative comments suggest that the reasons for the latter's weak effect may be that - in contrast to other collaboration partners - uptake by other research institues was interpreted more broadly (e.g. citations, transfer of research results to the scientific community).

relationships build trust between users and producers which again is a facilitator of uptake (Kirchhoff et al., 2013).

Both hypotheses can be confirmed by our empirical evidence: The online survey found a small effect of **frequent**[21] (.183) **and long-term**[22] (.380) **interaction** (*hypothesis 7*) with users, whereby long-term interaction has a stronger effect on uptake than frequent interaction. Respondents, through qualitative comments, recommended sharing intermediary results with the projects' stakeholders in addition to 'classic' restitution meetings. Moreover, it was found that the **quality of collaboration** – both between researchers and users and between Flemish researchers and researchers at the Southern partner institution(s) – has an effect on later uptake (.296) (*hypothesis 8*). This means that a higher quality of collaboration indicates a higher chance of uptake. As the survey data indicates, the quality of cooperation in departmental projects was rated overall positively by both Northern and Southern promoters. Good quality collaboration was thereby operationalised as giving feedback, helping one another, openness towards changes in plans (e.g. due to one partner lacking capacity), and advocacy for the partner (see Figure 12).

Figure 12 | Online survey: Quality of cooperation of Northern and Southern partners



Source: Syspons, 2019

Both findings are also reflected in the field missions, where it was found that direct, frequent and long-term collaboration/interaction were much more effective in creating the conditions for uptake than single, non-recurring restitution meetings etc. at the end of the project. Finally, **trust** results from frequent and long-term interaction, as found e.g. in the sexual education project. Here, significant time was invested in building trust with teachers, parents, religious leaders and local authorities (as part of the advisory board) early on in the project, which was crucial for the project's success. However, as highlighted by

[21] On a scale on-off to very frequent
[22] On a scale short term to long term

the community health workers' project, trust can also be built through incorporating trusted intermediaries.

Good practice example: valorising trust for uptake

When drafting the proposal for the CHW project, community health workers (CHWs) were identified as end-users and main stakeholders in the project. As volunteers, CHWs offer basic health care in the villages and are an important provider of healthcare for rural communities in Limpopo province. They were also idenified by the promoters as a sources of trust: building on these already existing structures (i.e. training the CHWs, establishing of mechanisms for peer-to-peer learning and exchange) has been found to be a major success factor for the uptake of knowledge on non-communicable diseases (NCDs) by villagers and its transfer to other villages.

With regards to **contact, interaction and collaboration between researchers and potential users**, good practice examples and evaluation data shows the importance of:

- ... **selecting collaboration partners purposefully** and **basing their choice on the decision upon the intended users** of the project's outputs.
- ... building **long-term relationships** with stakeholders and users, from the early implementation phase to dissemination. However, collaboration in the set-up phase tends to be less effective (see below).
- **... frequent exchange of, sharing and discussing intermediate results** instead of only final results.

In the preceding chapter, high developmental relevance was attested to all projects under analysis. The following mechanisms, as derived from the academic literature and tested throughout the evaluation, build on general relevance and explore more specific mechanisms how needs-orientation can be ensured during project implementation. This was tested based on the following hypotheses:

Uptake of knowledge is facilitated

12	if research is **needs-oriented and demand-driven**, e.g. mechanisms exist/are strengthened for guiding interventions based on the knowledge of local people and those affected by problems. ***	23
13	if research involves potential end-users in the research **design phase**. *	24
14	if research is **transdisciplinary**. *	
15	if research is **participatory**, i.e. involves potential end-users in the data collection phase. *	

In this regard, the innovation systems framework stresses the importance of considering and incorporating the demand for knowledge ('pull factors') through e.g. the systemic integration of end-users in the research process (participatory research, joint development of research questions, etc.) and the necessity to consider multiple perspectives through a variety of sources or actors (Jones et al. 2009b).

The first hypothesis on **needs-orientation** (*hypothesis 12*) can be generally confirmed based on our data. For example, in both the sexual education project and the business practices for small-scale fish-

[23] Green: the hypothesis could be confirmed through the evaluation.
[24] Orange: the evaluation found a opposite (negative) effect of this aspect on knowlegde and research uptake.

farmers project, baselines were established that constituted an assessment of knowledge/attitudes/behaviours of the beneficiaries. On this basis, curricula/trainings for the beneficiaries where developed that were overall seen as helpful and relevant by the participants. Moreoever, great emphasis was placed on the added value of a research advisory board to ensure that the development of (new) knowledge/services/applications is guided by and takes into account the knowledge of local people and/or those affected by the problem. However, it is the quality of implementation of an advisory board (e.g. careful and deliberate selection of board members, frequent interaction) which determined its contribution to uptake, as illustrated by the experiences below.

Good practice example (and lessons learnt): advisory boards

Due to the sensitivity of providing sex education to adolescents in the Ugandan context, the respective project established an advisory board involving the Ministry of Health, the Ministry of Education as well as religious leaders and other community representatives. The project's relative success, however, did not result from the mere existence of an advisory board, but from the fact that the project team had: a) carefully considered who they would invite to join the board, who is progressive enough to share the ideas of the project, but not so progressive that s/he would not be heard in the Ugandan society; and b) because the project team conducted frequent and intensive exchanges with the advisory board (so it was more than a formal reception at the beginning and end of the project). In contrast, the advisory board established by the unemployment project – despite grealty contributing to facilitating access to the communities – lacked the most relevant stakeholders for a broader uptake of the project's approach and thus could not contribute to a wider use of the research results.

In the online survey, needs-orientation was operationalised as the conduct of a needs assessment. The analysis of survey data could only find a small positive relationship between uptake and the conduct of a need's assessment regarding the needs of the partnering institution (.104), and no reliable connection between uptake and a needs assessment regarding the needs of beneficiaries and users (-.102). Based on evidence from the field missions, it can thus be assumed that it was not the formal conduct of a need's assessment that was decisive, but continuous and 'applied' needs orientation, as e.g. facilitated through an advisory board.

Besides needs-orientation, empirical evidence from the evaluation further highlights that (the degree of) participation is important for research uptake. First, survey data indicates a higher chance of uptake with increasing participation of end-users (.364). This finding can be confirmed by the field mission: here, it was found that at least three projects (depending on definition) used **participatory research**, i.e. involved users in data collection (*hypothesis 15*). This was the case in the community-based hazard management project, where volunteers from the communities collected data on the occurrence of natural hazards and sent them to the project in real time through smartphones provided by the project.

Good practice example: combining participatory research with training

In the small-scale fish-farmers project, fish farmers themselves were invited to conduct market research on the sector, which informed the project's research. Participatory research was thereby combined with coachings/trainings for the farmers. Training materials and curricula were flexibly adapted to the capacities of different participant groups (e.g. different attitudes and levels of knowledge of fishermen depending on the community). Interviewed farmers report that they had adopted practices on which they had been trained, including conducting market research, keeping records, and calculating profits and losses. Participatory research thereby contributed to uptake as the farmers could actively apply the newly gathered competencies.

With regards to the **involvement of users in the set-up/design phase** (*hypothesis 13*), our data however shows a different picture. According to our data, most stakeholders act as prohibitors of uptake when they are involved in the set-up phase of the project (-.150). Civil society actors (e.g. media, local NGOs) were found to have the most robust negative effect (-.276); while governmental actors (.155) and international organisations (.167) turned out to be the only stakeholders that do not negatively influence later research uptake. Considering the results with regards to *hypothesis 6*, where it is indicated that the involvement of stakeholders in the project in general is positive for later uptake, collaboration is most likely effective – but not in the design phase of the project. Collaboration in later phases (such as implementation and dissemination), and in particular long-term collaboration (starting in the early implementation to the dissemination phase), are consequently proposed to be more important for research uptake.

Finally, interviews with academic experts highlighted that **transdisciplinary/participatory research** (*hypothesis 14*) better allows for focussing on problems instead of disciplines, and thus facilitates uptake. However, the evaluation could not find evidence for this hypothesis: on the one hand, interdisciplinary projects (e.g. the biofuels project including chemical and mechanical engineering) did not achieve an uptake of research results; while on the other, monodisciplinary projects (e.g. the community-based hazard management project) were very successful in creating the conditions for uptake.

With regards to **need-oriented and participatory (research) projects**, good practice examples and evaluation data highlights the need to:

- ... if possible, conduct a **baseline analysis on knowledge/attitudes/behaviours of the beneficiaries** in order to target curricula/trainings for end-users accordingly.
- ... establish an **advisory board** whose **members are carefully selected**, and which is truly integrated into the research process through **regular exchanges** (e.g. on intermediary research results, research design, approaching communities etc.) to ensure continuous and 'applied' needs orientation.
- ... rather than conducting a single, non-recurring needs assessment work on **continuous and sincere needs orientation** through different mechanisms of collaboration (see above).
- ... use **participatory research to increase ownership for the research results**. This required that research results are shared with the participants in an appropriate way. Participatory research can further be **combined with trainings** and contribute to their effectiveness.

Alongside the 'push' (e.g. developmental relevance) and 'pull' logic behind (research) uptake, the literature further argues that there is a need to increase incentives and reduce disincentives, and to improve **individual capacities** to take up and to disseminate knowledge (Jones et al. 2009a; Jones and Young, 2007). Based on the literature (see also below), this had been tested using the following hypotheses:

Uptake of knowledge is facilitated		
16	if the researcher has additional (soft) **skills in storytelling, networking, and translating research** results. **	25
17	if capacity development interventions address **end-users' skills for evidence use and access ***	

[25] Green: the hypothesis could be confirmed through the evaluation.

18	if the researcher has a **clear intention towards uptake** (also at the expense of academic achievement, e.g. publication in peer-reviewed journals). *	[26]

In the literature, this may include: trainings to 'boost' confidence to formulate research needs on the user side; and on the producer side, to demonstrate the relevance of their work, to make knowledge applicable and usable, to network (e.g. positioning oneself in an intermediary position), and to increase capacities to include new/various perspectives in the knowledge generation process. Moreover, experts evoked 'soft skills' such as social skills ('being polite and courteous'), emotional intelligence or the willingness to engage with users and 'allow yourself to be used' as particularly relevant for successful networking. Finally, some interviewed experts stressed the researchers' own clear intention towards uptake being potentially in conflict with the academic incentive structures (e.g. publication in peer-reviewed journals vs. compilation of user-oriented guidelines). Others, however, noted that a clear intention towards uptake should not be a necessary condition, and that other mechanisms should support uptake e.g. in the case of basic research.

Evidence from both the online survey and the field missions indicate that capacity development interventions (trainings etc.) addressing **users or intermediaries' skills for evidence use** (*hypothesis 17*) are effective for later research uptake. More specifically, qualitative comments and evidence from the field missions show that such activities rarely address stakeholder general skills for evidence use – as recommended in the literature – but are most often targeted towards the uptake of the projects' specific research results. Nevertheless, these significantly contributed to uptake if they were well targeted and accessible (see below). Moreover, support was found for the hypothesis that researchers' **(soft) skills in storytelling, networking, and translating research results** facilitate research uptake (*hypothesis 16*). As such, interview partners stated that the fact that the promoters were well-connected and/or dynamic networkers contributed to the projects' outreach. However, skills in storytelling, networking and translating research were found to be rarely purposefully strengthened under the scope of the projects; positive effects on uptake thus relied purely on the researcher's personality and/or previous experience. Only in two projects had key personnel previously participated in a training on research communication (see chapter 4.1.2). As this improved the two projects' strategy towards uptake, it can be assumed that sensitization and training can significantly contribute to improving projects' outcomes with regards to creating the conditions for uptake. Finally, our analysis indicates that a **clear intention towards uptake** (*hypothesis 18*) does not increase the likelihood of uptake per se.

Good practice example: using networking skills to create the conditions for uptake

In the community-based hazard management project, the participation of the project's Southern promoter in conferences and further networking activities came to establish important contacts with national authorities such as the Office of the Prime Minister and the National Environment Management Authority (NEMA). This in turn was an enabling factor for research uptake at the national level. Data collected by the project was fed into the national report on the state of the environment produced by NEMA.

[26] White: the hypothesis could not be confirmed through the evaluation.

As experience from the projects analysed shows, researchers' and users'/intermediaries' capacities to take up and to disseminate knowledge increases when:

- ... **researchers** are sensitized and receive guidance on how to integrate uptake into the research process.
- ... **users and/or intermediaries** receive training/guidance on how to use projects' specific research results.

Beyond individual capacities, organizational capacities (i.e. structures, processes and resources) can also both facilitate and impede knowledge uptake. The contribution of organizational capacities to research uptake was tested according to the following hypotheses:

Uptake of knowledge is facilitated		
5	if **opportunities for direct contact and communication of research** exist ~	[27]
19	if **organizational structures, processes and resources on the user and producer side** are supportive (e.g. administrative support, capacities to articulate research needs) **	[28]
20	if **intra-organizational linkages** exist that promote knowledge sharing across the organization. *	
21	if **intermediaries** translate and communicate knowledge to target audiences. ***	[29]

As indicated in expert interviews conducted during the inception phase of this thematic evaluation, knowledge and research uptake may be facilitated through resources (financial resources, time) on the producer side being reserved for dissemination. The experts also noted that a lack of understanding of (financial) constraints on the user side is often a barrier to uptake.

These assumptions can only partly be confirmed based on the evaluation data: in the online survey, first, no robust relationship could be observed between knowledge/research **uptake and available resources for dissemination**, more precisely the existence of an extension unit (in general), financial resources and personal resources (*hypothesis 19*). For extension units, positive effects are only observed for uptake by governmental bodies (.384) and authorities as well as by local communities (.413). For **intra-organizational linkages** between the Southern partner institutions and users a small connection to uptake could be identified (.136) (*hypothesis 20*). Particularly, private companies (.346), public/private service providers (.493) and local communities (.332) tend to have a higher level of uptake through this channel. Additional evidence collected in the field missions in general supports these findings on intra-organizational linkages: as explained earlier, **pre-existing and strong relationships** with relevant stakeholders had been found a success factor for uptake, in particular for projects with a shorter time frame (see chapter 4.1.2). Strong and pre-existing relations with stakeholders, as found in the field missions, may be results from previous/predecessor projects, from structural factors, or can be drawn in through collaboration with intermediaries. The lack of personal resources for dissemination activities and products, on the other hand, was identified as a hindering factor for uptake (see chapter 4.1.2). (Additional) financial resources for outreach and dissemination, however, had only been claimed by one

[27] Green: the hypothesis could be confirmed through the evaluation.
[28] White: the hypothesis could not be confirmed through the evaluation.
[29] Orange: the evaluation found a opposite (negative) effect of this aspect on knowlegde and research uptake.

interviewee. Guidance in the form of logistical and organizational support from the university management had however been described as highly supportive by interviewees. For example, one interviewee at the University of Havana noted that the university management provided the project team with information and technical support about the project management process. It furthermore acted as a sparring partner for 'every step of the implementation' and supported the project with the realization of the workshop. These inputs were perceived as fundamental as they allowed the project team to spend more time on research and dissemination. In contrast, interview partners from the unemployment project perceived the NWU's lack of experience with international projects as a hindering factor for the project's overall success, including uptake.

Good practice example: making use of organisational linkages

Cuban universities are particularly strongly connected to public companies in the country, as suggested by interviewees from the respective field mission. As such, the cleaner production project successfully made use of its existing and pre-established (through previous VLIR-UOS projects) relationships with companies, who were convinced to send employees to the Masters programme while working part-time. This strong connection with the target group (i.e. companies) ensured that the research was being carried out on serious problems and created a strong commitment from the end-users to apply the research results.

The second assumption, that a lack of understanding of (financial) constraints on the user side is often a barrier to uptake, could furthermore be confirmed as another major hindering factor for uptake. As explained in detail in chapter 4.2.1, interviewees reported that the projects could not achieve a wider uptake of the knowledge, services and/or applications developed by the projects due to a lack of capacities and resources on the user side (in particular with regards to local authorities) for a wider roll-out of approaches developed by the project and/or their institutionalisation. This insight, however, most often emerged only in the course of the project and had not been considered at an early stage.

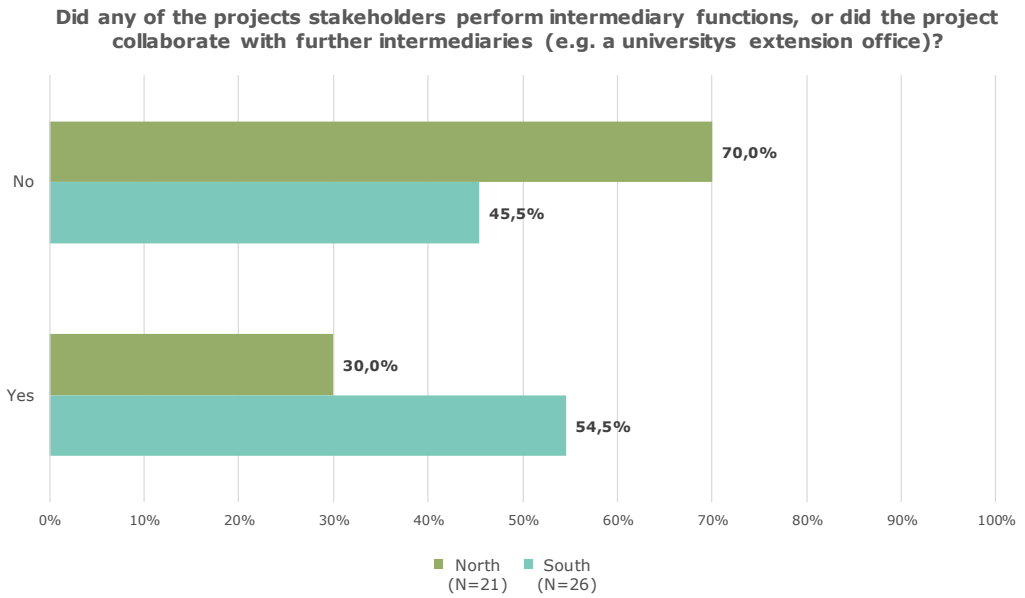
In order to value **organizational structures, processes and resources** for uptake, good practice examples and evaluation data demonstrate the need to:

- ... **make use of existing and already established partnerships** as they provide a fertile ground for successful uptake and/or **build strong relationships early on** rather than relying on personal and financial resources for dissemination at the final stage of the project.
- ... **know your end-users** in order to draw in the right organisational structures, consider **users' demand for new knowledge** and their **capacities to use such knowledge**, and reach out to intermediaries to access governmental actors and local communities.
- ... if possible, draw on organizational and logistical support from the university for project management; and establish **knowledge management** structures, e.g. with regards to the implementation of VLIR-UOS funded projects.

Finally, **intermediaries** or 'knowledge brokers' have recently attracted considerable attention in research, which almost unequivocally affirms their usefulness (Fox, 2018). The literature defines them as organisations or individuals situated between research and practice/policy that work to enable exchange between producers and users of knowledge. They are not necessarily part of one organization (e.g. extension unit within a university) but could also be external actors (e.g. NGOs, think tanks). The capacity then lies in their successful identification by either the user or the producer side.

In the online survey, 54.5% of the participating Southern promoters and 30% of Northern promoters indicated that the project worked with intermediaries, either internal or external to the university, to transmit (research) outputs to end-users (see Figure 13).

Figure 13 | Use of intermediaries



Source: Syspons, 2019

Field missions complement this data with a more detailed insight: four of nine projects subject to a field mission had contacts with extension services and similar bodies within the university (e.g. technology transfer office, event organizing unit). However, it was found that these were either not 'used' in a way foreseen by the literature, or did not live up to their potential; the former being the case for most projects. For example, interviewees from the cleaner production project, as elaborated above, received information and technical support from the university's Direction of International Relations and the Directorate of Science & Technology, but these bodies did not take over outreach to the intended users (i.e. Cuban companies). Moreover, looking at extension offices' potential, interview partners from the unemployment project indicated that the Technology Transfer Office at NWU focusses on engineering and natural sciences and was thus not supportive to the (social sciences) project. Nor did the Community Engagement Office facilitate a broader uptake of the project's approach as its focus was on a strategic (university management) level, not on the day-to-day support for individual research projects. Finally, the soil fertility project was found to be the only project that engaged an extension office in the way foreseen by the literature. Here, the extension office facilitated access to the farmers. However, its effectiveness for uptake was undermined by a lack of mutual understanding with the project team (see performance story in the annex). Finally, as mentioned earlier the biofuels project's indirect contact via the experimental station as an intermediary to potential users was unsuccessful in achieving uptake. This 'anecdotal' evidence from the field missions can be complemented by data from the online survey, which indicates a negative link between the involvement of intermediaries and uptake (-.167). Based on evidence from the online survey and the field mission, the evaluation therefore arrives at a different conclusion as the academic literature: that direct interaction between producers and users of knowledge is more beneficial with regards to uptake (*hypothesis 5*) in the context of VLIR-UOS departmental projects, than indirect contact via intermediaries.

Evidence from the thematic evaluation shows that:

- ... **direct physical interaction** should, if possible, be preferred over indirect relations with end-users.
- ... intermediaries (i.e. individuals or organizations external to the project that support a transfer of knowledge between users and producers of knowledge) are only effective if **opportunities for direct contact between the producers and users of knowledge** exist.

Lastly, 'classic' dissemination products were analysed for their effectiveness with regards to uptake. In this respect, the hypothesis was formulated as early as 1980 by Knott and Wildavsky and confirmed in numerous studies (cf. Jones et al. 2009a), that not only the fact *that* research and research products are communicated matters but their accessibility, user-orientation (adaptation to users' needs, user-targeted) and timeliness of dissemination. This was tested based on the following hypotheses:

Uptake of knowledge is facilitated

22	if dissemination of research is **well-targeted** and research is easily **accessible**. ***	30
23	if **research products are adapted to users' needs**. **	31
24	if research is perceived as **unbiased and of high quality** by potential users. *	

It has already been stated that stakeholders most frequently targeted by dissemination products and/or activities (civil society and governmental actors) were also those who most frequently took up knowledge, services and/or applications generated by the projects; and that actors least addressed by dissemination products and/or activities – private companies and international agencies/NGOs – were perceived as not taking up research results. **Targeting dissemination products** and activities towards the intended users can thus be judged highly effective with regards to uptake and a broader use of knowledge/services/applications. Accessibility, in addition, was found to have two dimensions: on the one hand, good practice examples from the field missions show that physical access to research results, new knowledge etc. was provided through dissemination of research results via local radio stations (e.g. the projects on unemployment and community-based hazard management). On the other hand, access also relates to the users' capacity to understand, take up and use (new) knowledge. For example, in both the (successful) sexual education and the business practices for small-scale fish-farmers project, baselines were established that constituted an assessment of beneficiaries' knowledge/attitudes/behaviours. On this basis, curricula/trainings for the beneficiaries were developed that were overall seen as helpful and relevant by the participants. The hypothesis can thus be confirmed based on empirical evidence.

[30] Green: the hypothesis could be confirmed through the evaluation.
[31] White: the hypothesis could not be confirmed through the evaluation.

Good practice example: a comprehensive approach to dissemination

An innovative and comprehensive approach to dissemination research results was applied by the community-based hazard management project: the project involved volunteers to collect data in remote areas and send them to a centralized level (MMU GIS lab established by the project) through smartphones. In addition, sensitization was pursued through local radio talk shows, policy briefs, posters in the local language and a board game to engage officials through active simulation. The involvement of district environmental officers in dissemination meetings and other activities (e.g. board game, breakfast meetings) sensitized the local government to research results – an enabling factor for research uptake.

Looking at need's orientation of research, the survey data prohibits a statement on the relation between the adaptation of research products to users' needs and research uptake, and little evidence was found in the field mission regarding the particular need's orientation of research *products*. However, evidence from the field missions indicates that taking into account the needs and capacities (see above) of users is a success factor for uptake. Baselines conducted in two successful projects (see above) support this hypothesis, as well as the following negative example: the soil fertility project did not achieve uptake as the artificial circumstances (irrigation) necessary to successfully use manure did not match the real-life situation of smallholder farmers in a water-scarce area. A broader use of the projects' approach is therefore impossible in the given context. Hypothesis 23 can thus neither be confirmed nor discarded based on the empirical data, but need's orientation in general has been found very relevant for research uptake (cf. *hypothesis 12*).

Regarding the **perception of research** (hypothesis 42), our quantitative analysis and field missions could not find an indication that research uptake is higher if users perceive the research as less biased and of higher quality. Rather, bias was not an issue in most projects (an exception is presented in the good practice example below).

Good practice example: addressing culturally and/or politically sensitive (research) topics

In the sexual education project, the project team invested great effort to ensure that it was not perceived as pursuing a hidden agenda, as projects involving foreigners (in this case, the Belgian project promoter) are sometimes confronted with allegations that they want to push certain themes (e.g. advocating for the acceptance of homosexuality, which is forbidden in Uganda). To convince stakeholders that no hidden agenda was being pursued, the project had its research questions and training curriculum vetted by the Advisory Board and dropped the name 'comprehensive' from the project title (which was initially 'comprehensive sexual education'). As a result, the project's work was perceived as unbiased and high quality (age-appropriate, culturally sensitive and socially acceptable).

The perception of high-quality research results and dissemination products, in addition, resulted primarily from being relevant to the stakeholders and to the partner universities' reputation in the region, but not from the knowledge being the result of academic knowledge per se. Finally, the concern was raised with regards to this hypothesis that users are not necessarily in a position to assess the quality of research, as most local government representatives and/or local communities do not have experience in conducting academic research. Empirical evidence – both quantitative and qualitative –does not therefore provide evidence that this hypothesis is relevant to the context in which VLIR-UOS projects pursue uptake.

With regards to dissemination products and activities, good practice examples suggest the need to:

- ... **know your users early on** and reflect on their capacity to take up new knowledge to target dissemination activities and products accordingly.
- ... use **dissemination activities and products hand-in-hand** / complementary to each other. If possible, address one user group through several channels.

5. Conclusions

The evaluation team concludes that VLIR-UOS departmental projects are in general **effective** with regards to strengthening research and educational capacity as well as the generation of new knowledge, applications and/or services. In this regard, departmental projects improve curricula and research methodologies as well as teaching and research equipment at the Southern partner organisations. The projects are equally successful in generating new knowledge, technologies and services, which are also often integrated into the teaching of the respective Southern partner universities.

Room for improvement, however, could be identified regarding the uptake of the newly generated knowledge, applications and/or services. Here, it was observed that research results are either not taken up at all outside of the respective university or only used by beneficiaries directly involved in the project (early adopters), while they are not taken up by indirect beneficiaries (horizontal or vertical up-scaling). Consequently, conditions are not set to achieve the intended long-term **impact** as foreseen in the Theory of Change of VLIR-UOS departmental projects. With regards to uptake it was further observed that (the creation of conditions for) uptake is not perceived as a key component of the funded projects, in particular by Northern promoters. Here, the evaluation team found a somewhat typical 'division of labour': whereas Northern promoters viewed their role mainly as academic sparring partners to improve e.g. the rate of publications or quality of research and teaching, Southern promoters also saw one of their main roles as promoting the uptake of research in their particular country/region. As found by the evaluators, this 'division of labour' is not per se negative for the projects' effectiveness. However, it means that Southern promoters do not receive the necessary support through the project and that a better interlocking of research, dissemination and outreach would be necessary to achieve more uptake and thus more impact.

With respect to the VLIR-UOS **portfolio approach**, it can be concluded that the consolidation of VLIR-UOS departmental projects with other (VLIR-UOS) interventions has a positive effect on the strengthening of research and educational capacity of a department. It was further stated that the potential for impact increases through continuity. South Initiatives' impact is generally more modest due to more limited duration and budget but can be optimised, especially in combination with scholarships and/or preceding/follow-up projects. Expectations therefore should not only vary for SI and TEAM projects, but also even more for stand-alone and follow-up projects, as the devotion of resources to establishing crucial networks limits the time and resources available for research and other dissemination activities.

Further strategies to create the conditions for uptake were explored through the **conceptual framework** developed specifically for this thematic evaluation. This framework links the academic literature with empirical data gathered throughout the evaluation and considers the characteristics of VLIR-UOS departmental projects. It differentiates between **(pre-) conditions** or contextual factors that facilitate uptake on the one hand, and **mechanisms** to support uptake of (new) knowledge, services and applications on the other. (Pre-) conditions and mechanisms vary by the degree of control the researcher (or producer of knowledge) has on these factors and conditions: whereas **(pre-) conditions are primarily reactive** (i.e. the researcher understands/knows about certain aspects and reacts to them accordingly), **mechanisms assign an active role to the researcher**, who choses and applies certain approaches and strategies to facilitate uptake.

With regard to the **(pre)-conditions**, it could be shown that that a sound understanding of the context in which the prospective project should take place facilitates research uptake. Here, it is essential not only to understand the broader context of the policy sector but also to identify structural barriers which

can take e.g. the form of dominant production regimes, imbalanced power relations, capacity constraints on the side of the relevant stakeholders or existing conflicts between important stakeholders in the sector. At the same time, it could also be proven that the funded departmental projects have to be aligned to relevant policy priorities in the sector or partner country and attuned to the needs of the end-users (e.g. through needs assessments or baselines before the implementation of the respective project) to create the conditions for research uptake.

With regards to the analysed **mechanisms** of the developed conceptual framework it was shown that long-term collaboration in form of personal (direct) interaction greatly enhances research uptake. In this context, the portfolio approach of VLIR-UOS also contributes to research uptake if follow-up projects engage the same cooperation partners and the respective Northern and Southern universities (continuity). Furthermore, the evaluation demonstrated that the main uptake of knowledge, technologies or developed services takes place with those stakeholders that are either the collaboration partners or the explicit targeted audience of the funded project. Thus, it can be concluded that the selection of partners must well thought through when setting up departmental projects and that these partners, if they are not end-users themselves, must have excellent pathways to the targeted end-user group of the respective project. The evaluation results, however, also indicated that stakeholders should not actively participate in formulating the research topic (in contrast, they should be considered when analysing the context and potential structural barriers), but rather throughout the implementation of data collection in order to create the necessary conditions for research uptake.

In addition, the establishment of particular modes of collaborations with these relevant stakeholders – e.g. in the form of advisory boards – proved successful in guaranteeing continuous needs-orientation of the research during the data collection and synthesis phase. It is therefore also important that preliminary research results are shared in a tailor-made format for each specific user group. In addition, it has been proven that the dissemination of knowledge, technologies or services has to go hand in hand with the necessary training of end-users, e.g. on how to apply the particular newly developed technology. The success of such training is even improved if opportunities exist for users to apply new knowledge, e.g. in the context of participatory data collection. It could furthermore be shown that direct contact with the end-users, in the case of VLIR-UOS departmental projects, is more effective in creating the conditions for uptake than the use of intermediaries, even though this is a dominant recommendation in the theoretical academic discourse. Finally, the analysis demonstrated that trainings and sensitization regarding (methods for) research uptake, community engagement, etc. on the side of the involved Northern and Southern researchers also greatly enhanced the creation of conditions for research uptake.

Overall, it could be observed that until today, a clear and comprehensive strategy regarding the creation of conditions for uptake has not yet been fully developed in VLIR-UOS departmental projects as many of the above-described mechanisms were not chosen deliberately by the evaluated projects. Therefore, a more proactive and consistent approach by VLIR-UOS and its funded projects to this topic could enhance the future likelihood of reaching the intended impact of the departmental projects.

6. Recommendations

6.1 Recommendations for departmental projects

In chapter 4.2.3 and 4.2.4, text boxes and examples of good and poor practice provide hands-on advice on how uptake can be facilitated. On a more general level, it is recommended that departmental projects:

1. **Include an assessment of structural barriers to uptake and efficient project implementation in the context analysis.** The evaluation results highlight the fact that a sound understanding of the project's context facilitates research, and that alignment to (developmentally relevant) policy priorities in the sector or partner country create the conditions for research uptake. Therefore, it is recommended that sufficient resources be invested in establishing an elaborate understanding of the project's context, which includes an assessment of structural barriers (e.g. dominant production regimes, imbalanced power relations, capacity constraints on the part of the relevant stakeholders or existing conflicts between important stakeholders in the sector).
2. **Identify end-users, if possible, at the proposal or early implementation stage.** The evaluation demonstrated that the main uptake of knowledge, services and/or applications developed by the projects takes place with those stakeholders who are either the collaboration partners or the explicit targeted audience of the funded project. Identifying end-users early-on ensures that dissemination activities and/or products can be targeted, and collaboration partners can be selected accordingly.
3. **Consider the users' demand for (new) knowledge, services and/or applications as well as their capacity to absorb it**. The evaluation results show that needs orientation regarding both the projects' overall design and dissemination of products and/or activities creates the conditions for uptake. Continuous needs orientation, e.g. through advisory boards or baseline assessments, can ensure that research does not lose track of users' needs and that (new) knowledge, services and/or applications corresponds to users' capacities to apply and use them.
4. **Ensure that research results and activities target users directly.** The results of the evaluation showed that 'un-targeted' publications or communication (e.g. via radio or academic publications) is less likely to create the conditions for uptake; and that uptake of knowledge/services/application takes place with the explicit targeted audience of the funded project.
5. **Build on and valorise knowledge and contacts from previous projects and experiences.** Evaluation results demonstrate that continuity is a success factor for research uptake. (External) relations, built up in the previous project, or which are available through the promoters, the department or the university, save significant resources from setting up relevant networks. This is particularly relevant for follow-up SI.
6. **Consider various forms of collaborating with and/or integrating end-users.** The evaluation found that participatory research and various forms of direct interaction/collaboration are conducive in creating the conditions for uptake. However, the involvement of end-users in the set-up/design phase of a project was found to be a prohibitor of successful uptake. Collaboration should therefore ideally start at the early implementation stage; modes of collaboration (participatory research, training and sensitization, advisory boards, or regular meetings in which intermediate results are discussed) should be determined based on the partners' needs and capacities. Finally, direct contact with the research team was found more effective in achieving uptake than indirect contact, e.g. via

intermediaries. Direct, physical interaction should therefore, if possible, be preferred over indirect relations with end-users.

7. **Ensure complementarity of dissemination activities and contacts.** The evaluation results indicate that uptake is best achieved if collaboration/direct contact and information sharing go hand in hand. For example, trainings were found most effective when participants had an opportunity to apply the newly acquired knowledge, e.g. in participatory research. Promoters are therefore encouraged to combine several mechanisms to facilitate uptake to a comprehensive (potentially multi-actor/-level) strategy.

6.2 Recommendations for VLIR-UOS

As outlined in chapter 2, TEAM projects and South Initiatives are subject to a selection process. **Call documents**, which were reviewed in order to identify factors facilitating the creation of conditions for uptake, provide a crucial starting point for VLIR-UOS to foster increased uptake of knowledge, services and technologies developed by the departmental projects. Starting from the call documents, it is recommended to:

8. **Keep the emphasis on developmental relevance in the VLIR-UOS call conditions and selection criteria.** The evaluation results demonstrate that relevance is conducive to creating the conditions for uptake, and second, that the developmental relevance of VLIR-UOS funded research projects is generally high. As the calls already start with highlighting the VLIR-UOS country strategy to assure 'relevance and complementarity' (referring to the needs and priorities of the partner country, in particular the national priorities in terms of poverty reduction and national policies for higher education), it is suggested that emphasis be maintained, while adding others (see below).

9. **Keep an emphasis on complementarity to other VLIR-UOS interventions.** Through the evaluation, complementarity with other VLIR-UOS interventions (referred to as 'portfolio approach'), in particular extensions of previous VLIR-UOS interventions, was identified as a success factor for uptake. As the calls already emphasise complementarity to other VLIR-UOS interventions, it is recommended that this emphasis be kept. Therefore, it should be highlighted that follow-up projects should be purposefully designed with a deliberate 'uptake-orientation,' i.e. targeted towards translating previous findings into practice (e.g. by providing education/training) or piloting a solution to an identified problem.

10. **Define the assessment of structural barriers as a component of context analyses.** Evaluation results highlight that a good understanding of the context in which a project operates, as well as of relevant stakeholders and potential users of knowledge/services/applications, positively contributes to uptake. In line with the evaluation results, a context analysis should thereby identify barriers, constraints and options and respond accordingly, and also identify opportunities where an intervention is most feasible and likely to promote innovation. This can be a first step to ensure uptake. Furthermore, it is recommended that the project is developed jointly with the Southern partner institution(s) and that it builds on preceding cooperation/projects and takes into account lessons learnt and established collaborations to attain good understanding of context and stakeholders.

11. **Place more emphasis on the question of how projects aim to foster an uptake of research results throughout the process.** The evaluation indicates that a general strategy regarding the creation of conditions for research uptake has not yet been pursued in VLIR-UOS departmental projects. Moreover, document analysis also showed that call documents provide few guidelines for

the implementation and/or end of the project. A clear focus is put on the selection process, which concerns, in particular. mechanisms related to creating the conditions for uptake that are not attached to a project's set-up phase but only arise at the dissemination stage. It is thus recommended that more emphasis should be placed on the question of how projects aim to foster an uptake of research results throughout the process. Applicants could e.g. be encouraged to elaborate on their strategy to achieve uptake.

12. **Use call documents to clearly define uptake.** All in all, the evaluation found that project team members are not only not aware of uptake (being part of the research process), but also lack a clear understanding of the concept. It is thus necessary to provide applicants and promoters with guidance on what is understood by uptake. Call documents can provide such clarification by clearly defining uptake and can sensitize applicants to the fact that this is understood as an integral part of the research process.

Apart from the selection process, VLIR-UOS is encouraged to play a more active, facilitating and training role in creating the conditions for uptake through the following two mechanisms:

13. **Approach Southern and in particular Northern promoters more strategically in order to raise awareness that creating the conditions for uptake shall be part of the research process.** The evaluation results highlight that Northern promoters view their role mainly as academic sparring partners whereas Southern promoters see one of their main roles as promoting the uptake of research in their particular country. However, they do not receive the necessary support through the project due to the above described Northern promoters' perspective on this subject. Consequently, VLIR-UOS can further support research uptake by approaching Southern and in particular Northern promoters more strategically in order to raise awareness that creating the conditions for uptake shall be part of the research process. In particular, with regards to the current 'division of labour,' increased awareness among Northern promoters is expected to lead to a more joint effort, a more coherent approach and increased understanding between the two parties with regards to disseminating activities and products.

14. **Create exchange formats on successful uptake and a manual providing hands-on advice.** The evaluation found that training on research communication, including practical advice, and sensitization for uptake lead to very deliberate strategies and ultimately, the successful creation of conditions for uptake. It is therefore recommended that a platform for exchange be created to help identify and share good practice examples of successful uptake. In addition, learning among project team members and the deployment of more deliberate approaches towards creating the conditions for uptake could be facilitated through a manual, which summarizes the findings of this thematic evaluation and provides hands-on advice with regards to strategies and approaches that can be integrated into the projects' design and implementation.

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ANNEXES

Annex 1: List of interview partners

Annex 2: List of documents analysed

Annex 3: Evaluation grid

Annex 4: Performance stories

Annex 5: Online Survey

Annex 6: Interview guidelines

Annex 1: List of persons interviewed

Explorative interviews

- **Kristien Verbrugghen**, VLIR-UOS Director
- **Koen De Koster**, VLIR-UOS Strategy and Quality Advisor
- **Peter De Lannoy**, VLIR-UOS Head of Programmes and Programme Manager for Cuba
- **Herman Diels**, VLIR-UOS Programme Manager Tanzania, Kenya and Uganda
- **Kathleen Wuytack**, VLIR-UOS Programme Manager DR Congo, Morocco and Burundi
- **Wannes Verbeeck**, VLIR-UOS Programme Manager Suriname, Bolivia and Ethiopia
- **Christophe Goossens**, VLIR-UOS Programme Manager Cambodia, Vietnam, South Africa & Mozambique

Expert interviews

- **Professor Marleen Brans**, Academic Director of the Master of European Politics and Policies, Public Governance Institute, KU Leuven, Belgium
- **Nicola Jones**, Principal Research Fellow, Overseas Development Institute (ODI)
- **Professor Kathryn Oliver**, Associate Professor, London School of Hygiene and Tropical Medicine, UK
- **Susan Renoe**, Assistant Vice Chancellor Research, Extension & Engagement, University of Missouri, USA
- **Professor Christopher Fox**, Professor of Evaluation and Policy Analysis, Manchester Metropolitan University, UK

Interviews conducted in the context of the field mission to South Africa

Project 'Understanding the unemployment experience in South Africa in order to develop an evidence-based intervention together with the local community'

- **Prof. Dr. Hans De Witte,** Northern Promoter, Full Professor Work Psychology at the Faculty of Psychology and Educational Sciences (FPES) at the KU Leuven, Member of the *Research Group Work, Organisational & Personnel Psychology (WOPP)*
- **Ian Rothman**, Southern promoter, Director of *Optentia*, North-West University (NWU)
- **Leoni Van der Vaart**, PhD Student, North-West University (NWU)
- **Rachele Paver**, PhD Student, North-West University (NWU)
- **Melinda du Toit**, PhD Student, North-West University (NWU)
- **Prof. Refilwe Phaswana-Mafuya**, Deputy Vice Chancellor Research and Innovation, North-West University (NWU)

- **Prof. Pamela Maseko**, Dean of Faculty Humanities, North-West University (NWU)
- **Prof. Linda du Plessis,** Deputy Vice Chancellor for the Vaal Campus, North-West University (NWU)
- **Prof. Mirna Nel,** Deputy Dean for Research of the faculty, North-West University (NWU)
- **Latele Mthlong,** community leader and advisory board member, Orange Farm township, Johannesburg
- **Emma** and **Samuel**, project participants from the community, Orange Farm township, Johannesburg
- **Seipati,** fieldworker on the project, Orange Farm township, Johannesburg
- **Bricks Mokolo**, community leader and advisory board member, Orange Farm/Johannesburg
- **Wandile Zibi**, advisory board member, Gauteng Department of Social Development

Project 'Community of Practice as a strategy to strengthen capacities of community health workers'

- **Ellen Vandenbogaerde,** Northern Promoter, Researcher/Lecturer, Department of Applied Social Sciences, VIVES University College,
- **Thshilidzi Mashamba,** Dean of the University of Venda (UNIVEN)
- **Pfungwa Mabanga**, PhD student, University of Venda
- **Jabu Mabunda**, facilitator of the CoP
- **Azwinndini Mudau,** facilitator of the CoP
- **Bumani Manganye,** facilitator of the CoP
- **Shonisani Tshivhase,** facilitator of the CoP
- **Ntsieni Mashau**, project coordinator at University of Venda (UNIVEN)
- **Group interview:** 13 female members of the home-based care organisations

Project 'Improving home garden soil fertility management to enhance multinutritional security among rural homesteads in Vhembe'

- **Geert Baert,** Northern Promoter, Soil scientist, Faculty of Bioscience Engineering (FBE), Department Applied Biosciences, Ghent University,
- **Wim van Averbeke,** Southern Promoter of the project, Department of Crop Sciences, Tshwane University of Technology (TUT)
- **Lasisi O. Adebisi,** Research Assistant, PhD Student, Tshwane University of Technology (TUT)
- **Sthembiso Fakude,** M.Sc**.,** Gauteng Department of Agriculture and Rural Development
- **Zanele Ngwenya,** field assistant
- **Wandile Motha**, M.Sc., Tshwane University of Technology (TUT)

- **S DUBA,** Undergraduate student, Tshwane University of Technology (TUT)
- **RC Mohale,** Undergraduate student, Tshwane University of Technology (TUT)
- **Dr Thandi Mgwebi,** Deputy Vice-Chancellor, Research, Innovation and Engagement, Tshwane University of Technology (TUT)
- **Freddy Mudzielwana,** Deputy Manager for the extension service of the Vhembe district
- **Godphrey Netshembupfe,** Extension officer at the extension service, Vhembe district
- **Gumani Masala,** field assistant, Tshivuyuni, Itsani
- **Pathuthedzo Mulaudzii** field assistant and garden owner, Tshivuyuni, Itsani
- **Tshilidzi Wilhelminah Mawela,** garden owner, Tshivuyuni, Itsani
- **Edith Masala,** garden owner, Tshivuyuni, Itsani

Interviews conducted in the context of the field mission to Uganda

Project 'Strengthening business practices of small-scale fish farms'

- **Prof. Dr. Benedikt Sas,** Northern Promoter of the project, Professor Corporate & Innovation Management, Ghent University, Chief Business Officer Food2Know, Ghent University
- **Dr. Joshua Wesana,** Flemish Deputy Programme Coordinator, Ghent University, Belgium
- **Bernard Muhangi,** Southern Promoter, Lecturer and Dean of the Faculty of Business and Management of Mountains of the Moon University, Uganda
- **Grace Mbabazi**, Project manager, Mountains of the Moon University, Uganda
- **Mawenu Robert**, Project team member, Mountains of the Moon University, Uganda
- **Christine Kobugabe**, Project team member, Mountains of the Moon University, Uganda
- **Mutyebere Rodgers**, Project team member, Mountains of the Moon University, Uganda
- **Musobozi Paul**, Project team member, Mountains of the Moon University, Uganda
- **Karugaba Deo**, Project team member, Mountains of the Moon University, Uganda
- **Hadijah Nasamba**, Attended ERI training, Mountains of the Moon University, Uganda
- **Niwaha Moureen**, Project team member, Mountains of the Moon University, Uganda
- **Akankwatsa Wycliff**, Project Accountant, Mountains of the Moon University, Uganda
- **Julius Barigye-Rwakaroro,** TRIAS, Kampala, Uganda
- **Emmanuel Kamuhanda,** Chairperson district fisheries platform Kyegegwa, Uganda
- **Julius Muhangi,** Chairperson district fisheries platform Kakabara, Uganda
- **Margret Nyakaisiki,** Sec. Fisheries platform Kabarole, Uganda

- **Brian Baguma,** District Fish Officer Kabarole District, Uganda
- **Richard Friday,** Sec. Fisheries platform Kyenjojo, Uganda
- **Richard Ddungu,** District Fish Officer, Kyegegwa District, Uganda
- **Group interview:** Seven male and two female fish farmers in Kabarole, Uganda

Project 'Enhancing community-based natural resources and hazard management in Rwenzori Mountains'

- **Prof. Dr. Matthieu Kervyn,** Northern Promoter of the project, lecturer in Physical Geography, Department of Geography, Free University Brussels, Belgium
- **Clovis Kabaseke,** Southern Promoter, Lecturer and PhD student at the Mountains of the Moon University (MMU), Fort Portal, Uganda
- **Bosco Bwambale,** PhD student associated to the project, Mountains of the Moon University (MMU), Fort Portal, Uganda
- **Esther Namara,** Research assistant, Mountains of the Moon University (MMU), Fort Portal, Uganda
- **John Sekajugo,** PhD student associated to the project, Mountains of the Moon University (MMU), Fort Portal, Uganda
- **Prof. Dr. J. Kasenene,** Vice Chancellor, Mountains of the Moon University, Fort Portal, Uganda
- **Dr. Edmond Kagambe,** Deputy Vice Chancellor, Mountains of the Moon University, Fort Portal, Uganda
- **Julius Mwanga,** Executive Director, Kabarole Research and Resource Centre (KRC), Fort Portal, Uganda
- **Group Interview:** Representatives of geo observers, beneficiaries of the project
- **Group Interview:** Environmental officers in the Rwenzori Region
- **Julius Muyizzi,** National Environment Management Authority (NEMA), Kampala, Uganda

Project 'Mitigating adverse sexual and reproductive health outcomes through a comprehensive primary school sexuality education program'

- **Dr. Kristien Michielsen,** Northern Promoter of the project Assistant Professor at International Centre for Reproductive Health, Ghent University
- **Dr. Viola Nyakato,** Southern Promoter, Director of the Institute of Interdisciplinary Training and Research Mbarara University of Science and Technology
- **District school officer,** project's advisory board member, Mbarara District
- **Dr. Gad Ndatuhutse Ruzaaza,** Community Outreach Manager, Faculty of Medicine at Mbarara University of Science and Technology
- **Elizabeth Kemigisha,** PhD candidate, Mbarara University of Science and Technology
- **Dr. Godfrery Rukundo,** Members of the research team, Mbarara University of Science and Technology

- **Prof. Charles T Kazooba**, Deputy Vice Chancellor, Mbarara University of Science and Technology
- **Rev. Bobs Tumwesigye**, Religious leader, Member of the Community Advisory Board,
- **Rev. Adrian Mwesigye,** Religious leader, Member of the Community Advisory Board
- **Henry Ssemakula**, Ministry of Education and Sports, Kampala, Uganda
- **Kallen Ayebazibwe**, Principal Health Inspector, Mbarara District, Uganda

Relevant for all projects

- **Griet Kenis**, Programme Officer, Embassy of the Kingdom of Belgium in Kampala, Uganda

Interviews conducted in the context of the field mission to Cuba

Project 'Strengthening co-responsible elderly care in current Cuban context through gender equity mainstreaming and elder´s wellbeing'

- **Piet Bracke**, Northern Promoter of the project, Full Professor in Sociology, Health & Demographic Research-Hedera, Department of Sociology, Faculty of Political and Social Sciences, Ghent University
- **Angela Peña**, Southern Promoter of the project, University of Havana
- **Dr Ernel Gonzalez,** Dean of Faculty of Philosophy, University of Havana
- **Dra Mayda Goyte,** Vice Rector, University of Havana
- **Dra Lourdes Perez,** Vice Dean, University of Havana
- **Dr Osnaide Izquierdo,** Head of department of Sociology, University of Havana
- **Dra Silvia Gonzalez**, International Relations Directorate, University of Havana
- **Dra Marianela Constanten**, Head of the project office, University of Havana
- **Dayané Proenza Gonzales,** M.Sc., University of Havana
- **Dra Teresa Munoz Guiterrez,** coordination of activities with stakeholders and PhD, lecturer/researcher Faculty of Philosophy, University of Havana
- **Lourdes de Urrutia Barroso,** M. Sc., coordination of activities with stakeholders
- **Aimee Gross Gutierrez,** M.Sc., coordination of web page
- **Mariana Munoz Rodriguez,** M.Sc., workshop coordinator
- **Maydelin Souto Rodas,** (M.Sc., workshop coordinator
- **Niuva Avila Vargas,** M.Sc., workshop coordinator
- **Magdalena Romero Almodovar,** M.Sc., University of Havana
- **Miriam Marañon,** Catedra del Adulto Mayor, Universdad de Havana**,**

- **Yelma/Yelene Palmero,** Casa de Estudios de la Mujer (CEM, Federación de Mujeres de Cuba),
- **Alina Alfonso,** Centro de Estudios Demographics CEDEM, University of Havana
- **Dr. Jesus Suarez**, Responsible for the bioenergy station, Matanzas Province,
- **Dayana Moret,** Graduated student, University of Havana
- **Rafael Valdivia Almansa**, Undergraduate student, University of Havana
- **Kenia Sigler**, Undergraduate student, University of Havana
- **Yilian Albarello Fernández**, Undergraduate student, University of Havana
- **Maisel Valdez Serrá**, Undergraduate student, University of Havana
- **Julio Enrique Moreno González**, Undergraduate student, University of Havana

Project 'A Cuban network of cleaner production (CP) centres and strengthening education and research on CP'

- **Jo van Caneghem**, Northern Promoter of the project, Associate professor, Faculty of Industrial Engineering, KU Leuven
- **Mario Alvarez-Guerra**, Local Promoter, Project Coordinator, University of Cienfuegos (UCf)
- **Lourdes Pomares**, Director International Relations, University of Cienfuegos (UCf)
- **Dra Orquidea Urquiola Sanchez**, Rector, University of Cienfuegos (UCf)
- **Dra Dunia Garcia**, Vice-rector of University of Cienfuegos (UCf)
- **Yarelis Valdivia**, PhD student, University of Cienfuegos (UCf)
- **Yamile Diaz**, PhD student, University of Cienfuegos (UCf)
- **Jenny Correa**, PhD student, University of Cienfuegos (UCf)
- **Yosbanis Cervantes Guerra,** Vice rector of Research, Director of Environmental Study Center, University of Moa
- **Carlos Salazar,** Phd student, University of Moa
- **Rolando Castellano González,** M. Sc., Refineria Cienfuego company
- **Leidis Deborah González,** M. Sc., Refineria Cienfuego company
- **Dr Gabriel Lobelles,** lecturer/researcher, Refineria Cienfuego company
- **Representatives of ONURE,** Cienfuegos
- **Representatives of CITMA,** Cienfuegos
- **Lourdes Yamén González Sáez,** Southern co-promoter, Director of Chemical Engineering Department, University of Matanzas
- **Sonia Gonzalez,** Dean Faculty of Technological Sciences, University of Matanzas
- **Mariela Almeida,** Representative CITMA, Laboratory within the University of Matanzas,

- **Empresa Termoeléctrica,** M. Sc., University of Matanzas
- **Brezhnev Rodriguez,** M. Sc., University of Matanzas
- **Irina Pedroso,** Lecturer/researcher, PhD candidate, University of Matanzas
- **Rita Martinez,** (Ex) Director International Relations Office, University of Matanzas
- **Interviewee,** PhD Student for the Catholic University in Chile, University of Matanzas
- **Ivan La Fé Perdomo,** PhD student, University of Matanzas

Project 'Emulsified systems for biofuels: Assessment of their performance in diesel engines'

- **Prof. Dr. ir. Sebastian Verhelst,** Northern Promoter of the project, Full Associate professor, Faculty of Engineering and Architecture, Department of Electrical Energy, Metals, Mechanical Constructions & Systems, Gent University
- **Professor Daniel Alfonso,** Vice Rector for Researches, Technological University of Havana José Antonio Echeverría (CUJAE)
- **Prof. Dr. Ileana Pereda,** Director of Science and Technology, Technological University of Havana José Antonio Echeverría (CUJAE)
- **Prof. Dr. José Ameneiros,** Director of the International Relationships Office, Technological University of Havana José Antonio Echeverría (CUJAE)
- **Ramón Piloto Rodriguez,** Co-Promoter, Vice dean Faculty of Chemical engineering, Centro de Estudio de Tecnologías Energéticas Renovables (CETER).
- **Indira Tobio,** M.Sc**, ,** Technological University of Havana José Antonio Echeverría (CUJAE)
- **Eliezer Ahmed Melo Espinosa,** PhD Student, Technological University of Havana José Antonio Echeverría (CUJAE)

Annex 2: List of documents analysed

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VLIR-UOS (2014h). Project Proposal, Call for South Initiatives 2014: Improving the governance of technology transfer from South-South cooperation for private sector development in Tanzania, Brussels, VLIR-UOS

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VLIR-UOS (2014k). Project Proposal, Call for South Initiatives 2014: Joining efforts to detect and control Plasmodium falciparum Resistance in East and Central Africa, Brussels, VLIR-UOS

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VLIR-UOS (2016i). Annual activity report and the final activity report TEAM/Own Initiatives: Mitigating adverse sexual and reproductive health outcomes through a comprehensive primary school sexuality education program in South-Western Uganda., Brussels, VLIR-UOS

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Annex 3: Evaluation grid

Legend for sources of verification:

A	B	C	D	E	F	G	H
Desk Research	Explorative Interviews	Online survey among Northern and Southern promoters	Interview with Northern promoter (telephone)	Interview with Southern promoter (and/or Co-promoter)	Interviews with PhD candidates, lecturers or researchers	Interviews with universities' top management / promoter's superior	Interviews/focus groups/ workshops with external stakeholders (local government agencies, civil society actors, private sector, research institutes, beneficiaries)

Evaluation Criteria		Evaluation Question	Analytical focus	Hypotheses	Indicators and /or Descriptors	Sources of verification							
						Desk review		Survey	Field missions				
						A	B	C	D	E	F	G	H
Proposal stage	(Pre-) conditions	To what extent did the project consider the broader **system/context** in which the project operates (e.g. structural barriers)?	Context	1, 3, 4	1. A context analysis was conducted (online survey) 2. Qualitative description of the project's inception phase according to Northern and Southern promoters 3. Qualitative description of external factors (e.g. import restrictions) the project faced during its implementation process and/or that delayed the project's implementation	✓		✓	✓	✓			
		To what extent did the project systematically consider relevant **stakeholders**, potential beneficiaries and/or intermediaries (e.g. local NGOs, private sector actors, international agencies, civil servants, legislators and political parties, intermediaries, the media, local communities)?	Context	2	1. A stakeholder analysis was conducted when the project was set up (online-survey) 2. Qualitative description of the project's inception process according to a) Northern and Southern promoters d) Project's stakeholders and collaboration partners 3. Listing of the project's collaboration partners by a) local communities b) Civil society actors c) Governments, civil servants and legislators d) Other research institutes / higher education institutions e) Public/private service providers f) international agencies or NGOs (incl. Belgian development actors)	✓		✓	✓	✓			✓

Evaluation Criteria	Evaluation Question	Analytical focus	Hypotheses	Indicators and /or Descriptors	Sources of verification							
					Desk review		Sur-vey	Field missions				
					A	B	C	D	E	F	G	H
				g) Private companies h) Other								
	To what extent did the project take into account **public sector strategies and policies**, when formulating its objectives?	Relevance	3, 10	1. Judgement of relevant public sector stakeholders on the needs-orientation of the project	✓		✓	✓	✓			✓
	To what extent did the project address **developmentally relevant research gaps** for the country/region?	Relevance	11	1. Conduct of a needs assessment when the project was set-up a) on the level of beneficiaries and end-users (online survey) 2. Assessment of the needs-orientation of the newly created knowledge, services and applications by the project for the development of the region/country, according to: a) Northern and Southern promoters and university management b) PhD and Masters students c) Relevant stakeholders	✓		✓	✓	✓	✓	✓	✓
	To what extent did the objectives and the priorities of the project address the **needs of the Department**; and to what extent did the project take into account institutional strategies and policies at **Faculty/University level**, when formulating its objectives?	Needs-orientation, demand	12	1. Conduct of a needs assessment when the project was set-up a) on departmental level (online survey) 2 Qualitative description of the department's objectives and priorities in the field of research and educational capacity prior to the project by a) Northern and Southern promotors b) the universities' management 3. Qualitative description of the department's role in the project's inception process and research concept 4. Comparison between the project's objectives and the objectives of the Southern partner institution's strategies and policies based on strategic documents and university management's judgement			✓	✓	✓		✓	
	How were the **needs of the beneficiaries and/or end-users** of the project taken into	Needs-orientation, demand; co-creation	12, 13, 9	1. Involvement of the beneficiaries or end-users in the project, differentiated by a) Project formulation phase (online survey) b) Implementation phase (online survey) c) Dissemination phase (online survey)			✓	✓	✓	✓		✓

Evaluation Criteria		Evaluation Question	Analytical focus	Hypotheses	Indicators and /or Descriptors	Sources of verification							
						Desk review		Sur-vey	Field missions				
						A	B	C	D	E	F	G	H
		account, when formulating the objectives?			2. Qualitative description of the involvement of the beneficiaries or end-users in the project, differentiated by a) Project formulation phase b) Implementation phase c) Dissemination phase 3. Qualitative description of co-creation of new knowledge, services and applications (incl. information sharing, feedback, advocacy, helping, tolerance)								
		To what extent is an **uptake** of new knowledge, services or applications explicitly envisioned by the project's promoters?	Clear intention towards uptake	18	1. Objectives and priorities according to the assessment of the project's Northern and Southern promoters (online survey and field missions)	✓		✓	✓	✓		✓	
Implementation	**Mechanisms**	What **opportunities for direct contact and communication** of research exist between researchers (Northern and Southern promoters, PhD students and Masters students) and beneficiaries / users?	Context, interaction, collaboration	5, 20	2. Number and frequency of networking activity with stakeholders in the intervention region differentiated by a) Local communities b) Civil society actors c) Governments, civil servants and legislators d) Other research institutes / higher education institutions e) Public/private service providers f) International agencies or NGOs (incl. Belgian development actors) g) Private companies h) Other 3. Qualitative assessment of the abilities to network and communicate with the project's staff and researchers according to a) collaboration partners b) intermediaries c) end-users and beneficiaries	✓		✓		✓	✓		✓
		To what extent and for what purpose are **collaboration partners** involved in the project?	Context, interaction, collaboration	6, 7, 8, 9, 21	1. Listing of the project's collaboration partners by a) Local communities b) Civil society actors c) Governments, civil servants and legislators d) Other research institutes / higher education institutions	✓	✓	✓		✓	✓		✓

Evaluation Criteria	Evaluation Question	Analytical focus	Hypotheses	Indicators and /or Descriptors	Sources of verification							
					Desk review		Sur-vey	Field missions				
					A	B	C	D	E	F	G	H
				e) Public/private service providers f) International agencies or NGOs (incl. Belgian development actors) g) Private companies h) Other 2. Collaboration partners' role in the project according to collaboration partners and to Northern and Southern promoters (online survey), by a) Project formulation stage b) Implementation stage c) Dissemination stage 3. Frequency and timeframe of exchange with collaboration partners (online survey) 4. Assessment of the quality of the collaboration as perceived by a) Northern and Southern promoters (online survey) b) project staff and/or researchers c) collaboration partners								
	Is the research project designed as **trans-, inter- or multidisciplinary research**?	Transdisciplinary research	14	1. Application of a research strategy that crosses disciplinary boundaries to create a holistic approach a) Drawing on knowledge and methods from other research disciplines c) Integrating knowledge and methods from different disciplines b) Combination of two or more academic disciplines into the research project (as co-promoters)	✓		✓	✓	✓	✓	✓	
	To what extent were the beneficiaries and/or end-users of the project **involved** in the research process?	Participatory research	15, 13	1. Qualitative description of the involvement of the beneficiaries or end-users in the project according to Northern and Southern promoters and relevant stakeholders, differentiated by a) Local communities b) Civil society actors c) Governments, civil servants and legislators d) Other research institutes / higher education institutions e) Public/private service providers f) International agencies or NGOs (incl. Belgian development actors) g) Private companies h) Other	✓		✓	✓	✓			✓

Evaluation Criteria	Evaluation Question	Analytical focus	Hypotheses	Indicators and /or Descriptors	Sources of verification							
					Desk review		Sur-vey	Field missions				
					A	B	C	D	E	F	G	H
				2. Co-creation of new knowledge, services and applications (incl. information sharing, feedback, advocacy, helping, tolerance) 3. Participatory approaches i.e. approaches that include users and beneficiaries in the research process 4. Other (informal) formats to consult and/or exchange with end-users (detailed description)								
	To what extent did the project engage in strengthening **skills for evidence use and access on the user side**?	Individual/ organizational capacity development	17	1. Qualitative description of activities the project implemented to strengthen research literacy of its users 2.Extent to which users express having more confidence in using research results as a result of activities implemented by the project (only if such activities were implemented)	✓		✓	✓	✓	✓		✓
	What types of **dissemination activities / products** (dissemination phase and after the project ended) were undertaken by the project?	Research products	/	1. Strategies and approaches applied by the project to communicate and disseminate research results, by target group (if applicable) a) Academic conferences and seminars b) Publication of research results in peer reviewed journals c) Trainings, sensitization activities etc. d) Dissemination/ restitution workshop, meetings e) Reports, brochures, manuals, policy briefs f) Social media related activities 2. Assessment of project stakeholders which strategies and approaches were most effective, differentiated by a) Local communities b) Civil society actors c) Governments, civil servants and legislators d) Other research institutes / higher education institutions e) Public/private service providers f) International agencies or NGOs (incl. Belgian development actors) g) Private companies h) Other	✓			✓	✓	✓		
	To what extent are research products **adapted to users'**	Research products	22, 23	1. Qualitative description of the products and ways the project use to disseminate research results	✓			✓	✓	✓		✓

Evaluation Criteria		Evaluation Question	Analytical focus	Hypotheses	Indicators and /or Descriptors	Sources of verification							
						Desk review		Sur-vey	Field missions				
						A	B	C	D	E	F	G	H
		needs and capacities?			2. Perceived usefulness and accessibility of dissemination products according to users and/or beneficiaries								
		To what extent are research results and products perceived as **unbiased and of high quality**?	Research products	24									
		To what extent did the **timing** of the dissemination influence research uptake?	Research products	25	1. Occurrence of events etc. of relevance to the research, based on desk research and interviews with stakeholders a) Unexpected / non-projectable events to which the projects reacted (e.g. outbreak of the researched infectious disease) b) Projectable events which the project considered in its dissemination plan 2. Qualitative description of considerations made with regards to the timing of dissemination products according to the promoters	✓	✓		✓	✓	✓		✓
		To what extent did **organizational structures, processes and resources** on producer and/or user side support dissemination and uptake?	Supportive organizational structures	19, 20	1. Existence of extension unit / officers at the Southern or Northern partner institution and/or on the user side. 2. Financial and/or organizational support to dissemination / outreach activities through the Southern partner institution and/or on the user side. 3. Existence of intra-organizational linkages between the Southern partner institution and users	✓		✓	✓	✓	✓	✓	✓
		What **strategies** are applied by VLIR-UOS departmental projects to facilitate research uptake?	Synthesis	22, 23	This evaluation question will be answered through the synthesis of the evaluation results.								
	Effectiveness	To what extent did the project strengthen the **research capacity** of the Department?	Organizational capacity development, effectiveness	/	1. Self-assessment of improved research capacities related to a) [Operationalization according to project's research focus]	✓		✓	✓	✓	✓	✓	
			Organizational ca-	/	1. Self-assessment of improved research capacities related to publications in a) International journals	✓		✓	✓	✓	✓	✓	

Evaluation Criteria		Evaluation Question	Analytical focus	Hypotheses	Indicators and /or Descriptors	Sources of verification							
						Desk review		Sur-vey	Field missions				
						A	B	C	D	E	F	G	H
			pacity development, effectiveness		b) National journals 2. Self-assessment of improved research capacities related to participation in a) International conferences b) National conferences								
			Individual capacity development, effectiveness	/	1. Self-assessment of improved research capacities related to research facilities (e.g. laboratories) 2. Qualitative assessment of the adequacy of the research infrastructure vis-à-vis the staff's technical expertise	✓		✓	✓	✓	✓	✓	
		To what extent did the project strengthen the **organizational capacity** of the Department?	Individual capacity development, effectiveness	12	1. Self-assessment of improved research capacities related to organizational capacities (e.g. additional funding for the department)	✓		✓	✓	✓	✓	✓	
		To what extent did the project strengthen the **extension capacity** of the Department?	Organizational capacity development, effectiveness	5, 6, 16	1. Qualitative description of academic extension/outreach activities realized (academic conferences, seminars etc.) through the support of the project. 2. Qualitative description of non-academic extension/outreach activities realized (presentations, trainings, sensitization activities) through the support of the project. Differentiated by target groups. 2. Qualitative description of persons reached through non-academic extension/outreach activities realized (presentations, trainings, sensitization activities) through the support of the project. Differentiated by target groups. 3. Qualitative description of training module packages developed through the support of the project a) Number of beneficiaries trained through the support of the project a) Qualitative assessment of the added value of the trainings by participants (beneficiaries, users) 4. Qualitative assessment of the organizational structures, processes and resources on producer side (e.g. administrative support for extension, extension unit/staff at the Southern partner institution) according to Northern and Southern promoters and researchers	✓			✓	✓	✓	✓	

Evaluation Criteria		Evaluation Question	Analytical focus	Hypotheses	Indicators and /or Descriptors	Sources of verification							
						Desk review		Sur-vey	Field missions				
						A	B	C	D	E	F	G	H
					6. Qualitative assessment of the abilities to network and communicate with regard to informing stakeholders in the intervention region according to Northern and Southern promoters and researchers								
		To what extent did the project strengthen **individual extension capacities**?	Individual capacity develop-ment	16	1. Number of researchers trained in storytelling, networking, and translat-ing research results 2. Number of individuals who say they improved their skills in storytelling, networking, and translating research results								
		To what extent did the project strengthen the **educational ca-pacity** of the Depart-ment?	Individual capacity develop-ment, ef-fectiveness	/	1. Number of new or substantially updated Master programmes (curricula) developed through the support of the project 2. Number of students that have effectively participated in the new or sub-stantially updated Master programmes (curricula) developed through the support of the project 3. Number of new courses developed through the support of the project 4. Number of students that have effectively participated in new courses de-veloped through the support of the project	✓			✓	✓	✓	✓	
		To what extent did the project strengthen **end-users' skills** for evidence use and ac-cess?	Individual capacity develop-ment: Re-search lit-eracy	13, 20	1. Number of beneficiaries and/or end-users trained in evidence use and access a) Qualitative assessment of the added value of the trainings by partici-pants 2. Qualitative assessment of the end-users perceived capacity to use and access new research and knowledge according to relevant stakeholders 3. Qualitative assessment of the organizational structures, processes and resources on user side (e.g. administrative support, capacities to articulate research needs) regarding their capacity to support uptake by relevant stakeholders	✓		✓	✓	✓	✓		✓

Annex 4: Performance stories

Performance story 'A Cuban network of cleaner production (CP) centres and strengthening education and research on CP'

This TEAM project was located at Universidad de Cienfuegos (UCf), Facultad de Ingeniería, Centro de Estudios de Energía y Medio Ambiente (CEEMA) *(main institution)* and at Universidad de Matanzas (UMCC) and the Instituto Superior Minero Metalúrgico de Moa (ISMMM) in Cuba. The overall objective of this project was to improve the sustainability of Cuban society, while its specific objectives were to (1) intensify research on cleaner production by training Masters students at UCf, UMCC and ISMMM and PhD students at UCf in cleaner production, and (2) to increase the implementation of cleaner production in the Cuban industry and services sector, as well as to generate knowledge on cleaner production and sustainability in the Cuban context.

The project was characterized by very close relations with Cuban companies, which are the intended users of research results on Cleaner Production. This was ensured by the fact that Masters students remained (part-time) employees of their companies during their studies and research. Master students in Cienfuegos, Matanzas and Moa therefore work on problems that often have been prioritized by their companies (e.g. Thermoenergetic Company, Teneria, Empet, CITMA, Fuel Distributor, Citrus, Dairy and Labiofam) through a 'problem inventory' (banco de problemas). Their research findings and solutions are first discussed in the university and then in their companies, with colleagues and relevant stakeholders (superiors, decisionmakers). Research was thus very close to users' (i.e. companies) needs as the formulation of the specific graduate or post-graduate research proposals were based on specific problems of the companies. This was the main success factor in this project. Moreover, the strong connection with the target group (i.e. companies) ensured that the research was being done on core challenges of the companies, and created a strong commitment from the end-users to apply the research results. The practice-oriented research resulted in many concrete examples of adaptations of production processes which, in turn, led to savings (in energy, water, etc.) and a reduction of contamination, e.g. in the coffee sector, cement production, oil refineries, etc.). The project's success was further facilitated by the fact that Cuban universities in general have strong relations with their environment (as did Ucf with companies), the fact that only working students can apply for a Masters degree, that Masters students are financially supported by their employer, and the fact that the project could build on the relations and experiences of a predecessor TEAM project on Cleaner Production.

Performance story 'Strengthening co- responsible elderly care in current Cuban context through gender equity mainstreaming and elder´s wellbeing'

This South Initiative was located at the Department of Sociology at the University of Havana (UH), Cuba. The overall objective of this project was to contribute to strengthening gender mainstreaming in elderly care with both formal and informal elderly care providers, while its specific objective were to (1) strengthen the capacities and technical infrastructure of the University of Havana and University of Pinar del Río, and to (2) sensitize relevant stakeholders about gender mainstreaming in elderly care and ageing.

The project originated from a need felt at the Department of Sociology of the UH, as well as from societal relevance (Cuba has a strongly ageing society). The project's main output was a list of indicators about gender mainstreaming in ageing and elderly care adjusted to the Cuban context and socialized for caregivers' guidance in elderly care formal and informal services. The project worked closely with stakeholders/ intermediaries, mainly NGOs and CSOs (e.g. 'Cátedra del adulto mayor' at UH), but did not work directly with care givers or elderly people (beneficiaries). The stakeholders participated in three workshops to discuss and adapt the list of indicators. The project's main dissemination strategy was the joint formulation and adaptation of the list of indicators in participatory research workshops with all stakeholders. It also succesfully created ownership and a platform for uptake and thus constitues an important success factor for uptake (i.e. application of the list by the NGOs/CSOs). The list was shared with all stakeholders who had participated in the workshops, and online via the project team's Facebook page. Uptake was further facilitated by the fact that the research group already had strong relations with stakeholders before the project (success factor). It could further strengthen its network due to the participatory implementation of the project. Moreover, the fact that the project was implemented together with the stakeholders led to immediate effects among those stakeholders through awareness and acknowledgement of the importance and relevance of what they were doing. There was a 'snowball effect' without much effort by the project team itself. For example, one Catholic congregation was involved in the workshops and through their networks, another Catholic congregation became interested and approached the team to participate. It was reported that all actors involved have appropriated the contents and are aware of the indicators/gender mainstreaming in elderly care. However, it is commonly acknowledged by the project team that there is still further action necessary to supplement the list with indicators with an educational programme (diploma). Furthermore, the project received logistical and organizational support from the Office of Projects and International cooperation of the Direction of International Relations (e.g. project management) and the Vice-Rectory of Research and Postgraduate (e.g. realization of the workshops) at UH, and content-related input from the Programa Nacional Sociedad Cubana, which was judged fundamental to the project. A hindering factor for uptake is, however, the lack of clear national policies on the issue, which is why uptake did not include a broader uptake at e.g. the political level, but awareness raising among main stakeholders.

Performance story 'Emulsified systems for biofuels: Assessment of their performance in diesel engines'

This South Initiative was located at the Faculty of Mechanical Ingeneering at CUJAE (Instituto Superior Politécnico José Antonio Echeverría) in Havana, Cuba. The overall objective of this project was to contribute to the strengthening of the sustainability of the Cuban energy sector, while its specific objective was to develop better emulsified systems, involving vegetable oils and by-products, for their use in diesel engines.

The project studied the research problems associated with the use of emulsions and/or microemulsions where a vegetable oil is the oil phase. It involved representatives of companies, most importantly the experimental station 'Indio Hatuey,' as one of the two national oil refineries. Research however, is mostly done in the academic environment (labs or diesel engine benches), on the basis of the inputs (primary material) provided by e.g. the experimental stations. The latter are – in a way – the link between the project team and the end-users who use the blend of biofuel in their machinery. But no specific activities were undertaken to actively reach out to them. Dissemination of research results through the project team was only done at the end of the project: research results were shared in national journals of the companies themselves (e.g. a joint publication in Pastos y Forrajes, journal of the experimental station Indio Hatuey), and at national congresses, a restitution workshop with stakeholders, including those from local government, was conducted, and a brochure was published. Consequently, uptake of the research results is still limited. Legal developments and external factors will eventually faciliate uptake (e.g. patents). However, such circustances were not actively incorporated into the project's dissemination strategy. This can be considered a hindering factor for uptake. On the other hand, the fact that CUJAE had, from prior VLIR-UOS projects (success factor), state-of-the-art equipment, raised interest with the experimental stations and led to the crucial establishment of collaboration with the latter. It is too early to draw conclusions on the project's impact. However, relevant new knowledge was created (three patents), whose application – if taken up – has at least the theoretical potential to contribute to the sustainabilty of the Cuban energy

Performance story 'Mitigating adverse sexual and reproductive health outcomes through a comprehensive primary school sexuality education program'

This TEAM project was located at Institute of Interdisciplinary Training and Research (IITR) at the Mbarara University of Science and Technology (MUST) in South Western Uganda. The overall objective of this project was to contribute to improving the sexual and reproductive health of young adolescents in South Western Uganda, while its specific objectives were to (1) understand the factors affecting health behaviour of young adolescents in the respective region, and to (2) develop a comprehensive sexual education programme targeting young adolescents in the same region.

Based on a baseline survey, the project team developed a sexual education program targeting young adolescents in primary school in South-Western Uganda, which was subsequently implemented (intervention approach) at primary schools in South-Western Uganda. It thereby targeted developmental problems such as unintended pregnancies, unsafe abortion, maternal mortality, sexually-transmitted infections, HIV/AIDS, exploitation, and sexual violence. The project carefully considered the sensitivity of providing sexual education to adolescents in the Ugandan context (as evidenced by, among other things, a moratorium on the government curriculum for sexual education in schools). As such, an advisory board was established (and continuously called upon) including ministries, religious leaders, parents and teachers to ensure that the project was accepted, and to raise interest in the research results. District school officers were contacted as the entry point to the schools. Research results as such were only communicated to intermediaries. For example, at a dissemination meeting, ministries and members of the advisory board were informed about the extent to which sexual education changed the knowledge and attitudes of adolescents. Communication with final beneficiaries did not involve the research results as such, but rather sensitization on topics covered by the research, e.g. conveying information about sexuality to adolescents. In terms of uptake, teachers reported that girls who studied the curriculum developed by the project are now more assertive in asking for sanitary pads during their menstruation (which has brought down absenteeism) and in rebuffing unwanted advances. At the policy maker level, the approach developed by the project has generated interest, but a roll-out beyond the project is not likely in the immediate term, as sexual education for teenagers is a very delicate issue in Uganda, and a roll-out of the project approach would require bringing on board many more decision-makers at the national level than the project could involve (hindering factor). Continuity, i.e. the fact that the project could build on previous VLIR-UOS funded collaboration, was a success factor.

Performance story 'Strengthening business practices of small-scale fish farms'

This South Initiative was located at the School of Business and Management Studies, Department of Business Management at Mountains of the Moon University (MMU) in Western Uganda. The overall objective of this project was to contribute to an improvement of farmers' livelihoods through the application of agribusiness (financial) management practices, while its specific objectives were to (1) strengthen the capacity of the university staff to deliver financial and business models to fish farmers, and to (2) empower fish farmers – through appropriate finance management techniques – to enhance enterprise investment.

The project emerged from the finding (needs assessment) that farmers' livelihoods not only depend on their agricultural/fish-rearing practices, but also on their ability to analyse market needs, calculate profits and losses, and keep records. The project thus focussed on conducting trainings for fish farmers, comprising the 'Enabling Rural Innovation' (ERI) approach. In addition, the farmers themselves were invited to participate in data collection for market research. Linkages with District Fisheries Offices and fish-farmer platforms were established to access beneficiaries and mobilize them to participate in project activities. With regards to uptake, interviewed farmers report that they had adopted practices on which they were trained. These include conducting market research, keeping records, and calculating profits and losses. The different farmers/farmers' groups involved in the project had very different levels of competencies at the outset of the project, and the project adjusted training/coaching offers accordingly. Beneficiaries ranged from illiterate to successful businesspeople, which is why the competencies transmitted and the knowledge applied varies. Moreover, new groups/platforms of fish-farmers have been created, and communication between groups or platforms in different districts was initiated through the project. Conditions for a broader use of the project's approach are created, as local authorities are convinced by the need for such. However, a wider uptake did not occur due to a lack of local authority mandate and capacities to implement/roll-out the approach. This, as well as personnel turnover at the local authorities, were a hindering factor for uptake; a further factor was the fact the the Southern promoter lacked resources for the project, especially dissemination, as he was working on his PhD in parallel. As a result, research results were not communicated to beneficiaries. The project further contributed to the training of academic staff as it invited the Belgian NGO 'Trias' to train staff from the School of Business and Management in communicating with rural populations. This is assumed to have contributed to accessability of knowledge. A further success factor for research uptake was continuity, as the project could build on previous projects. With regards to impact, it is too early to observe whether the intended development objective ('A contribution to improving farmers' livelihoods through employing better agribusiness (financial) management practices was made') is achieved, as farmers are just starting to put their acquired competencies to practice.

Performance story 'Enhancing community-based natural resources and hazard management in Rwenzori Mountains'

This South Initiative was located at the School of Agriculture and Environmental Sciences at Mountains of the Moon University (MMU) in Western Uganda. The overall objective was to contribute to the development of sustainable livelihoods of rural communities in the Rwenzori Mountains, to the preservation of natural resources, and to the mitigation of the impacts of natural hazards. Its specific objectives were to (1) improve the academic capacities to develop evidence-based research on natural resource preservation and degradation (through systematic data collection, database management and targeted teaching support) and to (2) increase local communities' environmental awareness and information so that they develop rational environmental plans.

In this project, the needs of the beneficiaries (local authorities and population in hazard-affected areas) to systematically record information about natural hazards to inform disaster risk management was identified in the predecessor TEAM project (Afrislide). These findings and the SI project's strategy to address this need were presented to and validated with local authorities and CSOs during a dissemination meeting at the end of the predecessor project. Its relevance stems from the fact that the local government is ill-equipped to monitor natural hazards in real time and therefore did not systematically record hazards. This in turn limits the ability to predict hazards and develop appropriate mitigation measures. The project addresses this by involving volunteers to collect data in remote areas and sending them to a centralized level (MMU GIS lab established by the project) through smartphones. In addition, sensitization was pursued through local radio talk shows, policy briefs, posters in the local language and a board game to engage officials through active simulation. The involvement of district environmental officers in dissemination meetings and through other activities (e.g. board games, breakfast meetings) sensitized the local government to research results – an enabling factor for research uptake. Moreover, the participation of the project in conferences and networking activities came to include national authorities such as the Office of the Prime Minister and the National Environment Management Authority (NEMA). This in turn is an enabling factor for research uptake at the national level. Data collected by the project is fed into NEMA's national report on the state of the environment. Government officers further took into account the elaboration of guidelines for communications on disaster risk management (DRM). An adoption of the project's approach to generate data on natural hazards through the involvement of volunteers by authorities is, however, unlikely in the immediate term, as local authorities lack the resources to coordinate such an effort (hindering factor). The evaluation team doubts that the development objective ('a contribution to the development of sustainable livelihoods of rural communities living in the Rwenzori Mountains, preserving natural resources and mitigating impact of natural hazards was made') could yet be met. This is due to the high level of ambition of this objective for a project with limited duration and budget. A follow-up project is foreseen.

Performance story 'Understanding the unemployment experience in South Africa in order to develop an evidence-based intervention together with the local community'

The TEAM project 'Understanding the unemployment experience in South Africa in order to develop an evidence-based intervention together with the local community' was hosted by Optentia Research Programme, North-West University (NWU) in South Africa. The overall objective of this project was to contribute to alleviating the psychological burden of the unemployed, and to improving their psychological well-being. Its specific objectives were to (1) improve the understanding of the psychological experience of unemployment in South Africa, and to (2) increase the optimal well-being of the unemployed, foster their adaptive labour market orientation, and decrease counterproductive behaviours via optimising their motivation and coping strategies.

Using an intervention strategy, the project engaged with two communities in the vicinity of NWU. Here, a qualitative and longitudinal quantitative study was conducted to gain understanding the types and psychological effects of unemployment in South Africa. In addition, trainings to address the motivational situation of the unemployed were implemented. In the communities, there was close engagement with a diverse set of stakeholders, which was used as a main mechanism to disseminate research results. The project, for example, engaged fieldworkers drawn from the target communities; and it drew on additional means such as local radio stations, community meetings and videos shared via the internet to communicate about the research. In particular, an advisory board was found helpful in providing advice on, for example, how to enter the communities, understanding cultural differences, respecting communities' 'space,' etc. This board engaged the relevant stakeholders from the community. However, it did not include the provincial policy unit which would have been crucial for the uptake of the intervention developed by the project (hindering factor). As such, it is unlikely that the project's approach and findings will be taken up on a higher level, even though the intervention itself proved partly successful: among the community members (i.e. end-users) who participated in the intervention, 30% found a job. Furthermore, end-users who participated in the research were inspired and also applied for jobs; here only anecdotal evidence exists. Other hindering factors, e.g. labour laws in South Africa, age discrimination, the mentality of field workers and participants, as well as cultural and educational differences, certainly influenced the potential impact of the project ('We cannot provide everyone with a job'), but the lack of local government involvement as well as the project teams' focus on the research rather than uptake are most relevant to the creation of conditions for uptake.

Performance story 'Improving home garden soil fertility management to enhance nutritional security among rural homesteads in Vhembe'

This South Initiative was located at Department of Crop Sciences, Tshwane University of Technology (TUT) in South Africa. The overall objective of this project was to improve soil fertility management for greater productivity in home gardens and increased nutritional security at homestead level. Its specific objectives were to (1) develop preliminary guidelines for the management of soil fertility in rural home gardens of Vhembe, and to (2) strengthen the research capacity of the Department of Crop Sciences.

The project investigated existing nutrient management of garden soils, the materials used to maintain or to raise the nutrient content of these soils, and the crops grown in gardens. Focus was on the use of manure as an alternative to chemical fertilizer, which incurs high costs to the farmers. To gain access to the farmers, the project collaborated with the university's extension office. Farmers were involved to the extent that they were surveyed and their gardens were used as experimental sites. Sensitization, in the form of demonstration of the research results (benefits of using organic materials), was further undertaken. However, by irrigating the plots, the project created artificial circumstances that are not in line with the real-life situation of the farmers (hindering factor for uptake). In fact, the project led to the realization of the importance of introducing irrigation schemes, given that Vhembe is a water-scarce area, and that fertilizers and compost were insufficient on their own. Another hindering factor was that chemical fertilizer was given out for free by actors external to the project, since it is cheaper and more easily available than manure. Finally, resources were insufficient to develop guidelines for the use of local resources (cf. specific objectives) as the Southern promoter took over teaching from a resigned colleague. As a consequence, the uptake strategy of his project was not implemented accordingly. New farming methods (a system to grow crops using compost and manure as a fertilizer) developed by the project were not taken up and are unlikely to be used in a broader context, given the need for irrigation.

The research capacities of the department were nevertheless strengthened through newly bought equipment for the university's lab. This included machines for analysing soil samples as well as glassware and chemicals for experiments. The project also developed a new method (pot method) to measure soil fertility without using expensive lab methods. It can be used in low-income environments and provides a starting point for follow-up research by Masters students that builds the research topic of the project.

Performance story 'Community of Practice as a strategy to strengthen capacities of community health workers'

The South Initiative 'Community of Practice as a strategy to strengthen capacities of community health workers' was a collaboration between VIVES university college and the Department of Public Health at University of Venda (UNIVEN) in South Africa. The overall objective of this project was to decrease the occurrence of non-communicable diseases (NCDs) in the Vhembe district, while its specific objectives were to (1) increase the support and guidance community members can obtain from the Community Health Workers, and to (2) enable the researchers from the Department of Public Health at UNIVEN to perform independent and innovative research in Public Health using participatory research techniques and CoP.

The project established a 'Community of Practice' (CoP), a physical interaction network of the District's community health workers (CHWs) that facilitates social learning, knowledge exchange and 'best practices' around lifestyle habits and NCDs. It thereby valorised existing structures, i.e. the CHWs. Being very much focused on uptake and behavioural change of the CHW (as users) in the established CoP, dissemination mainly took place in the community of practice settings. In addition, the project organised a conference at the end of the project to disseminate its findings. In terms of uptake, knowledge on NCDs was taken up by the CHWs themselves to improve their own health. In addition, the practices were also taken up in the villages. This includes organised exercise groups among the elderly (a cultural taboo in South Africa) and better advice to the CHWs' patients. Furthermore, the community of practices are still meeting so that the CHWs can continue to share experiences. Uptake on a wider, e.g. political level, did not occur however. As found in the field mission, this would have required more targeted dissemination towards the authorities, e.g. in the form of a report.

Finally, the project – even though not focussed on research capacity – introduced the concept of the CoP to UNIVEN and thus contributed to a broadening of the researchers' methodological toolbox.

Annex 5: Online survey

Objectives of your project

1. My project intended to contribute to the following outcomes: (**You can choose multiple answers)**

❑	Strengthen the research capacity of the department[32]
❑	Strengthen the organizational capacity of the department[33]
❑	Strengthening the educational capacity of the department[34]
❑	Uptake of knowledge, services or application beyond the department[35] H18
❑	Other, please specify: _____

2. At which level did your project intend to achieve changes? **(You can choose multiple answers)**

❑	At local level
❑	At regional level (within a country)
❑	At national level
❑	At regional level (multi-country)

(Pre-) conditions for uptake

In order to gain a better understanding of the relevance of (pre-) conditions for uptake[36], we would like to know to what extent the project considered contextual factors and/or political/institutional priorities.

3. When the project was designed, …

	Yes	No	No answer/ Don't know
…a **needs assessment**[37] was conducted regarding the needs of the **department** of the Southern Partner Institution.	❍	❍	❍
…a **needs assessment**[38] was conducted regarding the needs of **beneficiaries and/or users** of new knowledge, services and application provided by the project.	❍	❍	❍
…a **context analysis** was conducted (with regards to e.g. structural barriers).	❍	❍	❍
…a **stakeholder analysis** was conducted.	❍	❍	❍

[32] Mouse-over: SI and TEAM projects are departmental projects, i.e. aim at strengthening a department in the Global South. Strengthening the research capacity of a department may entail activities such as upgrade of research facilities, training of researchers.
[33] Mouse-over: SI and TEAM projects are departmental projects, i.e. aim at strengthening a department in the Global South. Strengthening the organizational capacity of a department may entail e.g. improving the partner organization's capacities to attract research funds.
[34] Mouse-over: SI and TEAM projects are departmental projects, i.e. aim at strengthening a department in the Global South. Strengthening the educational capacity of a department may entail activities such as development of curricula.
[35] Mouse-over: SI and TEAM projects are departmental projects, i.e. aim at strengthening a department in the Global South. Uptake thereby means an impact on political decision-making, on practices (communities, private sector), generation of use-cases etc.
[36] Mouse-over: Uptake means that actors outside of the university (e.g. private companies, civil society actors, civil servants and legislators, local communities, other research institutes or higher education institutions) are using new knowledge, services or applications developed by the project.
[37] Mouse-over: Direct data collection at the level of the beneficiaries of the project to better understand their needs.
[38] Mouse-over: Direct data collection at the level of the beneficiaries of the project to better understand their needs.

4. To what extent were / are the objectives of your project in line with **national/regional public sector strategies**[39] of the country/region where the project was implemented?

The objectives of my project were/are…	
❍	Fully in line with national/regional public sector strategies or policies
❍	Partly in line with national/regional public sector strategies or policies
❍	Not at all in line with national/regional public sector strategies or policies
❍	There was no relevant national/regional public sector strategy or policy when the project was designed
❍	I am not aware whether a relevant national/regional public sector strategy or policy exists

5. To what extent were /are the objectives of your project in line with **institutional strategies and policies at faculty/university level** of the Southern Partner Institution? (H12)

The objectives of my project were/are…	
❍	Fully in line with institutional strategies and policies at faculty/university level
❍	Partly in line with institutional strategies and policies at faculty/university level
❍	Not at all in line with institutional strategies and policies at faculty/university level
❍	There were no relevant institutional strategies and policies at Faculty/University level when the project was designed
❍	I am not aware whether relevant institutional strategies and policies at Faculty/University level exists

6. In relation with the (pre-) conditions for research uptake, we would further like you to rate the following items using a scale from "does not apply at all" to "applies fully".

When designing the project…	◊◊◊ Does not apply at all	◊◊	◊	•	••	••• Fully applies	Not applicable	No answer / Don't Know
… we made sure that the project is implemented in a sector where there is a **high need for technical knowledge**. H03	❍	❍	❍	❍	❍	❍	❍	❍
… we made sure that the project is implemented in a sector where there is a **high absorption capacity**[40] **for new knowledge**. H03	❍	❍	❍	❍	❍	❍	❍	❍
… we made sure that the project is implemented in a **sector that is not politicized**. H04	❍	❍	❍	❍	❍	❍	❍	❍

Mechanisms used to facilitate uptake

In order to gain a better understanding of mechanisms, which could facilitate uptake, we would like to ask you about the approaches and strategies **applied by your project**.

7. Was the project designed as **trans-, inter- or multidisciplinary research**?

[39] Mouse-over: Official strategies formulated by the government/ministries of the country or the region in which the project is being implemented.
[40] Mouse-over: i.e. a high need to identify, assimilate, and apply external knowledge.

❍	The project was **uni-disciplinary**.
❍	The project was **informed by** knowledge and methods from other research disciplines.
❍	The project **integrated** knowledge and methods from different research disciplines.
❍	The project combined of two or more academic disciplines into the research project (**collaboration**).
❍	No answer / Don't know

8. To what extent were the **beneficiaries and/or end-users of the project involved** in the research process?

❍	Beneficiaries and/or user were **not involved** in the research process.
❍	Beneficiaries and/or user were **involved** in the **data collection process** (passive role of users/beneficiaries).
❍	Knowledge, services and applications were **co-created** (incl. sharing of information and feedback, performance of mutually dependent tasks) with beneficiaries/user (active role of users/beneficiaries).
❍	Other (informal) formats to consult and/or exchange with end-users: _____ (Please specify)
❍	No answer / Don't know

9. What types of **dissemination activities / products** (dissemination phase and after the project ended) were undertaken by the project? **(You can select multiple options)**

❑	Academic conferences and seminars
❑	Publication of research results in peer reviewed journals
❑	Trainings, sensitization activities, demonstrations etc.
❑	Restitution workshop, meetings
❑	Reports, brochures, manuals, policy briefs
❑	Media coverage and/or social media related activities
❑	Collaboration/interaction with universities' extension offices[41] or other intermediaries[42]
❑	Other: _____ (Please specify)
❑	We did not undertake dissemination activities / products. [Validation: No combination of this item with the other items]

10. Please elaborate in 3 – 4 sentences on the **most successful approach to disseminate information**.

Text box

[41] Mouse-over: Possibly also (research) communication office, research and technology transfer office, liason office with private sector/public-private companies.
[42] Mouse-over: Intermediaries are organisations or individuals situated between research and practice/policy which work to enable exchange between producers and users of knowledge (e.g. extension unit within the Northern or Southern Partner Institution, NGOs, think tanks, etc.).

11. Please specify, which **user groups** your project targeted through its dissemination activities / products? **(You can select multiple options)**

Dissemination activities / products targeted… [Filter question, only if "Trainings, sensitization activities etc" was selected in the previous question]	Not targeted to a specific group	Local communities	Governments, civil servants and legislators	Public/private service providers (e.g. hospitals)	Civil society actors	Private companies	Other research institutes / HEI[43]	International agencies or NGOs (incl. Belgian development actors)	Other	No answer/ Don't know
A. Trainings, sensitization activities etc.	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑

Dissemination activities / products targeted… [Filter question, only if "Dissemination/ restitution workshop, meetings" was selected in the previous question]	Not targeted to a specific group	Local communities	Governments, civil servants and legislators	Public/private service providers (e.g. hospitals)	Civil society actors	Private companies	Other research institutes / HEI[44]	International agencies or NGOs (incl. Belgian development actors)	Other	No answer/ Don't know
B. Dissemination/ restitution workshop, meetings	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑

Dissemination activities / products targeted… [Filter question, only if "Reports, brochures, manuals, policy briefs" was selected in the previous question]	Not targeted to a specific group	Local communities	Governments, civil servants and legislators	Public/private service providers (e.g. hospitals)	Civil society actors	Private companies	Other research institutes / HEI[45]	International agencies or NGOs (incl. Belgian development actors)	Other	No answer/ Don't know
C. Reports, brochures, manuals, policy briefs H22	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑

Dissemination activities / products targeted… [Filter question, only if "Social media related activities" was selected in the previous question]	Not targeted to a specific group	Local communities	Governments, civil servants and legislators	Public/private service providers (e.g. hospitals)	Civil society actors	Private companies	Other research institutes / HEI[46]	International agencies or NGOs (incl. Belgian development actors)	Other	No answer/ Don't know
D. Social media related activities	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑

[43] Mouse-over: Higher Education Institutions.
[44] Mouse-over: Higher Education Institutions.
[45] Mouse-over: Higher Education Institutions.
[46] Mouse-over: Higher Education Institutions.

12. With regards to dissemination products, we would further like you to rate the following items using a scale from “does not apply at all” to “fully applies”. [Filter question, only if “Reports, brochures, manuals, policy briefs” was selected in question 8]

Users perceived dissemination products (e.g. reports, brochures, manuals, policy briefs)…	◊◊◊ Does not apply at all	◊◊	◊	•	••	••• Fully applies	No answer/ Don’t know
… as **easily accessible**.	❍	❍	❍	❍	❍	❍	❍
… as **adapted to their needs**.	❍	❍	❍	❍	❍	❍	❍
… as **unbiased** and of high (scientific) **quality**.	❍	❍	❍	❍	❍	❍	❍

13. Did your project undertake any activities to **train (potential) users or intermediaries**[47] in **accessing and using your research results, services** etc.?

❍	Yes
❍	No
❍	No answer/ Don’t know

14. Did your project undertake any activities to **improve researchers’ skills in storytelling, networking and translating** your research results, services etc.?

❍	Yes
❍	No
❍	No answer/ Don’t know

15. You stated that your project **trained (potential) users or intermediaries**[48] in **accessing and using your research results, services** etc. Please specify in 1 – 2 sentences. [Filter question, only displayed if answer “yes” selected in the previous question]

Text box

16. You stated that your project did engage in **improving researchers’ skills in storytelling, networking and translating research results, services etc.** Please specify in 1 – 2 sentences. [Filter question, only displayed if answer “yes” selected in the previous question]

Text box

[47] Mouse-over: Intermediaries are organisations or individuals situated between research and practice/policy which work to enable exchange between producers and users of knowledge (e.g. extension unit within the Northern or Southern Partner Institution, NGOs, think tanks, etc.).
[48] Mouse-over: Intermediaries are organisations or individuals situated between research and practice/policy which work to enable exchange between producers and users of knowledge (e.g. extension unit within the Northern or Southern Partner Institution, NGOs, think tanks, etc.).

17. Which stakeholders did the project collaborate with?[49] This also includes actors performing intermediary roles.[50] **(You can select multiple options)**

The following stakeholders were involved in the project's…	Set-up phase	Implementation phase[51]	Dissemination phase	Not involved	No answer/ Don't know
Private companies	❍	❍	❍	❍	❍
Governments, civil servants and legislators	❍	❍	❍	❍	❍
Public/private service providers (e.g. hospitals)	❍	❍	❍	❍	❍
Civil society actors (e.g. media, local NGOs)	❍	❍	❍	❍	❍
Local communities	❍	❍	❍	❍	❍
Institutional stakeholders outside the project department (e.g. extension office)	❍	❍	❍	❍	❍
Other research institutes / higher education institutions	❍	❍	❍	❍	❍
International agencies or NGOs (incl. Belgian development actors)	❍	❍	❍	❍	❍
Other: _____ (Please specify)	❍	❍	❍	❍	❍

18. Did any of the project's stakeholders perform **intermediary functions**, or did the project collaborate with further **intermediaries**[52] (e.g. a university's extension office[53])?

❍	Yes
❍	No
❍	No answer/ Don't know

19. You stated that your project did engage with intermediaries to ensure/support translation and communication of research results etc. Please elaborate in 1 – 2 sentences. [Filter question, only displayed if answer "yes" selected in previous question]

Text box

20. Please specify the type of collaboration with the project's stakeholders.

20.A: Frequency of collaboration: Networking and/or coordination activities (physical meetings or via e-mail/ICT) with the following stakeholder were… [Filter question, only displayed if corresponding answer selected in q17previous question]	◊◊◊ One.off	◊◊	◊	•	••	••• Very frequent	No answer / Don't know
Private companies	❍	❍	❍	❍	❍	❍	❍
Governments, civil servants and legislators	❍	❍	❍	❍	❍	❍	❍
Public/private service providers (e.g. hospitals)	❍	❍	❍	❍	❍	❍	❍
Civil society actors (e.g. media, local NGOs)	❍	❍	❍	❍	❍	❍	❍
Local communities	❍	❍	❍	❍	❍	❍	❍

[49] Mouse-over: including formalized (e.g. collaboration with co-promoters) and non-formalized forms of collaboration; at different stages of the project (set-up, implementation, dissemination).
[50] Intermediaries are organisations or individuals situated between research and practice/policy which work to enable exchange between producers and users of knowledge (e.g. extension unit within the Northern or Southern Partner Institution, NGOs, think tanks, etc.).
[51] Mouse-over: e.g. research, development of curricula.
[52] Mouse-over: Intermediaries are organisations or individuals situated between research and practice/policy which work to enable exchange between producers and users of knowledge (e.g. extension unit within the Northern or Southern Partner Institution, NGOs, think tanks, etc.).
[53] Mouse-over: Possibly also (research) communication office, research and technology transfer office, liason office with private sector/public-private companies.

Institutional stakeholders outside the project department (e.g. extension office)	❍	❍	❍	❍	❍	❍	❍
Other research institutes / higher education institutions	❍	❍	❍	❍	❍	❍	❍
International agencies or NGOs (incl. Belgian development actors)	❍	❍	❍	❍	❍	❍	❍

20.B: Timeframe of collaboration: Networking and/or coordination activities (physical meetings or via e-mail/ICT) with the following stakeholder were… [Filter question, only displayed if corresponding answer selected in q17previous question]	◊◊◊ Short-term[54]	◊◊	◊	•	••	••• Long-term[55]	No answer / Don't know
Private companies	❍	❍	❍	❍	❍	❍	❍
Governments, civil servants and legislators	❍	❍	❍	❍	❍	❍	❍
Public/private service providers (e.g. hospitals)	❍	❍	❍	❍	❍	❍	❍
Civil society actors (e.g. media, local NGOs)	❍	❍	❍	❍	❍	❍	❍
Local communities	❍	❍	❍	❍	❍	❍	❍
Institutional stakeholders outside the project department (e.g. extension office)	❍	❍	❍	❍	❍	❍	❍
Other research institutes / higher education institutions	❍	❍	❍	❍	❍	❍	❍
International agencies or NGOs (incl. Belgian development actors)	❍	❍	❍	❍	❍	❍	❍

21. We would further like to know about the general quality of cooperation with your partners. Please assess the following statements on a scale from "strongly disagree" to "strongly agree".

	◊◊◊ Strongly disagree	◊◊	◊	•	••	••• Strongly agree	No answer / Don't know
When I or a partner experienced a problem, we let each other know about it.	❍	❍	❍	❍	❍	❍	❍
I helped my partners when they seemed to have problems (e.g. to conduct research activities, assess the results, translate results into new practices and products, etc.), and partners assisted me when I needed help.	❍	❍	❍	❍	❍	❍	❍
If a partner in the consortium did not complete a task as expected (e.g. made a mistake, needed more time for the task than expected) I was willing to be patient or adapt.	❍	❍	❍	❍	❍	❍	❍
I have said positive things about or recommended my partners to others.	❍	❍	❍	❍	❍	❍	❍

22. What **organizational structures, processes and resources** were available for dissemination and uptake on <u>producer and/or user side</u>?

❑	Extension unit or officers at the Southern or Northern partner institution and/or on the user side H19
❑	Financial resources (budget) for dissemination activities or products
❑	Personal resources (project planning) for dissemination activities or products
❑	Intra-organizational linkages between the Southern partner institution and users
❑	Other: _____ (Please specify)

[54] Mouse-over: Networking/coordination activities occurred at one point during the project.
[55] Mouse-over: Networking/coordination activities were upheld during the entire duration of the project.

❑	No answer

Uptake of knowledge, services and applications

In this section, we would like to know to what extent new knowledge, services or application developed by your project were taken up, both during the project's implementation and after the project had ended.

We kindly ask you to answer the following questions **to your best knowledge**, but we understand that it may be difficult to recollect information regarding the specific items.

In the following, we kindly ask you to **specify** your selection with the help of **concrete examples**.

23. To what extent were knowledge, services or application developed by your project be taken up by the following actor groups? - Context

New knowledge, services or applications developed by my project were taken up by…	◊◊◊ Not at all	◊◊	◊	•	••	••• Completely	Not applicable	No answer / Don't know
Private companies	❍	❍	❍	❍	❍	❍	❍	❍
Governments, civil servants and legislators	❍	❍	❍	❍	❍	❍	❍	❍
Public/private service providers (e.g. hospitals)	❍	❍	❍	❍	❍	❍	❍	❍
Civil society actors (e.g. media, local NGOs)	❍	❍	❍	❍	❍	❍	❍	❍
Local communities	❍	❍	❍	❍	❍	❍	❍	❍
Other research institutes / higher education institutions	❍	❍	❍	❍	❍	❍	❍	❍
International agencies or NGOs (incl. Belgian development actors)	❍	❍	❍	❍	❍	❍	❍	❍
Other: _____ (Please specify)	❍	❍	❍	❍	❍	❍	❍	❍

24. [Filter question, only displayed if •••, ••, • was selected for "private companies"] Please specify in 1 – 2 sentences how **private companies** have taken up knowledge, services or applications developed by the project.

Text box

25. [Filter question, only displayed if •••, ••, • was selected for "Governments, civil servants and legislators"] Please specify in 1 – 2 sentences how **governments, civil servants and legislators** have taken up knowledge, services or applications developed by the project.

Text box

26. [Filter question, only displayed if •••, ••, • was selected for "Civil society actors"] Please specify in 1 – 2 sentences how **public/private service providers (e.g. hospitals)** have taken up knowledge, services or applications developed by the project.

Text box

27. [Filter question, only displayed if •••, ••, • was selected for "Civil society actors"] Please specify in 1 – 2 sentences how **civil society actors** (e.g. media, local NGOs) have taken up knowledge, services or applications developed by the project.

Text box

28. [Filter question, only displayed if •••, ••, • was selected for "Local communities"] Please specify in 1 – 2 sentences how **local communities** have taken up knowledge, services or applications developed by the project.

Text box

29. [Filter question, only displayed if •••, ••, • was selected for "Other research institutes / higher education institutions"] Please specify in 1 – 2 sentences how **other research institutes or higher education institutions** have taken up knowledge, services or applications developed by the project.

Text box

30. [Filter question, only displayed if •••, ••, • was selected for "International agencies or NGOs"] Please specify in 1 – 2 sentences how **international agencies or NGOs** (incl. Belgian development actors) have taken up knowledge, services or applications developed by the project.

Text box

31. [Filter question, only displayed if •••, ••, • was selected for "Other"] Please specify in 1 – 2 sentences how other actors have taken up knowledge, services or applications developed by the project.

Text box

Self-assessment regarding impact

Below we are displaying the outcomes to which your project intended to contribute. For these outcomes, please assess the extent to which your project was successful in what it intended to achieve.

We would ask you to thereby refer to the **current situation**, as compared to before the project.

32. … regarding the strengthening of the **research capacity** of the department [Filter question, only selected if "research capacity" was selected in questions 1]	◊◊◊ Strongly disagreed	◊◊	◊	•	••	••• Strongly agree	Not applicable	No answer / Don't know
The partner institution generates more academic publications in **national peer reviewed journals**.	❍	❍	❍	❍	❍	❍	❍	❍
The partner institution generates more academic publications in **international peer reviewed journals**.	❍	❍	❍	❍	❍	❍	❍	❍
The project's participants attend more **academic conferences**.	❍	❍	❍	❍	❍	❍	❍	❍
The project participants have state-of the-art knowledge on **research practices** (with regards to the specific research field).	❍	❍	❍	❍	❍	❍	❍	❍
Research facilities at the partner institution allow for state-of-the-art research.	❍	❍	❍	❍	❍	❍	❍	❍
Other: _____ (Please specify)	❍	❍	❍	❍	❍	❍	❍	❍

33. ... regarding the strengthening of the **organisational capacity** of the department [Filter question, only selected if "organizational capacity" was selected in questions 1]	◊◊◊ Strongly disagreed	◊◊	◊	•	••	••• Strongly agree	Not applicable	No answer / Don't know
The partner institution can recruit **more students**.	❍	❍	❍	❍	❍	❍	❍	❍
The partner institution has become successful in attracting international **academic partners and research funds**.	❍	❍	❍	❍	❍	❍	❍	❍
Local government agencies and private companies increasingly **contact/contract the partner institution for advice and services**.	❍	❍	❍	❍	❍	❍	❍	❍
The project participants have improved **skills in storytelling, networking and translating** research results, services etc.	❍	❍	❍	❍	❍	❍	❍	❍
Other: _____ (Please specify)	❍	❍	❍	❍	❍	❍	❍	❍

34. ... regarding the strengthening of the **educational capacity** of the department [Filter question, only selected if "educational capacity" was selected in questions 1]	◊◊◊ Strongly disagreed	◊◊	◊	•	••	••• Strongly agree	Not applicable	No answer / Don't know
(New) **curriculum/curricula** have state-of-the-art contents and are well-structured.	❍	❍	❍	❍	❍	❍	❍	❍
(New) **courses** address state-of-the-art contents and/or methodologies.	❍	❍	❍	❍	❍	❍	❍	❍
The project participants have state-of the-art **didactical competences**.	❍	❍	❍	❍	❍	❍	❍	❍
Other: _____ (Please specify)	❍	❍	❍	❍	❍	❍	❍	❍

Annex 6: Interview guidelines

A) Interview guidelines explorative interviews

1. Personal information

1. Please briefly introduce yourself and describe your role at VLIR-UOS.

2. Please tell us about your expectations towards the evaluation.

2. VLIR-UOS' TEAM and SI projects

1. Please tell us about TEAM and SI projects' overall objectives.

2. Please explain the types of impacts VLIR-UOS achieves with its departmental projects. Please differentiate between TEAM and SI projects.

   a) Please describe how the deliverables of TEAM and SI projects contribute to those impacts.

   b) Please describe the complementarity between the two types of projects.

3. How do TEAM and SI projects relate to other types of VLIR-UOS' interventions, e.g. IUC/NETWORK programmes and JOINT projects?

4. In your view, what are the strengths and weaknesses of TEAM and SI projects, also in comparison to other VLIR-UOS interventions and interventions of other actors in higher education development cooperation?

5. Please tell us about the monitoring and evaluation frameworks in place for TEAM and SI projects. In your view, what are its strengths and weaknesses?

3. Strategies to create the conditions for uptake

1. Please describe the project cycle for TEAM and SI projects. Please describe the different stages from the formulation of call documents to the projects' implementation, and which stakeholders are involved at each stage.

   a) In your view, are there mechanisms in the call conditions which already aim at fostering research uptake?

2. In the VLIR-UOS Theory of Change, and in the strategies of its projects, there is an explicit vision that there will be an uptake of knowledge, applications and/or services and thus a wider use of the knowledge, applications and/or services created by the intervention. Please describe what approaches and strategies TEAM and SI projects use to create the conditions for uptake.

3. In your view, what factors support or hinder the uptake of knowledge, services and applications provided by VLIR-UOS' projects?

4. In your view, who "uses" the outputs/deliverables of TEAM and SI projects?

4. Country-specific background information

1. *[Only for Programme Managers responsible for Cuba, South Africa, DR Congo, Tanzania and Uganda]:* Please give us an overview of TEAM and SI projects' activities in Cuba / South Africa / DR Congo / Tanzania / Uganda (e.g. types of projects, implementing modalities, (thematic) focus of projects).

- Are there TEAM and/or SI projects in this country that performed particularly well in terms of their effectiveness or impact, or with regard to the creation of conditions for research uptake?
- Please tell us about socio-economic, political and logistical factors that have influenced VLIR-UOS cooperation in the past, and / or that may affect carrying out a case study in this country.

5. Final questions

1. Did we miss an important topic you would like to discuss with us?
2. Are there specific stakeholders whom we should take into account when carrying out this evaluation (e.g. experts on knowledge utilization and/or university development cooperation)?
3. Is there specific literature to which you would like to draw our attention to for this evaluation?

Thank you very much for your time and effort!

B) Interview guidelines expert interviews

1. Personal information

1. Please briefly introduce yourself and describe your research interest with regards to research uptake and valorisation.

2. Strategies to create the conditions for uptake

2. In the VLIR-UOS Theory of Change, and in the strategies of its projects, there is an explicit vision that there will be an uptake of knowledge, applications and/or services and thus a wider use of the knowledge, applications and/or services created by the intervention. Please describe what approaches and strategies research suggests creating the conditions for uptake.

a) In your view, what are "conditions for uptake"?

b) In your view, what factors support or hinder the uptake of knowledge?

3. Key hypotheses

Strength of hypothesis:
**** → widely accepted/verified ** → considerable support in academic literature *→ supported / but not clearly verified ~ → disputed*

Supply matching demand

Uptake of research is facilitated,

1. if the researcher has good understanding of **policy priorities**. ***
2. if research is relevant to users and the policy sector, i.e. targets a (developmental) problem. ***
3. if research is needs-oriented and **demand-driven**, e.g. mechanisms exist / are strengthened for guiding interventions based on the knowledge of local people and those affected by problems (set-up phase). ***
4. if research involves potential end-users in the research design phase (**co-creation**). **
5. if research is **transdisciplinary**. *
6. if research is **participatory**, i.e. involves potential end-users in the data collection phase. *

Interaction and collaboration

Uptake of research is facilitated,

7. if **collaboration** exists between researchers and end-users. ***
8. if research is perceived as **unbiased and of high quality**. **
9. if interaction between researchers and users is **frequent and long-term**. *
10. if the relationship is characterized by **trust and mutual respect**. *
11. if a **mutual understanding** exists between researchers and users, e.g. agreement on policy relevant questions and the kind of evidence needed to answer them. *
12. if **opportunities for direct contact and communication of research** exist ~ (only effective, if intervention design simultaneously tries to enhance decision-makers' opportunity and motivation to use evidence)

Organizational capacities, i.e. organisational structures, processes and resources

Uptake of research is facilitated,

13. if **organizational structures, processes and resources on user side** are supportive (e.g. administrative support, capacities to articulate research needs) **
14. if intra-**organizational linkages** that promote knowledge sharing across the organization exist. *
15. if **intermediaries** translate and communicate knowledge to target audiences. **

Accessibility

Uptake of research is facilitated,

16. if dissemination of research is **well targeted** and research is easily **accessible**. ***
17. if **research products are adapted to users' needs**. *
18. if the researcher has a **clear intention towards uptake**, incl. timeliness of research (also at the cost of academic achievement, e.g. publication in peer-reviewed journals). *

Individual capacities

Uptake of research is facilitated,

19. if the researcher has additional **skills in storytelling, networking, and translating research results**. *
20. if capacity development interventions address **end-users' skills for evidence use and access** ~ (only effective, if intervention simultaneously tries to enhance decision-makers' motivation and attitudes towards evidence)

Context

Uptake of research is facilitated,

21. if the researcher has **good understanding of the broader system/context** in which the project operates (e.g. structural barriers) **
22. if the researcher has a good understanding of relevant **stakeholders**, **potential beneficiaries** and/or **intermediaries** (e.g. local NGOs, private sector actors, international agencies, civil servants, legislators and political parties, intermediaries, the media, local communities). **
23. in sectors where there is a high need and absorption capacity for **technical knowledge** (e.g. agriculture, engineering). **
24. in sectors which are **not politicized** and / or shaped by economic interests. **

Thank you very much for your support!

C) Interview guidelines beneficiaries

1. Personal information

1. Please briefly introduce yourself and describe your relation to the respective project.

2. Engagement with the project

1. How did you engage with the project? Please explain what activities this includes / included.
2. What was your motivation to engage with the project?
3. When did you engage with the project?
   a) Did you approach the project or did the project's staff approach you? Please explain.
4. How frequent did you engage with the project? Were you involved over the whole duration of the project?

3. Impact and uptake

1. Please describe the situation at your organization prior to the project.
2. What influence did the project/collaboration have on your daily work? What did you learn?
3. How can you apply what you have learned in your daily work?
4. What motivated /motivates you to use the knowledge, services or applications developed by the project?
5. Can you think of any socio-economic, political or logistical factors that have influenced the uptake of knowledge, services or applications developed by the project / the project's effectiveness?
6. Can you think of any unintended positive or negative effects of the project's activities?

4. Final questions

1. Did we miss an important topic you would like to discuss with us?
2. Are there other aspects that we should consider when carrying out the case study?

Thank you very much for your time and effort!

D) Interview guidelines PhD students

1. Personal information

1. Please briefly introduce yourself and describe your role within the respective project.

2. Impact and effectiveness

1. Please describe the situation at the Southern partner university prior to the project. In particular, we are interested in the following aspects:
   a) Available equipment and laboratories
   b) Research publications
   c) Qualification of staff
   d) Transdisciplinarity of the offered education
   e) Processes and structures regarding research
   f) Education and service functions.
2. Please describe to us, which kind of changes the project initiated in the respective field of research at the respective university.
3. Please explain to us what kind of knowledge and technologies the project created.
4. Please explain to us what kind of impact the project had on the broader system/context in which it operated.
5. Please describe to us, which kind of changes the project initiated in the respective field of education at the respective university.
6. Please tell us about socio-economic, political or logistical factors that have influenced your project's effectiveness.
7. To what extent have there been unintended positive or negative impacts?

3. Strategies and approaches to create the conditions for uptake

1. Was the research project designed as trans-, inter- or multidisciplinary research?
2. Which stakeholders did the project collaborate with?
   a) To what extent were the beneficiaries and/or end-users of the project involved in the research process?
   b) Did any of the project's stakeholders perform intermediary functions, or did the project collaborate with other intermediaries[56] (e.g. a university's extension office[57])?
3. In the VLIR-UOS Theory of Change, and in the strategies of its projects, there is an explicit vision that there will be an uptake of knowledge, applications and/or services and thus a wider use of the knowledge, applications and/or services created by the intervention. Please describe what dissemination activities / products were undertaken by the project.

[56] Intermediaries are organisations or individuals situated between research and practice/policy which work to enable exchange between producers and users of knowledge (e.g. extension unit within the Northern or Southern Partner Institution, NGOs, think tanks, etc.).
[57] Or (research) communication office, research and technology transfer office, liason office with private sector/public-private companies

a) Publication of research results and participation in academic conferences and seminars

b) Trainings, sensitization activities etc.

c) Dissemination/ restitution workshop, meetings

d) Reports, brochures, manuals, policy briefs

e) Media and social media related activities

4. To what extent did the project engage in strengthening skills for evidence use and access on the user side?
5. In your view, who "uses" the outputs/deliverables of your project, and how?

   a) Private companies

   b) Governments, civil servants and legislators

   c) Public/private service providers (e.g. hospitals)

   d) Civil society actors (e.g. media, local NGOs)

   e) Local communities

   f) Institutional stakeholders outside the project department (e.g. extension office)

   g) Other research institutes / higher education institutions

   h) International agencies or NGOs (incl. Belgian development actors)
6. In your view, what was the most successful approach to support uptake?
7. In your view, what external factors (e.g. timing) have influenced uptake of knowledge, services or applications developed by your project?
8. To what extent did organizational structures, processes and resources on producer and/or user side support dissemination and uptake?

4. Final questions

1. Did we miss an important topic you would like to discuss with us?
2. Are there any documents you think we should review? Could you send these to us?
3. Are there any stakeholders we should definitely speak to, in your opinion?

Thank you very much for your time and effort!

E) Interview guidelines Northern and Southern (co-) promoter

1. Personal information

1. Please briefly introduce yourself and describe your role within the respective project.
2. What are your expectations towards the evaluation that we are doing? Do you have any questions?

2. Objectives of the project

3. Please tell us about your project's overall objectives.
   a) Please describe how the deliverables of your project were meant to contribute to those objectives.
4. Please explain to what impacts your project aimed to contribute.

4. Impact and effectiveness

5. Please describe the situation at the Southern partner university prior to the project. In particular, we are interested in the following aspects:
   a) Available equipment and laboratories
   b) Research publications
   c) Qualification of staff
   d) Transdisciplinarity of the offered education
   e) Processes and structures regarding research
   f) Education and service functions.
6. Please describe to us, which kind of changes the project initiated in the respective field of research at the respective university.
7. Please explain to us what kind of knowledge and technologies the project created.
8. Please explain to us what kind of impact the project had on the broader system/context in which it operated.
9. Please describe to us, which kind of changes the project initiated in the respective field of education at the respective university.
10. Please tell us about socio-economic, political or logistical factors that have influenced your project's effectiveness.
11. To what extent have there been unintended positive or negative impacts?

5. Strategies and approaches to create the conditions for uptake

12. Please describe the project's set-up phase and stakeholders were involved.
13. Was the research project designed as trans-, inter- or multidisciplinary research?
14. Which stakeholders did the project collaborate with?
    a) To what extent were the beneficiaries and/or end-users of the project involved in the research process?

b) Did any of the project's stakeholders perform intermediary functions, or did the project collaborate with other intermediaries[58] (e.g. a university's extension office[59])?

15. In the VLIR-UOS Theory of Change, and in the strategies of its projects, there is an explicit vision that there will be an uptake of knowledge, applications and/or services and thus a wider use of the knowledge, applications and/or services created by the intervention. Please describe what dissemination activities / products were undertaken by the project.

    a) Publication of research results and participation in academic conferences and seminars

    b) Trainings, sensitization activities etc.

    c) Dissemination/ restitution workshop, meetings

    d) Reports, brochures, manuals, policy briefs

    e) Media and social media related activities

16. To what extent did the project engage in strengthening skills for evidence use and access on the user side?

17. In your view, who "uses" the outputs/deliverables of your project, and how?

    a) Private companies

    b) Governments, civil servants and legislators

    c) Public/private service providers (e.g. hospitals)

    d) Civil society actors (e.g. media, local NGOs)

    e) Local communities

    f) Institutional stakeholders outside the project department (e.g. extension office)

    g) Other research institutes / higher education institutions

    h) International agencies or NGOs (incl. Belgian development actors)

18. In your view, what was the most successful approach to support uptake?

19. In your view, what external factors (e.g. timing) have influenced uptake of knowledge, services or applications developed by your project?

20. To what extent did organizational structures, processes and resources on producer and/or user side support dissemination and uptake?

6. Cross-cutting issues

21. How does your project relate to other types of VLIR-UOS' interventions, e.g. IUC/NETWORK programmes and JOINT projects (at your university and beyond)?

7. Theory of Change

22. Based on project documents (proposal, annual reports), the international consultant reconstructed a theory of change of the selected project. This ToC moreover incorporates relevant approaches/ hypothesis from the conceptual framework. In the following, we would like to **discuss the reconstructed intervention logic** with you.

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[58] Intermediaries are organisations or individuals situated between research and practice/policy which work to enable exchange between producers and users of knowledge (e.g. extension unit within the Northern or Southern Partner Institution, NGOs, think tanks, etc.).

[59] Or (research) communication office, research and technology transfer office, liason office with private sector/public-private companies

8. Final questions

23. Did we miss an important topic you would like to discuss with us?
24. Are there any documents you think we should review? Could you send these to us?
25. Are there any stakeholders we should definitely speak to, in your opinion?

Thank you very much for your time and effort!

F) Interview guidelines stakeholders and partners

1. Personal information

1. Please briefly introduce yourself and describe your relation to the respective project.

2. Engagement with the project

1. How did you engage with the project? Please explain what activities this includes / included.
2. What was your motivation to engage with the project?
   a) Have you been involved in the project's design phase?
   b) If not, when did you engage with the project?
   c) Did you approach the project or did the project's staff approach you? Please elaborate.
3. Please describe your individual and your organization's role in the collaboration.
   a) Please describe your relationship with the project staff, e.g. with regards to trust and mutual understanding.
4. How frequent did you coordinate and exchange with the project (formally or informally)? Were you involved over the whole duration of the project?
5. Do you know of other stakeholders the project collaborated with?
   a) Can you think of other relevant stakeholders in the sector the project should have collaborated with, but did not?
6. Did you perform intermediary[60] functions, i.e. translated knowledge etc. developed by the project to other actors/users?
   a) Can you think of any other stakeholders of the project, which acted as intermediaries (e.g. transferred knowledge to you / your organization)?

3. Impact and uptake

7. From your perspective, what objectives did the project aim to achieve?
   a) Please describe how, in your view, the project aspired to contribute to those objectives.
8. Please describe the situation at your organization prior to the project.
9. What influence did the project/collaboration have on your daily work? Please elaborate in detail.
10. In your view, what did the project do to communicate research findings, services or applications it developed?
    a) Publication of research results and participation in academic conferences and seminars
    b) Trainings, sensitization activities etc.
    c) Dissemination/ restitution workshop, meetings
    d) Reports, brochures, manuals, policy briefs
    e) Media and social media related activities
    f) Other approaches?

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11. What motivated you / your organization to use the knowledge, services or applications produced by the project?
12. To what extent did the project engage in strengthening skills for evidence use and access on the user side?
13. To what extent did organizational structures, processes and resources on producer and/or user side support dissemination and uptake?
14. In your view, who else "uses" the outputs/deliverables of your project, and how?
    a) Private companies
    b) Governments, civil servants and legislators
    c) Public/private service providers (e.g. hospitals)
    d) Civil society actors (e.g. media, local NGOs)
    e) Local communities
    f) Institutional stakeholders outside the project department (e.g. extension office)
    g) Other research institutes / higher education institutions
    h) International agencies or NGOs (incl. Belgian development actors)
    i) Other actors?
15. In your view, what kind of impact did the project have on the broader system/context in which it operated?
16. Can you think of any socio-economic, political or logistical factors that have influenced the uptake of knowledge, services or applications developed by the project / the project's effectiveness?
17. Can you think of any unintended positive or negative effects of the project's activities?

4. Final questions

18. Did we miss an important topic you would like to discuss with us?
19. Are there any documents you think we should review? Could you send these to us?
20. Are there other actors we should definitely speak to, in your opinion?

Thank you very much for your time and effort!

F) Interview guidelines university management

1. Personal information

1. Please briefly introduce yourself and describe your role with regards to the project.
2. What are your expectations towards the evaluation that we are doing? Do you have any questions?

2. Impact and effectiveness

3. Please describe the situation at the university prior to the project. In particular, we are interested in the following aspects:
   a) Available equipment and laboratories
   b) Research publications
   c) Qualification of staff
   d) Transdisciplinarity of the offered education
   e) Processes and structures regarding research
   f) Education and service functions.
4. In your view, what were the project's overall objectives?
   a) To what extent did the objectives and the priorities of the project address the needs of the Department?
   b) To what extent did the project take into account institutional strategies and policies at Faculty/University level, when formulating its objectives?
5. Please describe to us, which kind of changes the project initiated in the respective field of research at the respective university.
6. Please explain to us what kind of knowledge and technologies the project created.
7. Please explain to us what kind of impact the project had on the broader system/context in which it operated.
8. Please describe to us, which kind of changes the project initiated in the respective field of education at the respective university.
9. Please tell us about socio-economic, political or logistical factors that may have influenced your project's effectiveness.
10. In your view, to what extent have there been unintended positive or negative effects?

3. Strategies and approaches to create the conditions for uptake

11. In the VLIR-UOS Theory of Change, and in the strategies of its projects, there is an explicit vision that there will be an uptake of knowledge, applications and/or services and thus a wider use of the knowledge, applications and/or services created by the intervention. Please describe what dissemination activities / products were undertaken by the project.
    a) Publication of research results and participation in academic conferences and seminars
    b) Trainings, sensitization activities etc.
    c) Dissemination/ restitution workshop, meetings
    d) Reports, brochures, manuals, policy briefs

e) Media and social media related activities

12. In your view, who "uses" the outputs/deliverables of the project, and how?
    a) Private companies
    b) Governments, civil servants and legislators
    c) Public/private service providers (e.g. hospitals)
    d) Civil society actors (e.g. media, local NGOs)
    e) Local communities
    f) Institutional stakeholders outside the project department (e.g. extension office)
    g) Other research institutes / higher education institutions
    h) International agencies or NGOs (incl. Belgian development actors)
13. In your view, what external factors (e.g. timing) have influenced uptake of knowledge, services or applications developed by the project?
14. To what extent did organizational structures, processes and resources at the university/department support dissemination and uptake, in particular with regards to:
    a) Extension unit[61] or officers
    b) Financial resources for dissemination activities or products
    c) Personal resources for dissemination activities or products
    d) Intra-organizational linkages between the Southern partner institution and (potential) users

4. Cross-cutting issues

15. Were there other VLIR-UOS' interventions, e.g. IUC/NETWORK programs and JOINT projects at the university before, during or after the project?
    a) How does the respective project relate to other VLIR-UOS supported interventions?

5. Final questions

16. Did we miss an important topic you would like to discuss with us?
17. Are there any documents you think we should review? Could you send these to us?
18. Are there any stakeholders we should definitely speak to, in your opinion?

Thank you very much for your time and effort!

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