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NWO-WOTRO

Evaluation of the Integrated Programmes

Final Report
January 2018

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Syspons GmbH
Prinzenstr. 84 – Entrance 1
10969 Berlin

Lennart Raetzell
Manager

Phone: (+49) 151 26 460 483
E-Mail: lennart.raetzell@syspons.com

Niko Spiegel
Consultant

Phone: (+49) 151 26 460 492
E-Mail: niko.spiegel@syspons.com

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Background

Around 2005 NWO-WOTRO developed a strategic framework for 2007-2010 which reflected a response to the then current developments in science and development cooperation. These included the growing field of interdisciplinary science, an emphasis on an interactive model of research and application, broad development policy targets such as the MDGs and the importance attached to evidence-based policies in development. In general, NWO-WOTRO moved to a more problem-oriented mission.

In this regard NWO-WOTRO's strategic plan for the years 2007-2010 outlined the following three objectives:

1. Excellent scientific research is conducted that is relevant for sustainable development and poverty reduction;
2. Scientific research results are used in development and practice;
3. Synergy between research and development policy & practice is enhanced;

Under its 2007-2010 strategy, NWO-WOTRO introduced the 'Integrated Programmes' scheme, which is the object of this evaluation. The Integrated Programmes scheme was aimed at "supporting excellent problem-oriented interdisciplinary research to the benefit of development and societal issues in the South". The Integrated Programmes scheme was intended to deliver challenging, out of the box insights in the complex problems related to development issues in general, and the MDGs in particular, and possible new directions for solutions while also deepening scientific knowledge to the benefit of informed decision-making and new development policies as well as building research capacities in the contexts of developing countries.

The Integrated Programmes awarded 4-year research grants via an open, competitive bidding. Research projects were selected based on the criteria of scientific excellence, development relevance and international collaboration and furthermore also interdisciplinary approaches, capacity building and involvement of non-scientific stakeholders. Projects budgets ranged between 600.000, - and 800.000, - Euros and comprised multiple individual projects, of which at least one researcher had to come from a development cooperation country. To date, 40 research projects have been funded by the Integrated Programmes.

Purpose of the Evaluation

After completion of the projects funded within the Integrated Programmes, NWO-WOTRO commissioned Syspons with the evaluation of the strategy plan "Science for Development (2007-2010)" and more specifically the component of the Integrated Programmes in order to carry out an independent external assessment of the programme along the evaluation criteria of relevance, effectiveness, impact and sustainability. Furthermore, the evaluation should provide recommendations for future NWO-WOTRO programmes for funding science for international development.

The evaluation was undertaken between July 2017 and December 2017. The evaluation team conducted an in-depth analysis of all relevant documents and data, in-depth interviews with programme stakeholders, qualitative interviews with researchers and the external stakeholders from 10 projects and a survey of all researchers. Based on the evaluation's findings, the evaluation team developed recommendations for NWO-WOTRO's future research funding programmes.

Key Findings and Conclusions

The **strength** of the Integrated Programmes is that it is both relevant and effective in addressing the needs of national policies and target groups in developing countries. Moreover, it is successful in delivering excellent scientific research and novel insights that are valued both from within the academic community and by non-scientific stakeholders in the respective countries where research took place. Furthermore, the Integrated Programmes succeeded in producing out-of-the-box insights to relevant development stakeholders.

A prerequisite for these accomplishments is the Integrated Programmes' emphasis on both excellent research with developmental relevance and at the same time high relevance for respective target groups, e.g. policy-makers or development practitioners, where research took place. By involving local external stakeholders in the proposal workshops right from the start of each project, the programme ensured that research questions and methods were appropriate to the needs of development stakeholders in each country. The fact that the Integrated Programmes awarded research through an open competition allowed researchers to identify pressing development issues in the local contexts where research was conducted. Research projects were established based on existing networks of researchers and practitioners. Thereby the Integrated Programmes could use the existing synergies and capacities. Such an open competition scheme by definition gives more flexibility to researchers and therefore has a less strong programmatic approach that pre-defines themes and approaches.

Moreover, the cross-disciplinary approach promoted out-of-the-box solutions to development challenges that incorporated a number of different perspectives. The Integrated Programmes' focus on international collaboration furthermore not only promoted further knowledge exchange and partnerships between Northern and Southern researchers, but also contributed to a higher scientific impact of publications.

However, the Integrated Programmes also exhibit some **weaknesses**. Firstly, the Integrated Programmes often addressed policy-makers at national levels, who showed an interest in the research but, compared to other target groups, were much less willing to apply research insights in policy-making. In contrast, in those cases where the Integrated Programmes did focus on local development organizations, district governments or local communities, application of research into development practice was much more pronounced. Secondly, the Integrated Programmes exhibits a mixed performance in terms of motivating non-scientific stakeholders to apply research insights into development practice and policy. Toolkits and support mechanisms for guiding researchers in their work with non-scientific stakeholders were not present at the start of the programme and only developed throughout the programme's implementation. On the other hand, NWO-WOTRO has already taken up these learnings and increased their support offering in later programmes, as is documented, for example, in the mid-term evaluation of GCP and ARF.

Based on the evaluation results, a number of **factors that positively contribute to developmental impacts** can be identified. The results of this evaluation indicate that especially those researchers who emphasized informal collaboration, relationship-building and frequent communication and interaction with their non-scientific stakeholders were generally more effective in influencing their target groups to apply research insights. Moreover, building and maintaining a close link to decision-makers right from the start of the project and supporting them by developing and implementing practical tools and methods in their work positively contributed to impacts. Also, researchers who were motivated by the desire to implement practical solutions and characterized their work as being of a high-risk / high-gain nature were moreover more likely to influence the practices of their respective target groups. Although these behaviours were exemplified by a share of the researchers in the Integrated Programmes, the programme was yet lacking a comprehensive, systematic approach for promoting them more comprehensively.

In **summary**, the Integrated Programmes already provide a strong basis for promoting excellent scientific research that is relevant for international development. Moreover, the Integrated Programmes may be further strengthened in their approaches for accompanying development stakeholders to integrate out-of-the-box insights into their development practice and policy.

Recommendations

Based on the findings of the evaluation the following 8 recommendations for future programming in the area of science for development are put forward. They are grouped into recommendations on the strategic and operational level.

<u>Strategic recommendations</u>

1. *NWO-WOTRO should continue to fund international collaboration of researchers with interdisciplinary approaches.*

2. *In future research funding programmes NWO-WOTRO should finance projects which are (1) of a high risk / high gain nature, (2) emphasize intense informal collaborations and intense relationship-building with non-scientific stakeholders, (3) build and maintain close links to decision-makers from the start until the end of the project and (4) develop and implement practical tools and methods in their projects.*
3. *NWO-WOTRO should address target groups with stronger willingness to apply research insights into development practice, for example by formulating selection criteria.*
4. *In future research funding programmes that involve PhDs, NWO-WOTRO should plan ahead with a stronger need for capacity building for PhD candidates.*
5. *NWO-WOTRO and the Netherlands' Ministry of Foreign Affairs should continue emphasizing research that caters to the development contexts of countries where research takes place.*
6. *NWO-WOTRO together with the Ministry of Foreign Affairs should decide whether they want to capitalise on the achieved results of the Integrated Programmes by funding successful projects to further their impact.*

Operative recommendations

7. *NWO-WOTRO should continue to demand an intense involvement of target groups and non-scientific stakeholders in the proposal phase of the bidding process. Moreover NWO-WOTRO should further intensify the involvement of non-scientific partners throughout the research.*
8. *A future programme should provide more support but also guidance and some control mechanisms to researchers on dissemination activities and achieving impacts, i.e. target groups actually implementing the results.*

1. Introduction

Syspons was commissioned by NWO-WOTRO to conduct the "Evaluation of Science for International Development". The objective of the evaluation was to analyse the programme results in order to inform future programming[1]. More specifically, it evaluates a component of NWO-WOTRO's 2007-2010 strategy "Science for International Development", which outlined a focus on scientific excellence, developmental relevance and international collaboration. This evaluation thereby focused on the component called 'Integrated Programmes', an open competition for scientific research for development. It assesses the Integrated Programmes' contribution to objectives one and two of the NWO-WOTRO strategy 'Science for International Development (2007-2010)': (1) Excellent scientific research is conducted that is relevant for sustainable development and poverty reduction; and (2) Scientific research results are used in development policy and practice. Based on the assessment of the Integrated Programmes, conclusions are drawn for the overall strategy.

Key users of the evaluation results are NWO-WOTRO, the Dutch Foreign Ministry as well as the Dutch and southern universities implementing the projects under this programme.

The evaluation was based upon the OECD-DAC criteria **relevance**, **effectiveness**, **impact**, and **sustainability**. It took place from June 2017 to December 2017. In this period Syspons carried out an analysis of all relevant documents and data, a structured analysis of a sample of project documents, semi-structured interviews with stakeholders of a sample of projects and an online survey with researchers that implemented the projects[2]. A detailed description of the applied methods in this evaluation can be found in the Inception Report in the annex.

The report is structured as follows:

- **Chapter 2** introduces the Integrated Programmes and outlines its Theory of Change.
- **Chapter 3** presents the evaluation results.
- **Chapter 4** outlines the conclusion and recommendations for future programming.
- In the **annex** the following documents can be found: list of interviewees, interview guidelines for the project interviews, the survey and the inception report (including its annexes)

[1] NWO-WOTRO. (2017). Integrated Programmes. Evaluation Science for International Development- Terms of Reference, p.2
[2] The survey had a response rate of 35.9% (93 out of 259)

2. The Integrated Programmes at a Glance

2.1 NWO-WOTRO and its Strategy Plan 2007-2010 – Science for international development

NWO-WOTRO was founded in 1964 to promote academic research in tropical regions.[3] First as part of ZWO (Netherlands Organisation for Pure Scientific Research) and later of NWO (Netherlands Organisation for Scientific Research), NWO-WOTRO focused mostly on scientific excellence in its first years of existence, while society-oriented or applied research was gradually added to its portfolio since the late 1980s. Additionally North-South cooperation and interdisciplinary research became more pronounced over time. Next to the parent organisation NWO, the Dutch Ministry of Foreign Affairs has been a major financial donor for NWO-WOTRO over the years.

Around 2005 NWO-WOTRO developed a strategic framework for 2007-2010 which reflected a response to the then current developments in science and development cooperation. These included the growing field of interdisciplinary science, an emphasis on an interactive model of research and application, broad development policy targets such as the MDGs and the importance attached to evidence-based policies in development.[4] In general, NWO-WOTRO moved to a more problem-oriented mission.[5]

In this regard NWO-WOTRO's strategic plan for the years 2007-2010 outlined the following four objectives:

4. Excellent scientific research is conducted that is relevant for sustainable development and poverty reduction;
5. Scientific research results are used in development and practice;
6. Synergy between research and development policy & practice is enhanced;
7. Internal operations and external relations are effective, efficient and transparent.[6]

Together, these objectives should contribute to the general mission: *to generate new knowledge that is relevant for sustainable development and poverty reduction in low- and middle-income countries.*

a) Under this strategic framework NWO-WOTRO designed three lines of action to reach these objectives: a) an open competition for innovative, medium-sized research projects
b) thematic research programmes in cooperation with strategic partners and
c) strategic support activities.

The first line of action, included the 'Integrated Programmes' scheme, which is the object of this evaluation.[7]

2.2 The Integrated Programmes

The Integrated Programmes scheme was aimed at "supporting excellent problem-oriented interdisciplinary research to the benefit of development and societal issues in the South".[8] The funding scheme was made up of two strands of projects:

1. research that focused on development issues across a wide spectrum of themes;
2. research that focused on research agendas related to the MDGs, specified in four (and later three) themes that NWO-WOTRO derived from this global agenda (Poverty and Hunger, Global Health Policy and Health Systems Research (GHPHSR), Sustainable Environment and

[3] NWO-WOTRO Science for Global Development. (2014). NWO-WOTRO 50 Years-Forward Thinking, pp. 8-12
[4] NWO-WOTRO. (2006). Science for international development. Strategy plan 2007-2010, pp. 9-10
[5] NWO-WOTRO. (2006). Science for international development. Strategy plan 2007-2010, p.19
[6] This point was only later reflected as a concrete objective, and is not as such categorized in the 2007-2010 Strategy document
[7] As a funding scheme, "Integrated Programmes" had been funded by NWO-WOTRO since 1997 (Cohort Analysis, 2008)
[8] NWO-WOTRO. (n.d.). NWO-WOTRO 'Science in Action for International Development' Progress Report 2010, p.3

Global Relationships). From 2010 on a separate thematic GHPHSR programme was commissioned.

Altogether, the Integrated Programmes scheme was intended to deliver the following results[9]:

- challenging, out of the box insights in the complex problems related to development issues in general, and the MDGs in particular, and possible new directions for solutions;
- critical evaluation of existing development issues and policies;
- scientific knowledge to the benefit of informed decision-making and new development policies;
- high quality, long term international (North-South) research partnerships focused on local or regional research questions in relation to development issues;
- local capacity development in development research and scientific approaches;
- strengthening of Dutch scientific community based on quality selection and selective investment.

2.2.1 Selection Criteria and Projects Funded

Within the Integrated Programmes, research projects were selected based on criteria that focused on scientific excellence, development relevance and international collaboration. Furthermore, requirements outlined a preference for interdisciplinary research, capacity building, involvement of stakeholders from outside the traditional scientific community and knowledge sharing activities. The projects could be budgeted between at a maximum of 700.000, - Euros and comprised multiple individual projects, of which at least one researcher had to come from a development cooperation country.

The selection process was structured as follows: a first selection of proposals was made that were granted an initial financial contribution to organize a workshop with stakeholders to develop the project proposal further. Then, the final selection of projects was made per call. The proposals were reviewed by a) international peer reviewers, b) a societal panel and c) a scientific advisory committee, which provided the final ranking of proposals to the NWO-WOTRO board. The NWO-WOTRO board took a final decision on funding, based on this advice.[10]

Applying for research funding turned out to be rather competitive: the average success rate of an application was 12%, based on the first seven calls.[11] In the end, by way of two open calls per year and a total of nine calls between 2007 and 2011, 40 Integrated Programmes projects were funded.

These projects focused on a diversity of topics. According to the application instructions for the Integrated Programmes, the projects were either to be positioned within the four (and later three) themes that NWO-WOTRO designed to relate to the MDGs, or, to relate to a topic outside of these themes. Of the 40 funded projects, 63% projects belonged to one of the four themes, as depicted in figure 1 [12]. The other 38% of projects focused on themes ranging from nanotechnology for development to legal empowerment in pollution cases. This distribution is rather, but not exactly similar to the equal division (50%) of themed and "open" category projects that was envisaged by NWO-WOTRO.[13]

[9] NWO-WOTRO. (2006). Science for international development. Strategy plan 2007-2010, p.20
[10] Integrated Programmes. (n.d.). Instructions for full applications 2007, p. 1
[11] PriceWaterhouseCoopers. (2010). Balancing excellence and relevance. Evaluation of NWO-WOTRO for the period 2007-2010. Final report. p.20
[12] Based on NWO-WOTRO classification in annual reports, which differs slightly from the project proposals. However, the theme of last four funded projects is based on their proposals, as their themes were not reflected in the annual monitoring report. Moreover, it is only based on main themes of projects, not secondary themes.
[13] NWO-WOTRO. (June 30th, 2009). NWO-WOTRO 'Science in Action for International Development' Progress Report 2008, p.7

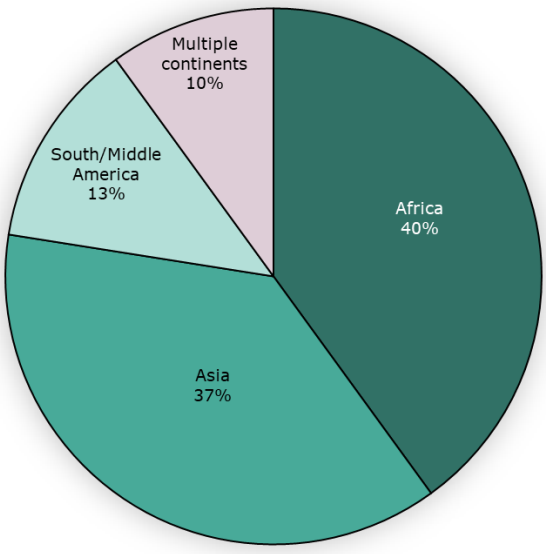
Figure 1: Thematic focus of the Integrated Programmes

Type of project	Theme	Number of projects [14]	Percentage of total projects	
Thematic (MDGs)	1. Poverty and Hunger	11	27.5%	62.5%
	2. Global Health and Health Systems (not included in the last 3 calls)	3	7.5%	
	3. Sustainable Environment	6	15%	
	4. Global Relationships	5	12.5%	
Focused on development issues across a wide spectrum of themes		15		37.5%

In terms of research location in low or middle-income countries, the focus of the projects was on Asia (most strongly on Southern and South-Eastern Asia) and Africa (mostly on Eastern Africa).[15] Fewer projects took place in Middle or South America and some were cross-continental. In figure 2, the distribution across continents is depicted for the total of 40 projects.[16]

Some projects focused on one country, others took place in multiple countries. On average, research was planned in 1.7 low and middle-income countries per project (varying between 1.0 and 4.0 countries).[17] One share of the projects was implemented in various countries (which was the case for 18 projects) and another share took place in only one country (22 projects). However, according to the document analysis, projects did not necessarily operate on a national basis. Some focused on specific regions or districts.

Figure 2: Distribution of the Integrated Programmes across continents



[15] This information was based on NWO-WOTRO annual reports or project proposals in case these had been reviewed during the document analysis.
[16] This information was based on NWO-WOTRO annual reports or project proposals in case these had been reviewed during the document analysis. The graph represents each project with one value, regardless of whether one or several countries were included in the project.
[17] In case projects for which the project proposals were reviewed indicated that they also carried out research in countries that were not low or middle income countries, these were not taken into account

Furthermore, the Integrated Programme supported 201 individual researchers in total. On average, projects included about 5 researchers.[18] Based on the sample of 22 projects of which the project documents were reviewed, the projects consisted of several smaller research projects, either PhD or post-doc projects, while senior researchers also contributed separately in many projects.

On average NWO-WOTRO awarded a financial budget of € 652.577,99 to the funded projects, ranging from €479,546, - to €700.000, -.[19] The last research projects under the Integrated Programmes scheme ended in 2017.

2.2.2 Theory of Change of the Integrated Programmes

The programme has an M&E protocol with a logical framework but did not yet have a theory of change. Therefore, Syspons reconstructed a Theory of Change on the basis of the logical framework as well as strategy documents and the explorative interviews, see figure 3 below. The Theory of Change served as the basis for the evaluation: Syspons evaluated the outputs, outcomes and impacts described below.

The Theory of Change consists of boxes, which represent impact, outcomes, outputs and inputs / activities and arrows. The arrows represent causal impact hypotheses, e.g. an arrow between an output and an outcome means that it is hypothesized that the achievement of this output will lead to the outcome. In this way, the Theory of Change is a linear order of causal links that link the programme's direct outputs to the overall impacts it aspires to achieve.

Impacts (red boxes) are positive and negative, intended or unintended long-term effects produced by a development intervention. The overarching **impact** that NWO-WOTRO aimed to contribute to with the Integrated Programmes was that approaches in development policy and practice would change due to newly generated insights, to the benefit of beneficiaries of development interventions.

Outcomes (green boxes) are short-term and medium-term effects of an intervention's outputs. Two strands of outcomes contribute to this impact. One strand is related to objective 1 of NWO-WOTRO's 2007-2010 strategy: "Excellent scientific research is conducted that is relevant for sustainable development and poverty reduction" and another strand is related objective 2 of this strategy: "Scientific research results are used in development and practice".

In terms of the strand of outcomes related to research (objective 1), the desired **outcomes** consisted of a strengthened research capacity in developing countries, new interest among the Dutch scientific community in research for development and the formulation of or contribution to new development paradigms. Leading up to this, new scientific approaches as well as out-of-the-box insights in complex development issues that challenged existing development approaches were expected to be developed.

Outputs (black boxes) are the direct effects of an intervention. When it comes to **outputs** that would contribute to these outcomes, the Integrated Programmes projects were meant to result in partnerships between Dutch and researchers in developing countries in which knowledge and expertise was exchanged. In addition, non-scientific stakeholders were ideally continuously involved in the research projects. Also, the researchers were expected to conduct excellent scientific research.

The strand of **outcomes** related to development (objective 2) builds on the insights gained through the research activities. It was foreseen that reference to gained insights would be made in debates, policy documents and development programmes and informed decision-making would take place in development programmes through the usage of research results. In terms of **outputs** that contributed to these outcomes directly, the projects were asked to provide a 'translation' of the research results into applicable formats, such as training manuals, tools or policy briefs. Research results were

[18] This is based on a data file provided by NWO-WOTRO that lists the researchers of the Integrated Programmes. It only includes PhD and postdoc researchers. Due to the short time span of some of the individual projects listed, it can be concluded that it also lists researchers that dropped out of the programme. In addition, according to the document analysis of 22 sample projects senior researchers sometimes contributed with research, which is not reflected in this numbe. Moreover, this list also does not include supervisors or coapplicants. For the online survey, also individuals that NWO-WOTRO had registered as main applicant and coapplicants were sent an invitation, in addition to the researchers included in the numbers provided here.

[19] This is based on a data file provided by NWO NWO-WOTRO that aggregated the data from grant letters and from the settlement letters for all 40 projects. The document analysis indicated that in some cases projects benefitted external funding, which is not included in this data. Budget used was not available for one project. On average, the budget spent was € 41,426.70 lower per project.

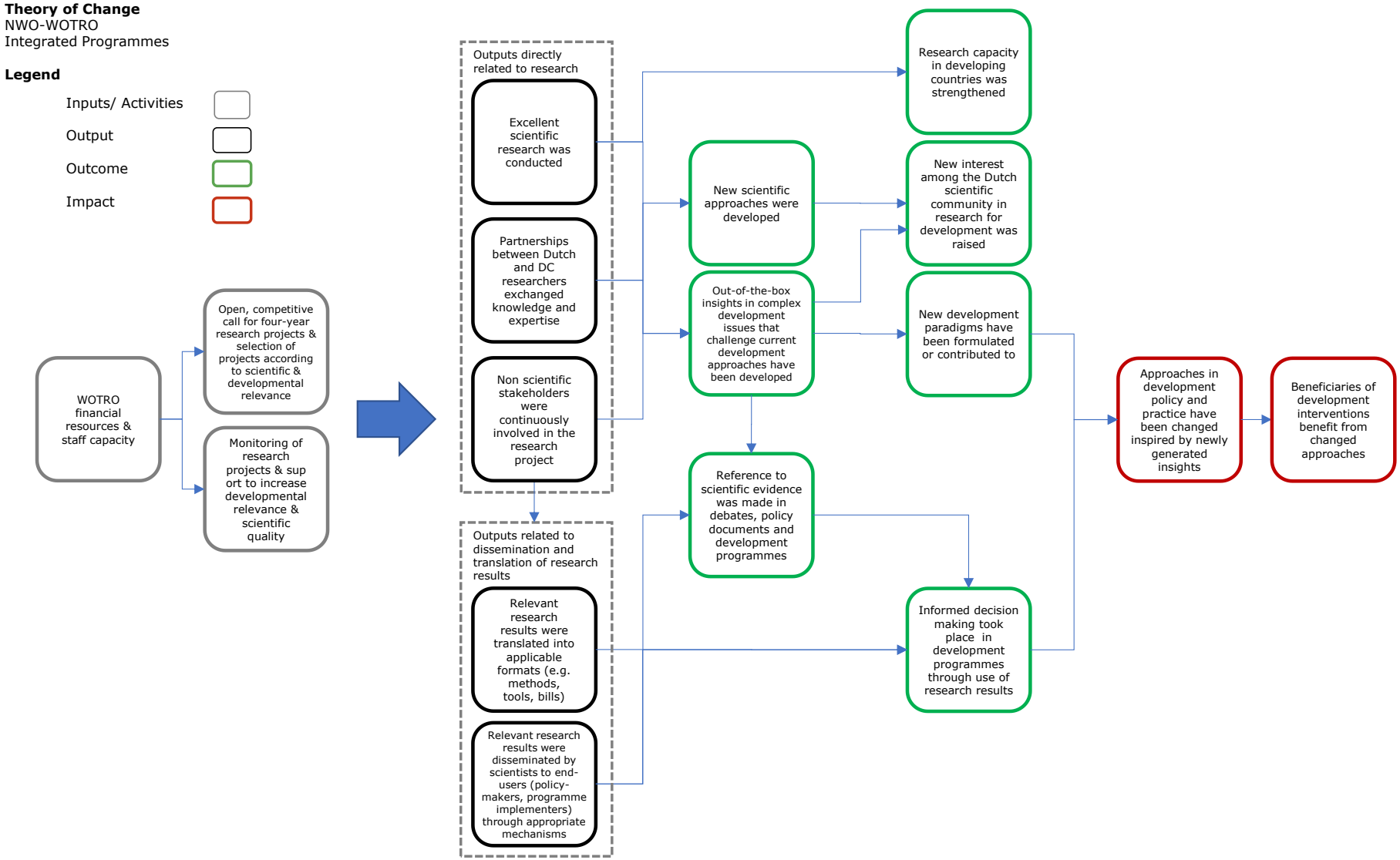
also to be disseminated to end-users, consisting of policy-makers and programme implementers, through appropriate mechanisms.

Inputs / activities (grey boxes) are defined as the resources used by an intervention and the actions undertaken by the intervention. NWO-WOTRO's primary inputs are the financial and personnel resources. Their activities are the open calls for projects and the corresponding selection of projects for funding as well as the ongoing monitoring and support for projects in achieving scientific and developmental results.

The purpose of this evaluation was to assess to what extent the collected data supports impact hypotheses, i.e. the arrows between the boxes. Critically, it particularly test what roles the outputs in the two groups of scientific research and dissemination of results play in achieving the overall impacts. Moreover, it will be assessed in what ways NWO-WOTRO's activities in monitoring and supporting the projects have contributed to the realization of outcomes.

Since the Theory of Change was reconstructed based on programme documents, it represents a generalized programme logic. The current version of the Theory of Change has logical leaps between some of the outputs and outcomes. With the collection of additional data, Syspons will unravel the mechanisms for reaching outcomes and impacts in more detail.

Figure 3: Theory of Change for the Integrated Programmes



3. Evaluation Results

This chapter presents the evaluation results and assesses them along the evaluation criteria relevance, effectiveness, impact and sustainability.

The evaluation results stem from the analysis of documents and data, 30 interviews with main applicants, researchers, external stakeholders and an online survey of the researchers. Based on the availability of email addresses, the survey was sent to 259 researchers, of which 93 participated. This translates into a response rate of 35.9% and covers 34 out of the 40 funded research projects. However, it must be noted that self-reporting has inherent biases. By triangulating results from the survey with interview data, Syspons attempted to reduce this self-reporting bias as much as possible within the given parameters of the evaluation.

3.1 Relevance

The criterion *relevance* refers to the *raison-d'être* of any given programme. Its analysis renders insights into whether a programme will be or is doing the *right thing.* Therefore, the question of whether a programme is relevant is the first question an organisation should answer even before a programme proposal is formulated or any actions are taken.

For the Integrated Programmes, relevance is assessed in two areas: relevance for the general development agendas of the Netherlands and of the host countries on the one hand, and relevance for specific target groups on the other hand. The following sections describe the findings for each of these areas.

3.1.1 Relevance for Development Agendas

The relevance for development agendas was evaluated by investigating both whether projects were aligned with the Millenium Development Goals (MDGs), whether they were relevant to the development agenda of the Netherlands and whether they were aligned to the agenda of the respective developing countries.

As mentioned in section 2.2, the application instructions for the Integrated Programmes required that projects were either to be positioned within the four (and later three) themes that NWO-WOTRO designed to relate to the MDGs, or, to relate to a topic outside of these themes. Of the 40 funded projects, 63% projects belonged to one of the four themes, as depicted in figure 1 in section 2.2.1. The other 38% of projects focused on themes ranging from nanotechnology for development to legal empowerment in pollution cases. This distribution is rather, but not exactly similar to the equal division (50%) of themed and "open" category projects that was envisaged by NWO-WOTRO.[20]

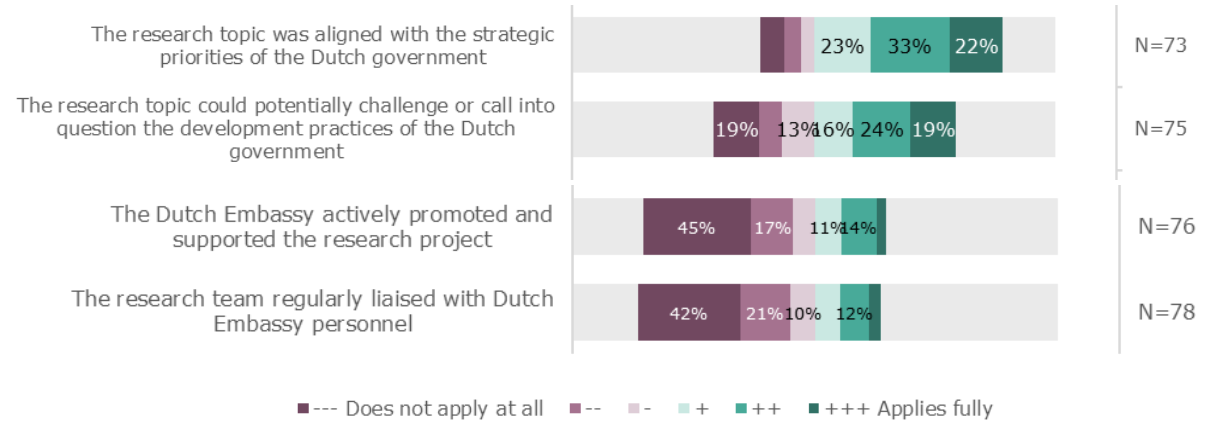
Regarding the **Dutch development agenda**, the Netherlands` Ministry of Foreign Affairs is the main external donor of the Integrated Programmes. Hence, it was evaluated to what extent projects were relevant to the Ministry`s development agenda in the following ways: Firstly, for the Integrated Programmes to actually contribute to the Netherlands´ development agenda, the topics of projects should be aligned with the Ministry´s regional and thematic strategic priorities. Secondly, the level of collaboration with the Dutch government or embassy was chosen as an indicator. Collaborating with embassies was not a requirement of the Integrated Programmes. Therefore it was not expected to find a strong collaboration. Still, it was taken up as an indicator in order to show to what extent projects have chosen to use collaboration and communication with embassies as a method for promoting the application of the scientific results. Lastly, it was analysed to what extent the projects had the potential to challenge or call into question the Dutch government`s development practice. While the latter cannot stand alone as an indicator for the Integrated Programme`s relevance, the potential to change or challenge academic and policy discourse underlines the importance of any research given the critical epistemological function of science.

[20] NWO-WOTRO. (June 30th, 2009). NWO-WOTRO 'Science in Action for International Development' Progress Report 2008, p.7

According to the online survey, research topics were aligned with the strategic priorities of the Dutch government for little more than half of the researchers (55%), see figure 4. This result is not surprising when considering that the Integrated Programmes were open and did not require the research to be aligned to the Netherlands' priorities. Moreover, the Netherlands' development agenda changed over the years where the research was being implemented.

According to qualitative data, researchers did not actively reflect their linkage with the Netherlands' development agenda. Instead they focused on the objectives of the countries where their research was in and, more specifically, on the needs of their respective target groups.

Figure 4: Extent to which research was aligned with the Dutch development agenda in different dimensions



Source: Syspons 2017

The second indicator for relevance to the Dutch development agenda concerns the way projects collaborate with the Dutch embassy in the sector. The Integrated Programmes should supplement or contribute to activities that reflect the Dutch objectives. More intense cooperation with Dutch institutions would likely indicate higher knowledge exchange and alignment with policy objectives. It also reflects on a research project´s potential for change of Dutch development policies and practise due to direct contact. According to the survey, projects did not closely collaborate with Dutch Embassies. Only 17% of survey respondents said that they liaised and were supported by Dutch embassies, while almost half of the respondents claim that this did not apply at all to their project (see figure 4). Qualitative data from interviews also confirms this. Projects had very little interaction with Dutch Embassies or Dutch organizations. Dutch actors were almost never referred to by interviewees. In only one of the interviewed projects a Dutch organization facilitated contact to the target group and the Embassy financed a follow-up project. An interviewee in another project clearly indicated she had tried to make contact with the Embassy, but this was not reciprocated. In the online survey, only four survey respondents indicated that their project was part of a Dutch development project, five other respondents indicated that their project closely collaborated with a Dutch development project. Overall, only 16% of respondents stated that the embassies actively supported or promoted the research project. Hence, it cannot be said with certainty whether the low level of collaboration was due to the project´s or the embassy´s lack of initiative.

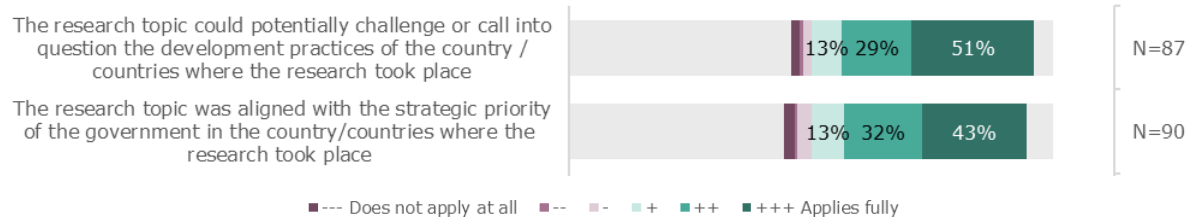
Finally, another way for the Integrated Programmes to be relevant to the Netherlands´ development agenda is the potential to change Dutch policy and practise by challenging the current academic and policy discourse. Here, 43% of respondents indicated that their research topics could potentially challenge or call into question the development practises of the Dutch government (see figure 4). This is considerably less than the assessment of the challenging potential to the developing host countries development agenda (see below).

Besides being relevant to Dutch development policies, it is critical that the research funded by NWO-WOTRO is **relevant to the developing host countries** where research takes place. The Integrated

Programmes aim to contribute to the sustainable development policies and practices in these countries. Therefore, the Integrated Programmes should focus on important problems that inhibit development as identified by these countries. This relates not only to relevance, but also to the legitimacy of the programming.

According to the survey, research within the Integrated Programmes was aligned with the strategic priorities of the countries where the research took place for three quarters (75%) of the researchers. Furthermore, the Integrated Programmes are meant to produce scientific results that are used in development policies and practise. In this regard the online survey shows that the vast majority of the researchers (80%) think that their project could challenge or call into question the development practises of the countries where the research took place (see Figure 5). Hence, according to survey data research could potentially provide an impetus for change.

Figure 5: Extent to which Research Topic was aligned with the Strategic Priority and Practises of the Government in the Countries where the Research took place



Source: Syspons 2017

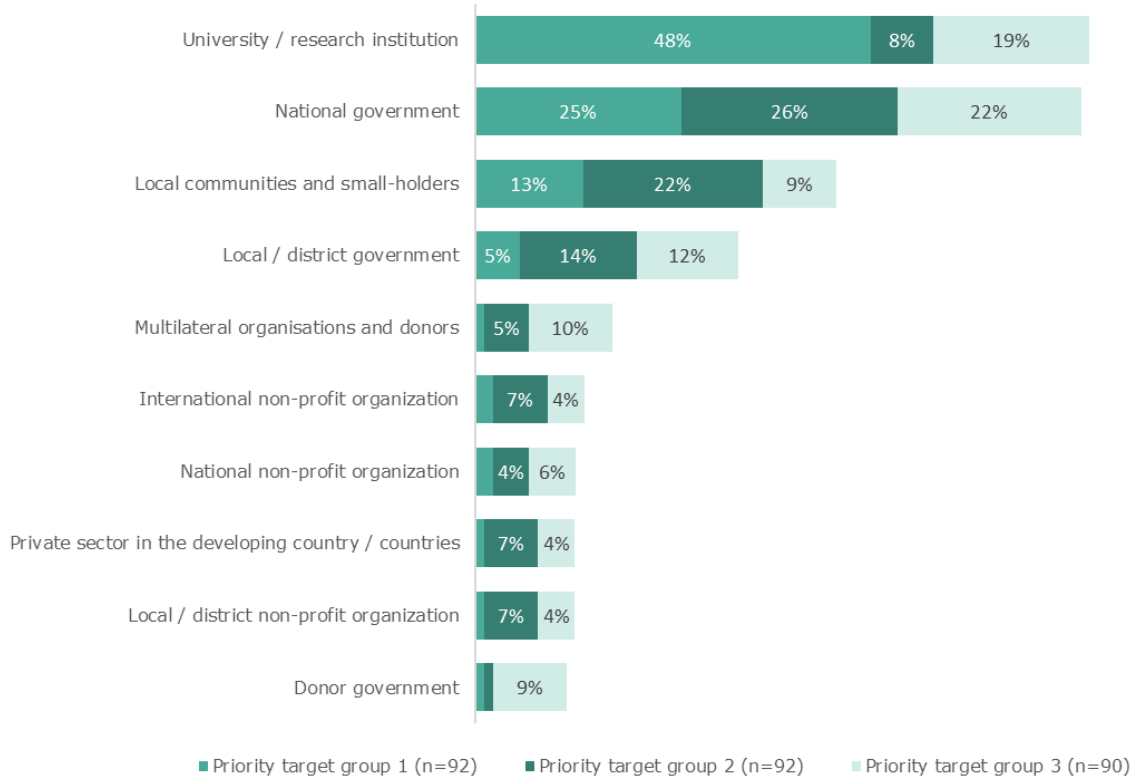
3.1.2 Relevance for Target Groups

Relevance for target groups further specifies whether projects are addressing issues of high importance for development actors or beneficiaries. This impacts the potential of projects to change policies or practises of development actors. Furthermore, this sheds light on whether the relevant actors are being addressed. With target groups, we refer to actors that can use the research results.

According to the document analysis of 22 out of the 40 funded projects, there was a vast diversity of research projects with different themes, approaches and target groups. Some research focused on a specific beneficiary (e.g. farmers), whereas for other projects it is more difficult to define one specific beneficiary group as many different groups were targeted in the research. Moreover, the theories of change behind the projects are rather different from each other. It was not necessarily the case, for example, that it was planned to first gather results on the small scale and then scale up relevant solutions that were developed. Nor did the researchers always plan to work with policy-makers to further implement policies or tools that were based on the research results, but rather with NGOs or international organizations. Also, the projects differed in the ambition of their foreseen results. Some projects aimed merely at disseminating the results of the research while others aimed at influencing stakeholders or providing them with a new tool to improve their work. For example, researchers of one project stated that their objective was to contribute to capacity building for national stakeholders and improving the adult literacy rate in their country while another project merely aimed at contributing to a better local understanding of contemporary globalization as its development objective without any more specific concrete actions for influencing development practice.

According to the survey, however, the Integrated Programmes have certain main target groups. The most important target groups consist of university or research institutions and national governments, although local communities and smallholders and local / district government were also addressed. Figure 6depicts the priority target groups for the Integrated Programmes, based on survey results. Survey respondents were asked to pick the three priority target groups for their research project.

Figure 6: Priority Groups viewed as Target Groups of the Projects[21]

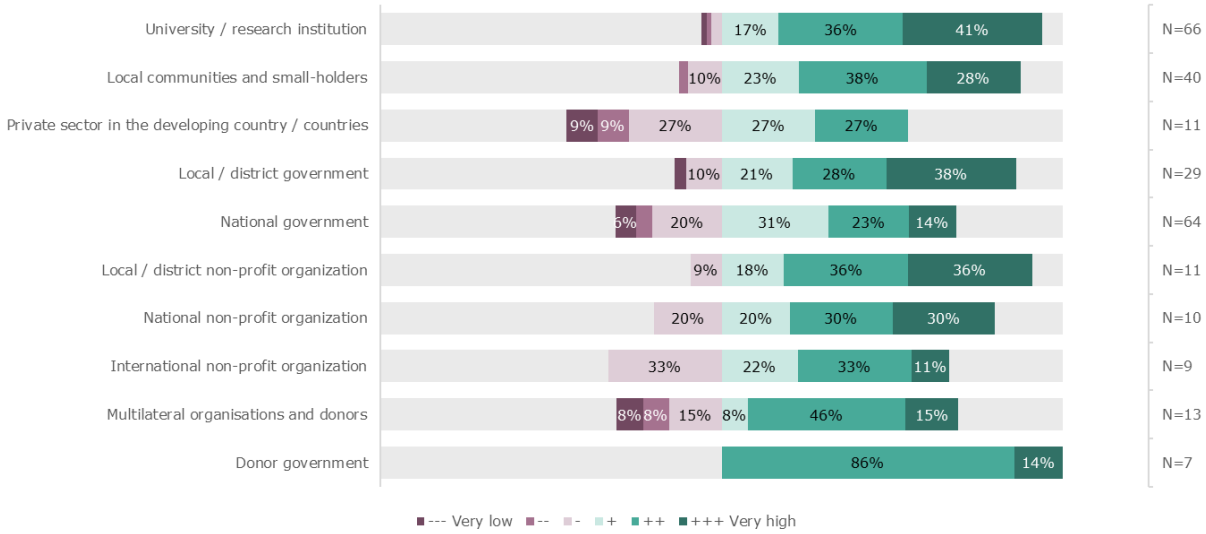


Source: Syspons 2017

Moreover, the research funded under the Integrated Programmes should be relevant for the respective target groups it addresses. According to the survey results (figure 7), the **majority of target groups showed interest in the research**. However, not all target groups were equally interested in the research projects. The strongest interest in the research came from donor governments, university/research institutions, local / district non-profit organizations, local communities and smallholders and local / district governments. Comparatively lower interest was shown by the private sector in the host country, international NGOs and national governments.

[21] The three priority target groups were asked for in three different questions, not each respondent continued to the third question/target group. Thus, N differs between target group

Figure 7: Extent to which target groups were interested in the research



Source: Syspons 2017

The qualitative data from interviews with external stakeholders confirmed the findings of the survey. The interviewed external stakeholders all stated that they were generally interested in the research projects and their results. External stakeholders are any stakeholders not directly involved in the research project as a researcher or applicant. Two examples from the qualitative interviews illustrate the ways in which projects addressed specific policy or practical problems that are relevant to the work of external stakeholders: The first project example concerns research on medical treatment. The population from a rural area was not receiving proper treatment for a disease since treatment was not available in the area and required a long and thus expensive stays in urban areas. The research project in question precisely aimed to find a less extensive treatment to support this rural population. In the second project example, farmers were suffering from a plant disease that was increasingly prevalent in the area due to climate change. The researchers aimed to find management and mitigation strategies for this disease. One external stakeholder claimed that the local government was very interested in the results due to the challenge that this disease was posing.

However, relevance was not (immediately) assured for all stakeholders. For example in one project external stakeholders claimed that although the research topic did address their needs and interests, the researchers had not sufficiently taken the reality of target groups into account. Correspondingly, research results in this case were relevant, but did not result in applicable solutions. The focus on theoretical notions was also apparent in another project. The project aimed at influencing and changing theoretical approaches in development work rather than tackling practical development problems in the country of research.

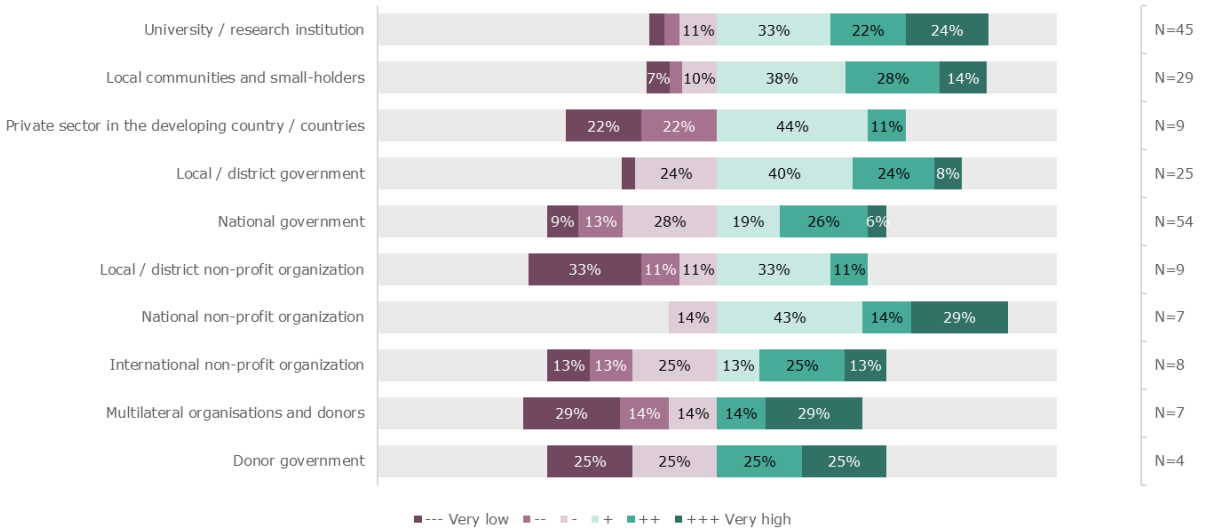
Other examples illustrate that researchers also adapted their research focus during the project. While they initially focused on theory-building, they then gradually shifted to working on more practical problems that are relevant to the target groups. In one of the interviewed projects the researchers' initial assumptions proved to be wrong. As the researchers learned more about the situation of local communities, they realized that their initial research question did not address the most prevalent needs. Consequently they changed their research approach and the respective outputs they would produce. The external interviewee appreciated that the researchers did not continue with what was planned in the project proposal and shifted to a more relevant approach instead. In another project an external stakeholder emphasised that the researcher changed their focus after interacting with research subjects at the start of the research. These examples illustrate the **need for interacting with target groups and flexibility to adjust research questions to their needs**.

However, even when a research question does address the needs of the target groups, it may still not be relevant. Beyond a mere interest, researchers should identify and work with target groups that are willing to apply the insights produced by researchers into their work. Not surprisingly, target groups' willingness to implement changes based on the research results is generally lower than the

interest they show. National governments are the second highest prioritized target group by researchers. However, they are comparatively less willing to implement changes than a number of target groups. On the other hand, other groups like national non-profits organisations and local communities / small-holders have a higher willingness to apply research insights (see figure 8).

Qualitative interview data illustrates in what way **governments lacked the willingness to change**. According to interviews, governmental stakeholders had different political priorities. In some cases, personnel changes led to changes in priorities or low institutional memory. Moreover, the prioritisation of "national government" as a main target group does not realistically reflect the projects' set-up. The qualitative data shows that national governments were not among partners most closely collaborated with. Partners that were directly involved during the projects, such as NGOs or local extension services, were influenced as they learned from the research at first hand. Most projects were not closely positioned to national political processes, making it comparatively harder to influence such processes.

Figure 8: Extent to which Target Groups were willing to Implement Changes based on the Research Results

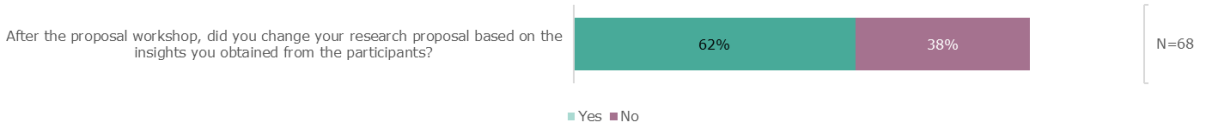


Source: Syspons 2017

Another critical indicator for relevance lies in the **way in which researchers involved target groups in the design of their projects**. By involving target groups and non-scientific stakeholders in an early stage, researchers may adjust their design and increase its relevance to these groups. Moreover, it could also affect whether the research design is appropriate for the purpose of the project such as logistical planning that corresponds with local circumstances and research methods that can effectively research the targeted population sample. The appropriateness of the research design influences how reliable and thus relevant the research results will be.

In this light the Integrated Programmes made it mandatory for its projects to hold a proposal workshop with stakeholders before the researchers submitted a fully-fledged research proposal. The purpose of this workshop was to discuss the research design with external stakeholders and thereby increase the projects' relevance in the local development contexts. As a result of these workshops the majority of researchers changed their research proposals based on insights gained from participants in the proposal workshop according to the survey results (see figure 9).

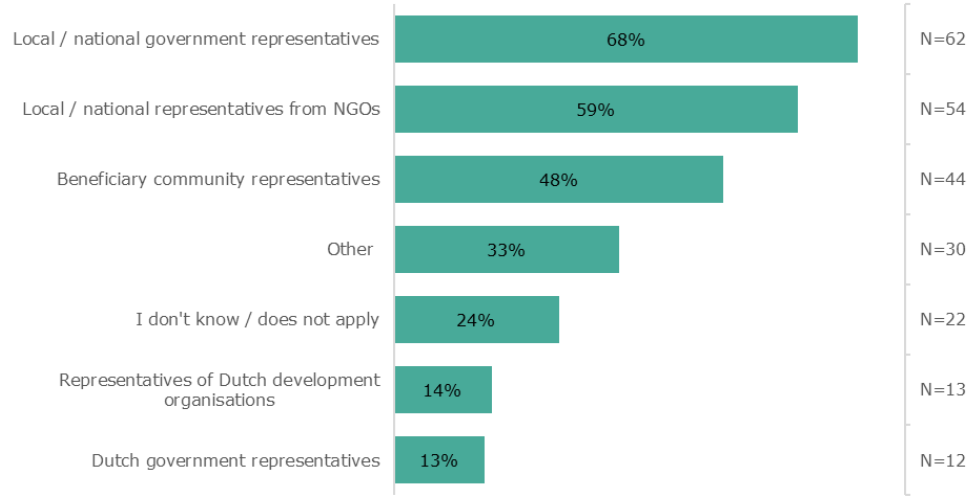
Figure 9: Extent to which Research Proposals were changed based on Insights gained from Participants in the Proposal Workshop



Source: Syspons 2017

These workshops were generally used to involve non-scientific stakeholders. Participants in the proposal workshops came from outside the research context, as shown in figure 10: Workshop participants consisted mostly of government representatives, representatives from NGOs and representatives of the beneficiary communities. However, survey respondents indicated in the "other" category that academic actors were also present. Input received during proposal workshops thus did not solely come from non-scientific stakeholders.

Figure 10: Attendees of the Proposal Workshops

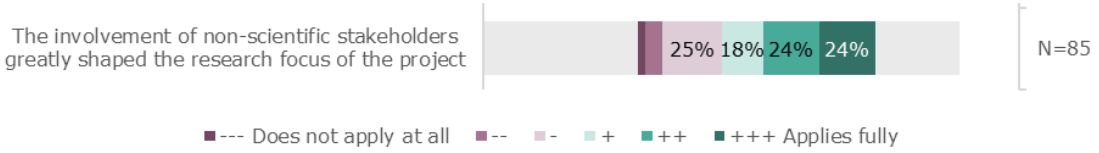


Source: Syspons 2017

The research proposal workshop was not the only moment during which input from non-scientific stakeholders could be taken into account. In one project, for example, a key interviewed stakeholder was not included in the stakeholder workshop, but indicated that he had had major influence on the project's design during its implementation.

According to the online survey, around half of researchers (48%) feel that non-scientific stakeholders shaped the focus of their projects in general, as shown in figure 11 below. The results of the qualitative interviews further elaborate that projects included the input from external stakeholders for different aspects of their project. In this regard, external stakeholders interviewed for about half of the covered projects specifically indicated that non-scientific stakeholders had been included by the researchers in the design of the project. This meant that the input of non-scientific stakeholders was either included during the proposal phase or during the project's implementation. This did not only pertain to focus only, however, but could also pertain to logistical advice, for example. In addition, when taking all qualitative interview data into account, the majority of projects considered input from external stakeholders for at least some aspect of the project's design or at some point during the project.

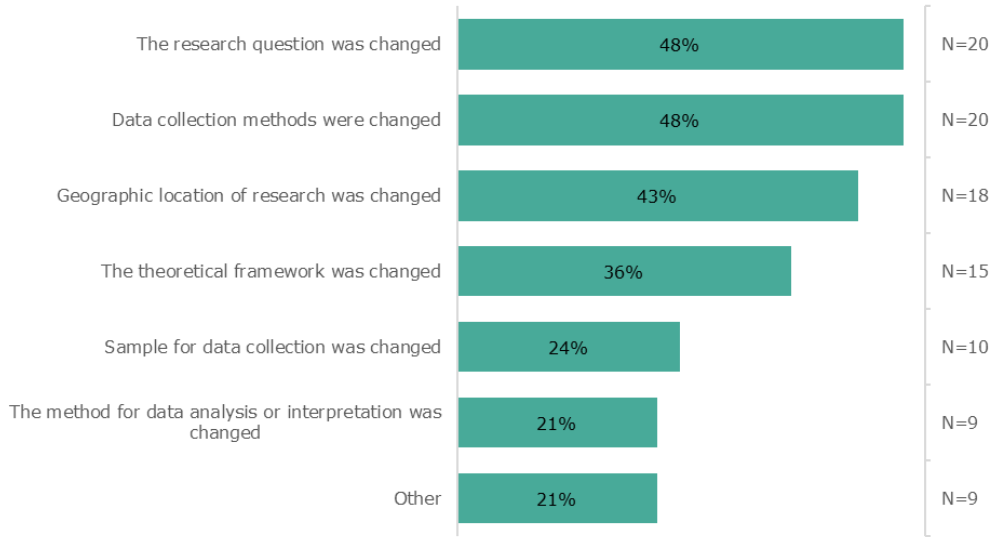
Figure 11: Extent to which Involvement of Non-Scientific Stakeholders shaped the Research Focus of the Project



Source: Syspons 2017

The quantitative data confirms this. Based on the input from the proposal workshop, researchers most frequently changed the research question, data collection methods, location of research and changes to the theoretical framework, see figure 12. This indicates that the relevance of the research was increased in terms of addressing the needs of these stakeholders. It also indicates that the appropriateness of the design increased, by using more appropriate methods to collect data.

Figure 12: Changes made to the Research Proposal based on the Proposal Workshop



Source: Syspons 2017

3.1.3 Assessment of relevance

The evaluation team concludes that the Integrated Programmes are relevant, but with limitations. In general, the programmes are designed in a way to ensure a high level of relevance, in particular for the host country and/or target groups, through the organisation of proposal workshops and giving the opportunity to adapt the focus or methodology of the research based on input from relevant stakeholders.

In addition the Integrated Programmes fund projects that focus mostly on areas that are prioritised by the respective developing countries. These projects also have the potential to challenge existing policies or practises and are in most cases practise-oriented. However, the Integrated Programmes do not target the relevant target groups in all cases. For example, while national governments were mentioned in more than half of the cases as priority one or two target group in the survey, the national government´s interest or eagerness to make use of the research was much lower than that of NGOs or local communities.

Furthermore, the expert team concludes that the Integrated Programmes were only partially relevant to the Netherlands´ development agenda. Here, there may be a conflict of interest between the objectives of the Netherlands and the respective developing countries. This situation is also reflected and possibly aggravated by the low level of interaction with the Dutch embassies.

Nevertheless, the Integrated Programmes possess the potential to challenge current development practices in almost half of the cases with regard to the Dutch development agenda and in over three

quarters of cases vis-à-vis the respective developing country´s agenda. This clearly shows that the Integrated Programmes can make an important contribution to the outlook of international development cooperation on an individual case level.

Furthermore, the relevance of the Integrated Programmes for its target groups could be improved by more strongly addressing target groups that have a stronger interest in implementing research insights into their development practice. A stronger focus on national non-profit organizations, local communities and small-holders could improve target group relevance of the research projects.

3.2 Effectiveness

Insights on the effectiveness of the Integrated Programmes are of central importance to NWO-WOTRO. The criterion captures to what extent the objectives of the strategy plan 'Science for Development (2007-2010)' have been achieved and what mechanisms facilitate or impede the achievement of objectives. The main objectives of the Integrated Programmes are that innovative research projects conduct excellent scientific research that is relevant for sustainable development and poverty reduction and that research results are used in development policy and practice. For the analysis of this objective the evaluation uses the innovation diffusion model to assess the ways in which development organizations and governments took up research insights into their work. For further information on the conceptualization using the innovation diffusion model, please refer to the inception report in the annex. In order to capture the relevant sub-objectives, this chapter is structured along four areas:

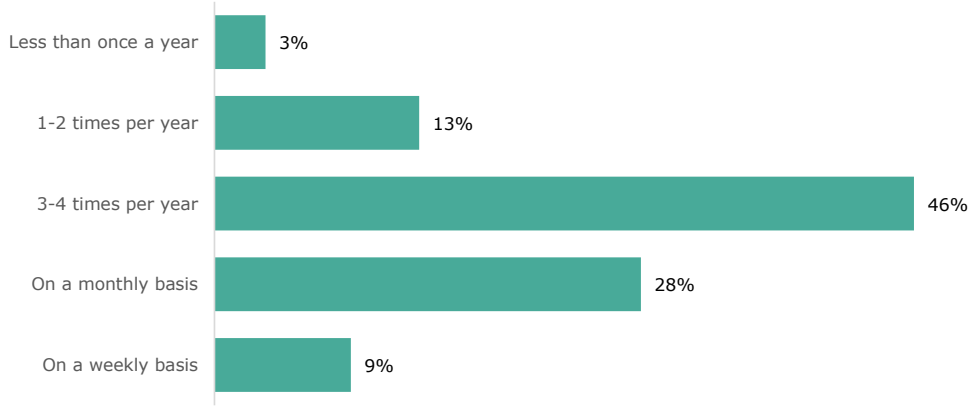
- Strengthening of research capacities and ongoing research
- Scientific excellence and novelty
- Translation and dissemination of research results
- Uptake of scientific results in development practice

According to the survey, ca. 22% of researchers' individual sub-projects have not been completed yet. Completing the research project forms the basis for achieving effects such as dissemination and uptake of results. Therefore, the results especially in these respective sections should be viewed in the light that some projects are currently not yet finished with their work.

3.2.1 Strengthening of Research Capacities and Ongoing Research

The Integrated Programmes aim at building research partnerships that foster knowledge exchange, contribute to capacity building of research institutions and raise interest in the Dutch scientific community. In cross-institutional research teams, fostering exchange between institutions and strengthening research capacities of the teams are important foundational factors in delivering excellent research. In this regard frequent communication and interaction is a key aspect of functional collaboration. Here the survey data shows that nearly half of the researchers interacted with researchers from other institutions in their teams at least 3-4 times a year. Over a third of the researchers even interacted with other institutions on a monthly or weekly basis (figure 13).

Figure 13: Frequency of Interaction with Researchers from other Institutions within the Research Projects (in person, by phone or email)



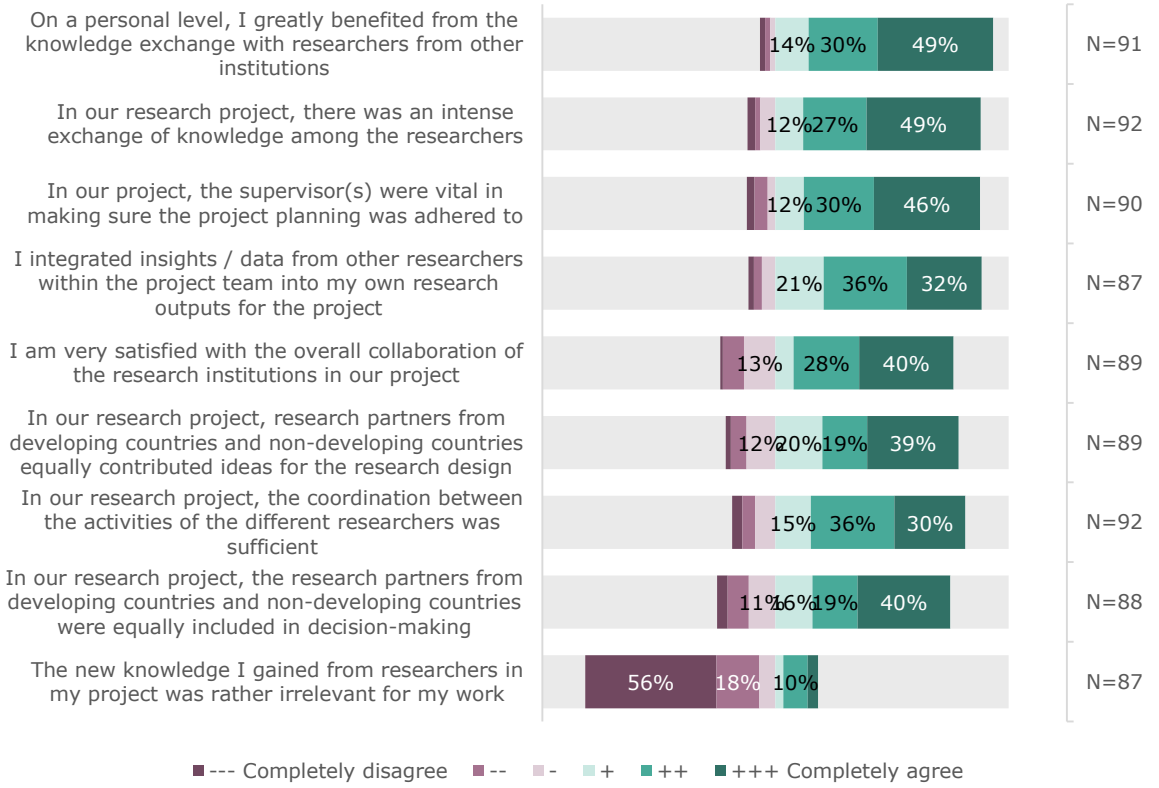
Source: Syspons 2017, N=89

More frequent interaction however does not automatically lead to a better collaboration. The quality of collaboration can better be grasped by the appreciation of the team members for each other. More specifically, good collaboration is characterized by participants benefiting from each other's knowledge and perspectives and appreciating their supervisors. According to the survey responses depicted in figure 14, there was an intense knowledge exchange in the research projects, from which the researchers greatly benefitted personally (86% and 79% agreement respectively). Project coordination and collaboration between institutions was also rated positively overall, but somewhat lower than knowledge exchange (66% and 68% rate of agreement respectively). In most projects, the supervisors were seen as important to the overall implementation of the project: 76% agreed that supervisors were vital in making sure the project planning was adhered to.

Similarly, equality of collaboration is important when it comes building fruitful collaborations at eye level. However, the **equality of Southern and Northern research partners was seen somewhat more negatively**: Only 58% agreed that partners from developing and non-developing countries contributed to ideas regarding research design equally. Similarly, 59% agreed that partners from developing and non-developing equally contributed to decision-making.

Results from the qualitative interviews confirm this. The majority of researchers described their collaboration as positive and their knowledge exchange as valuable. In four cases, the fruitful collaboration between researchers in the different countries was particularly emphasized. However, the collaboration between senior researchers in the Netherlands and in countries where the research took place was not always succesful though. In three projects, respondents reported challenges in the collaboration on the senior level. In these cases, expectations differed between senior researchers from the Netherlands and the partner countries.

Figure 14: Research Partnership and Knowledge Exchange



Source: Syspons 2017

While strong research partnerships are the foundation for delivering excellent research, capacity building for PhDs in core skills relating to research is also critical. The Integrated Programmes aim at building capacities for the participating researchers in order to make them more equipped for relevant development research. Researchers should increase their skill level in a number of areas: proficiency in research methods, expertise in their respective fields, proficiency in coordinating research projects and ability of involving stakeholders. According to the survey responses, the researchers improved their average expertise levels in all of these areas. Figure 15 shows the researchers' current expertise levels (total size of the bar chart) and contrasts it to their average competency levels at the start of the projects (dark green area of the chart). The light green area of the chart marks the average expertise increase of the researchers. Competency levels were assessed with the statement "I / the research team was proficient / was an expert in …" on a 6-step Likert scale from 0 to 5. In the figure the mean values of the answers are shown, where 0 is defined as "does not apply at all" and 5 is defined as "applies fully".

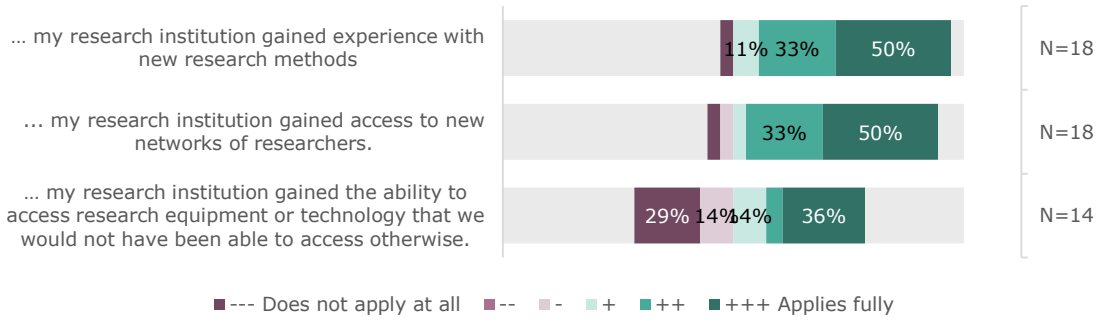
Figure 15: Difference in Expertise Levels at the Start of the Projects vs. at the End of the Projects

Source: Syspons 2017

In addition, open text data from the survey suggests that several researchers involved in the projects appreciated the Integrated Programmes' focus on capacity building, which was moreover also confirmed by the qualitative interviews. However, qualitative interviews also suggest that **capacity building also requires resources and in some cases comes at a trade-off with scientific or developmental impacts**. According to some project leaders, the PhDs' skill levels were lower than initially expected. Hence additional time had to be invested in developing writing skills to an adequate level, thereby reducing the time that could be spent on research and dissemination. Consequently, in these cases capacity building for the researchers may have contributed to a comparatively lower achievement of impacts.

Beyond the level of the individual researcher, capacity should also be built at the institutional level. In other words, institutions should benefit from the programme by gaining access to new networks, methods and potentially equipment. According to the survey, research institutions in developing countries were strengthened with regards to gaining experience to new research methods and gaining access to new networks of researchers – see figure 16 below. Furthermore, 43% of researchers gained the ability to use new research equipment and technology.

Figure 16: Strengthened Capacities for Research Institutions in Developing Countries



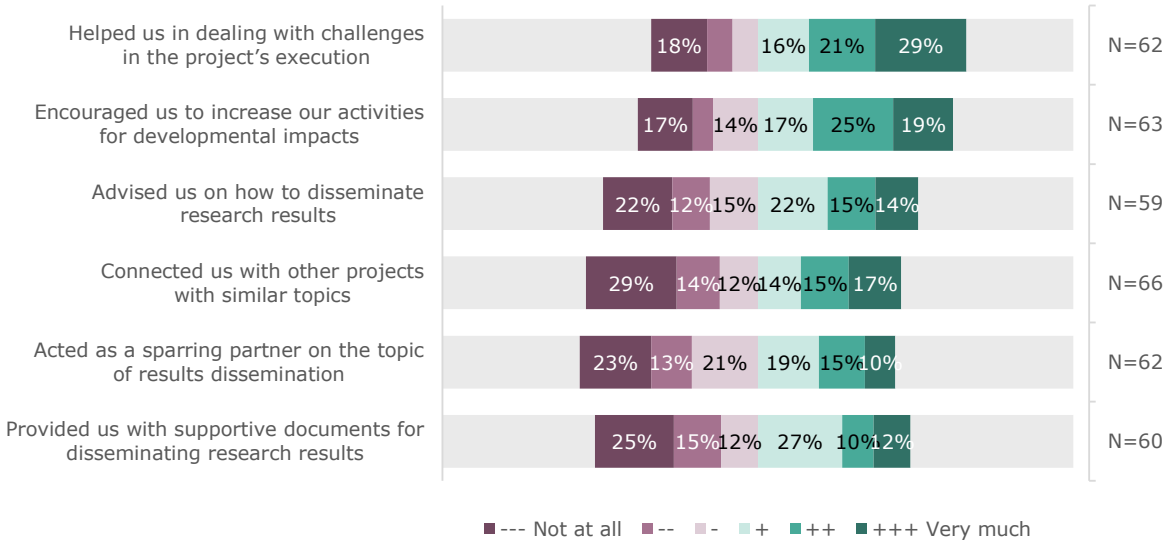
Source: Syspons 2017

To facilitate the above described changes the Integrated Programmes worked with a number of support mechanisms such as mandatory mid-term reviews, optional sparring, facilitating knowledge exchange between projects, providing advice on request and a toolbox for disseminating research results. These support mechanisms were not conceptualized right from the start of the programme. They were gradually developed and expanded over the course of the programme's implementation. The support mechanisms aimed at supporting projects to enhance their project's execution, support their activities for research dissemination and thereby increase their scientific and developmental impacts.

According to the survey, NWO-WOTRO supported roughly about a third to a half of the projects (figure 17). NWO-WOTRO's strongest contribution was in the area of helping respondents deal with challenges and encouraging them to increase activities for developmental impacts. A smaller share of respondents received advice and sparring on results dissemination. However, these responses are influenced by the fact that not all respondents had been in touch with NWO-WOTRO. Of the survey respondents that filed an additional comment with regards to this topic, about a third indicated they were not aware of support provided by NWO-WOTRO. Five respondents specifically noted that NWO-WOTRO should be in touch with researchers themselves, instead of solely with the project leader. This would for example help to address challenges that PhD researchers experience. On the other hand, several researchers who did interact with NWO-WOTRO explicitly appreciated the flexibility and dedicated approach of its staff.

WOTRO already took up these learnings and increased their support offering for the funded projects in the following years. For example, programmes that followed, such as GCP and ARF, already incorporated a more systematic support system for funded researchers from the start. The funded researchers appreciated these support mechanisms, as documented in the mid-term evaluation of GCP and ARF.

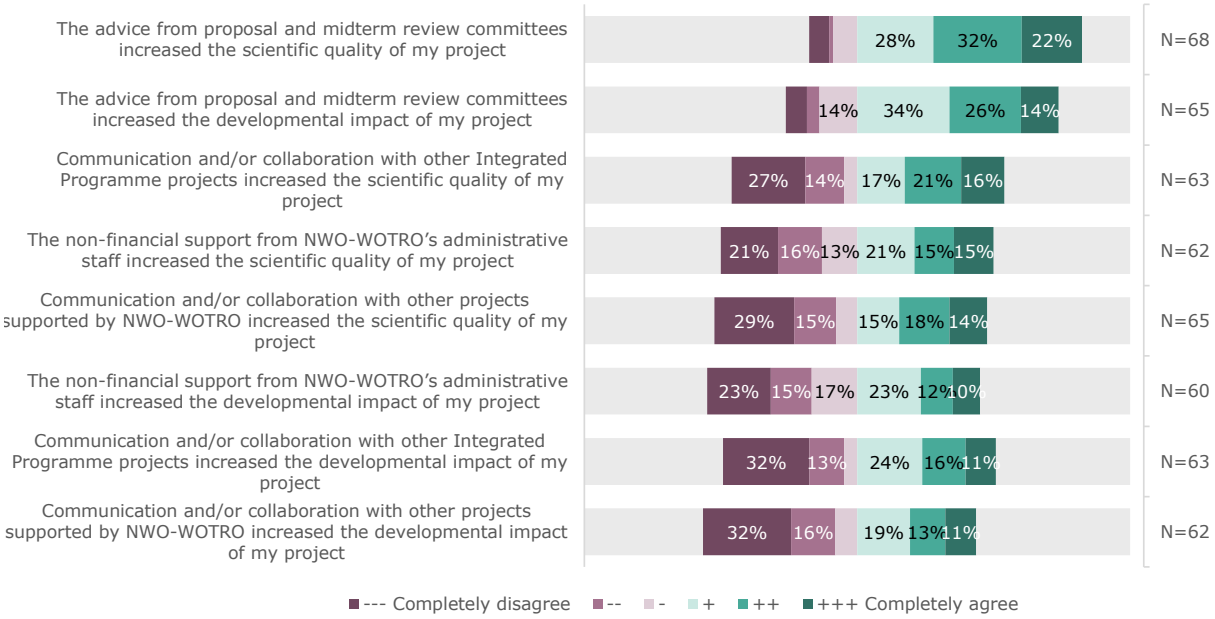
Figure 17: Support from NWO-WOTRO's Administrative Staff



Source: Syspons 2017

Support mechanisms are only effective when they are also appreciated by the target groups they try to serve. Therefore it is critical to know to what extent researchers thought that these mechanisms helped them in reaching their scientific and development objectives. According to the survey, advice from review committees in the proposal and the mid-term reviews contributed to the scientific quality for 55% of researchers and to developmental impacts for 40% of respondents. Other support mechanisms did not contribute to scientific and developmental impacts as strongly. 22% - 37% of researchers stated that the different optional support mechanisms contributed to their project impacts. In comparison, 22% - 50% of researchers stated that they received different optional support mechanisms from NWO-WOTRO. Consequently, a majority of researchers that received support, also rated it positively (figure 18).

Figure 18: Benefits from NWO-WOTRO's Support



Source: Syspons 2017

3.2.2 Scientific Excellence and Novelty

Conducting excellent scientific research is one of the key objectives of the Integrated Programmes. Novel research outputs should contribute to the development of new scientific approaches. Moreover, the programme aims at developing out-of-the-box insights in complex development issues. Such novel insights should challenge the status quo of current development approaches and moreover contribute to new development paradigms.

One measure of scientific output is the annual number of publications per researcher. Based on the available documentation of research outputs, participating researchers and project duration, Syspons calculated the number of scientific outputs that researchers published annually during the project. This calculation can only give a rough indication of researcher productivity. For example, Syspons included all applicants and co-applicants into the calculation. Both applicants and co-applicants, however, often took on the role of supervisors in the projects. They did not spend all of their time supervising and researching for the Integrated Programmes. Their publications outside of the Integrated Programmes are not included in this calculation. Moreover, the total length of the projects may lead to a further distortion. Since projects were usually divided up into several sub-projects and some of the researchers may have completed the projects earlier. The total project length depicted here, however, is the length that it took until the last researcher in a project finished their work. Additionally, some of the researchers may have already moved on to working on new publications in other projects, which are not taken into account in this calculation.

Syspons adopted the methodology of a study of Norwegian publication rates by Rorstad & Aksnes (2015) in order to have a basis of comparison. Based on this methodology, books are counted as equivalent to 5 publications. Co-authored papers are not counted multiple times but rather divided fractionally among the researchers. Based on the given limitations and the described methodology, a researcher in the Integrated Programmes annually creates on average 0.70 scientific outputs (figure 19).

Figure 19: Calculation of Research Productivity in the Integrated Programmes

Researchers in the Integrated Programmes	
PhDs	136
Post-Docs	59
Applicants	40
Co-applicants	46
Researchers total	**281**
Scientific outputs of the Integrated Programmes	
Scientific Article	470
PhD	62
Professional Publication	83
Conference Paper	132
Chapter in Book	200
Book equivalents (weighted by a factor of 5)	205
Scientific outputs total	**1,152**
Researcher productivity	
Average project duration in years	5.84
Outputs per researcher	4.10
Outputs per researcher per year	**0.70**

This rate of annual outputs is roughly within the range of the results of article equivalents calculated by Rorstad & Aksnes (2015). Although the average of scientific outputs is lower than the averages from the comparison study, it must be noted that the Integrated Programmes particularly focused on PhD research who have a lower output compared to other groups (figure 20). Moreover the calculated annual researcher output for the Integrated Programmes very likely misses a certain share of researchers' outputs that were made outside of the Integrated Programmes.

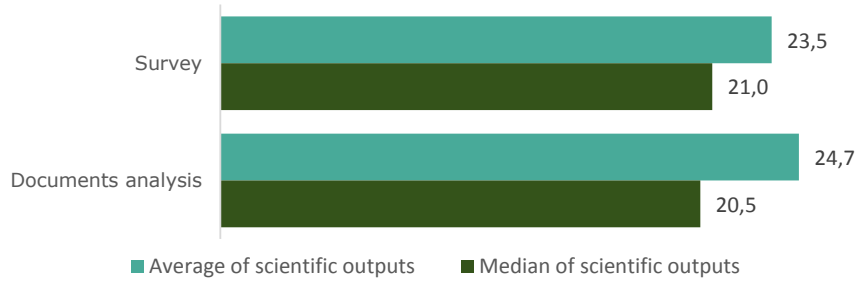
Figure 20: Annually published Article Equivalents (mean) per Person by Academic Position in four Norwegian Universities in 2005-2011

Academic position	Social sciences	Humanities	Medicine	Engineering & technology	Natural sciences	Calculated average across disciplines
Professors	1.77	2.39	0.96	1.54	1.11	1.36
Associate professors	1.44	1.88	0.69	1.09	0.8	1.02
Postdocs	1.53	1.89	0.43	0.78	0.59	0.85
PhD students	0.96	1.22	0.29	0.59	0.43	0.57
Medical doctors/physicians			0.47			
Total/average	**1.51**	**2.02**	**0.57**	**0.96**	**0.79**	**0.98**
Number of article equivalents	5,821	3,691	11,974	4,754	9,558	35,798
Number of persons	1,979	1,340	4,021	1,912	3,151	12,403

Source: Rorstad & Aksnes (2015)

In order to cross-check the results from the documents analysis, Syspons also asked the researchers to self-report the number of publications that they achieved in their research projects. The average self-reported research outputs correspond to the averages in NWO-WOTRO's monitoring data (figure 21).

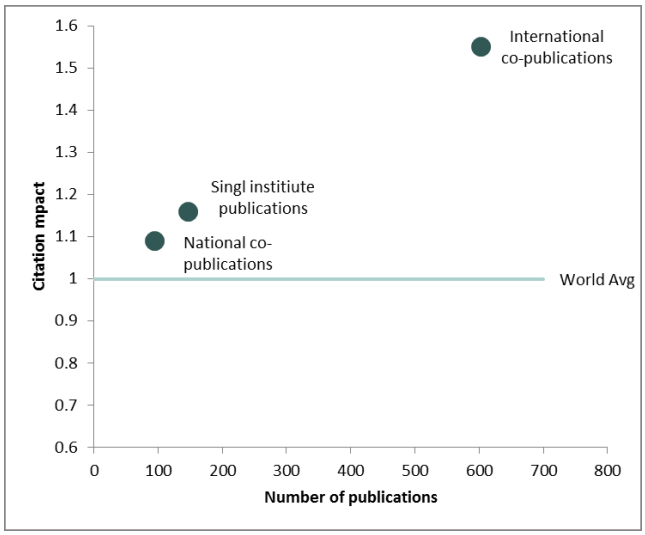
Figure 21: Comparison of Documents Analysis and Self-Reported Data on Scientific Outputs per Project



Source: Syspons 2017

Beyond the number of outputs per researchers, scientific excellence is often approximated by the number of citations of the publications. A bibliometric assessment conducted by Noyons and van Wijk (2017) analyses citation impacts of NWO-WOTRO funded research between 2007 and 2015 using the measure of MNCS, the average field-normalized citation impact, and PPtop10, the contribution to top 10% most highly cited papers (actual compared to expected). The study finds that the MNCS of NWO-WOTRO funded projects is 40%-45% above world average and the PPtop10 is at 50%-70% above expected. The majority of the research projects marked as "international co-publication" originates from projects funded by the Integrated Programmes. Moreover, the study finds that almost all publications funded by NWO-WOTRO involve international collaboration. In addition, publications that were created in international collaboration far outperformed those created in national collaboration or by a single institution in both the MNCS and the PPtop10 scores (figure 22).

Figure 22: Citation Impact of NWO-WOTRO funded Research between 2009 and 2015 [22]

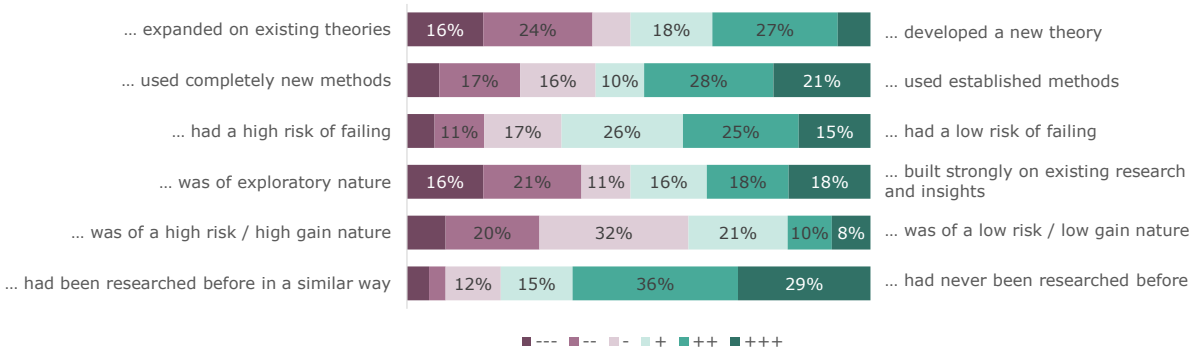


Source: Noyons and van Wijk (2017)

Besides achieving research outputs and citations, an innovative research funding programme should focus on projects that explore new fields and that are of a high-risk / high-gain nature. According to the survey, the majority researchers characterize their projects as being of a high-risk / high-gain nature (61%). Moreover, 80% of researchers state that their research had never been researched before. With regards to other characterizations, projects were distributed rather equally along the scales (figure 23).

[22] Source: Noyons & van Wijk (2017): Assessing bibliometric performance of NWO-WOTRO funded research

Figure 23: Nature of the Research

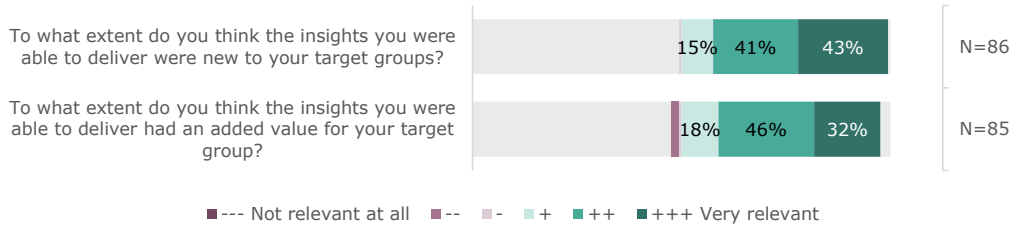


Source: Syspons 2017, N=84

According to the qualitative interviews, projects could be seen as high risk- high gain in case they researched a topic that had not been researched properly before or that could potentially yield substantial developments benefits. Therefore, the researchers could produce new insights or solutions that filled a vacuum. An example of such a high gain is finding a mitigation for a disease in agriculture that significantly decreases the yield of farmers. Here, the high-risk aspect may lie in the fact that multiple researchers focus their work on this problem for several years, by looking at it from different angles. In this case, the researchers found a solution that improved the living conditions of some farmers and could be of use to many others. In other projects, researchers invested time in expensive field work (risk) and therefore gained elaborate new insights as other researchers had not done this (gain). However, the potential of realizing high gains not only depends on the research projects themselves, but moreover on the ability to scale new solutions via development organizations or government policies.

Reffering to the strategy documents of NWO-WOTRO, the research should also contribute to out-of-the-box insights in complex development issues and, beyond that, to developing new development paradigms. A critical measure for this is the extent to which the research delivers new insights with an added value to the target groups. According to survey data, 84% of researchers delivered insights that were new to their targets groups. Moreover, 78% of researchers delivered insights that had an added value for the target groups (figure 24).

Figure 24: Novelty of Research for Target Groups



Source: Syspons 2017

According to qualitative interview data, the majority of projects were able to provide insights or solutions that were new to the project's target groups. This occurred in multiple ways. Some projects were able to find new solutions to problems, such as new treatment for diseases or a tool that could improve production methods. Thus, the researchers found solutions that tended to problems that target groups were dealing with. In other cases, new knowledge was obtained on the reality of target groups, by doing field work, for example. This situation had not been properly studied before, so this meant that the information was new. It also occurred that the insights were perhaps not new to specialists or literature, but that the information was still new to target groups of the project. For one project, the external interviewee found it very important that the project informed the general population of its prevalence. This was not novel information in the general sense, nor the main focus

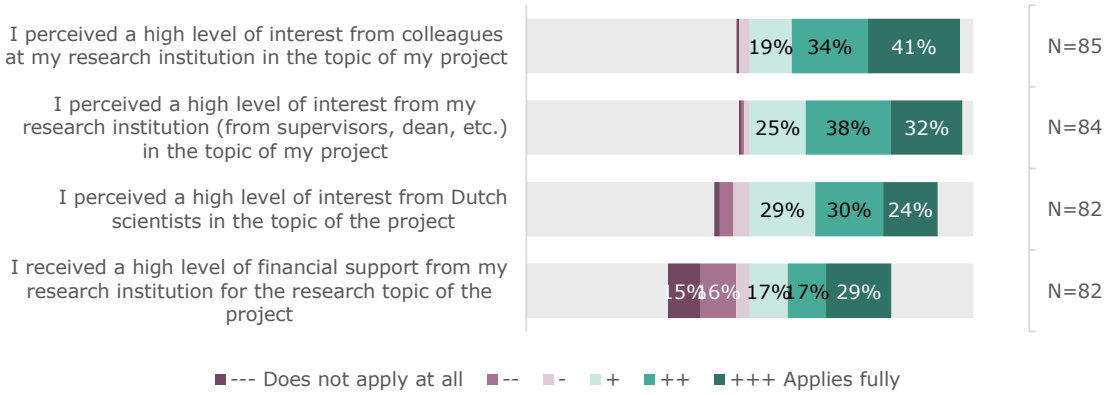
of the project, but it meant that the project still provided new information to its target group. In another project, it was highly relevant for the non-scientific stakeholder to learn about a litigation option that was already enshrined in law. In yet another project, the agricultural practise that was introduced already existed. Farmers had been reluctant to pick it up however and the research offered insights into how this could be fostered more effectively. In a similar logic, one project produced new learning materials that were more suited to the target group than materials that were previously used.

Thus, especially the projects that used novel application and integration of research methods stood out from projects not financed by the Integrated Programmes. In three cases research was deemed unique since field work was included in a location or with a depth that had not been previously covered. In four other projects, the research stood out as it looked at a problem from several angels and often combined different disciplines or methods to do so. However, the research methods were not in it themselves new. The application of the methods to the topic and the combination of different methods was however the innovative aspect of these projects. For example in one of these projects, the partner university in the country where the research took place now uses more interdisciplinary methods to do research. In another project, an external stakeholder now includes more room for qualitative information in data collection to capture the reality of research subjects better. In addition, an NGO that was closely involved in the project now focuses more on demand driven projects.

In some cases, the novel application of methods also led to new insights. According to external stakeholders, three projects that stood out due to the level of field work done provided valuable new information. In one of these projects, a researcher closely observed research subjects. According to an external stakeholder, this provided more reliable information than previous research on the topic. Previous research done on the topic used only survey data. Interestingly, the research done in the Integrated Programmes project refuted the hypothesis of this research. In a second project, researchers disproved a number of assumptions held by government officials about rural regions. These wrong assumptions previously formed the basis for government policies. The scientists conducted in-depth research in the respective regions and thereby disproved the previously held hypotheses. In a third project, the external stakeholder said the project provided more nuanced information on the topic compared to research that did not include field work.

Finally, the Integrated Programmes also aimed to raise new interest among colleagues and Dutch researchers. Gaining the interest from other researchers can be perceived as a by-product of conducting excellent and novel research. In addition, it shows the potential of the Integrated Programmes to inspire further researchers in the development field and contribute to new approaches that receive recognition. In this regard the survey data depicted in figure 25 shows that the majority of researchers perceived a high level of interest from colleagues (75%) and superiors (70%) at their research institutions. For some of these, this materialized into financial support; 36% of respondents received a high level of financial support from their research institutions. Additionally, Dutch scientists also showed interest as more than half (54%) of the respondents perceived a high level of interest from Dutch scientists in their research.

Figure 25: Interest of Colleagues, Superiors and Dutch Scientists



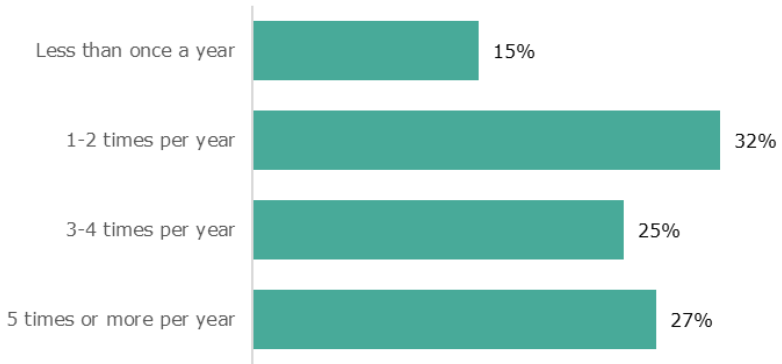
Source: Syspons 2017

3.2.3 Translation and Dissemination of Research Results

The Integrated Programmes aim to continuously involve non-scientific stakeholders as well as to translate results into applicable formats and disseminate results to their respective target groups through appropriate mechanisms. According to the reconstructed theory of change, translating and disseminating research results is the foundation for achieving changes in development policy and practice.

In this regard frequent interaction is the foundation for effective involvement of non-scientific stakeholders. By interacting regularly with external stakeholders, researchers can keep them up to date on the data gathering, analyses etc. Survey results show that the frequency of the interaction with non-scientific stakeholders varies considerably between projects. Respondents were asked about their interaction with non-scientific stakeholders beyond interaction for data collection. As shown in figure 26, about a third of the survey respondents interacted with non-scientific stakeholders more than five times a year for purposes other than data collection. A quarter did so three to four times a year, while another third did so one to two times per year. 15% interacted with non-scientific stakeholders for purposes other than data collection less than once a year.

Figure 26: Frequency of Interaction with Non-Scientific Stakeholders for Purposes other than Data Collection

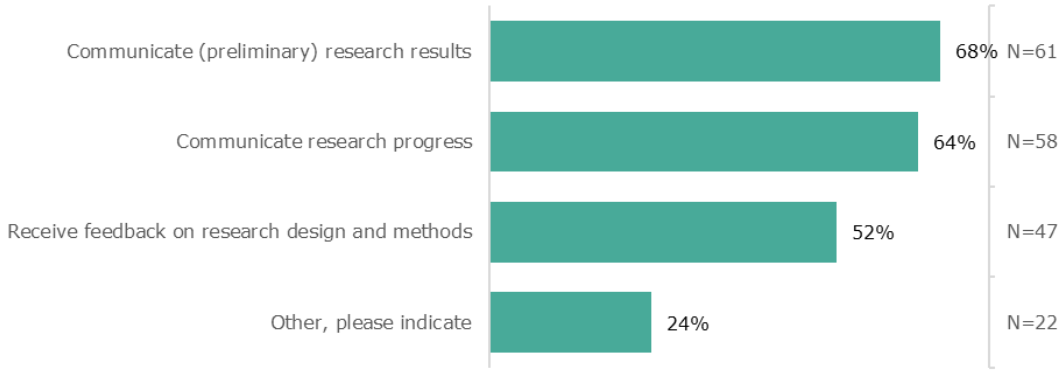


Source: Syspons 2017, N=91

Moreover, interaction should serve a purpose. According to the online survey, the main purpose of interaction with non-scientific stakeholders was results dissemination (68% of respondents). In addition, the majority of respondents communicated research progress with stakeholders (64%). However, interaction with stakeholders consisted of both one-way as well as two-way communication According to the survey, about half of the respondents interacted with non-scientific stakeholders for (amongst others) the purpose of receiving feedback on design and methods (figure 27).

Moreover, there is also another reason for interaction with non-scientific stakeholders. As figure 26 shows, about a quarter of respondents interacted with non-scientific stakeholders for an "other" purpose. Their explanations given in the open text field of this question show that interaction with non-scientific stakeholders was in some cases needed to run the project. Non-scientific stakeholders helped get access to data, for example. The qualitative data from interviews confirms this. Most projects received assistance from non-scientific stakeholders in order to implement the project. About half of the projects closely partnered with non-scientific stakeholders so that data could be accessed or to implement activities. For example, one project collaborated with an NGO to be able to reach indigenous communities while another cooperated with an NGO in the organisation of focus groups. Another project worked together with hospital personnel in order to collect data in the hospital.

Figure 27: Purposes of the Interaction with Non-Scientific Stakeholders

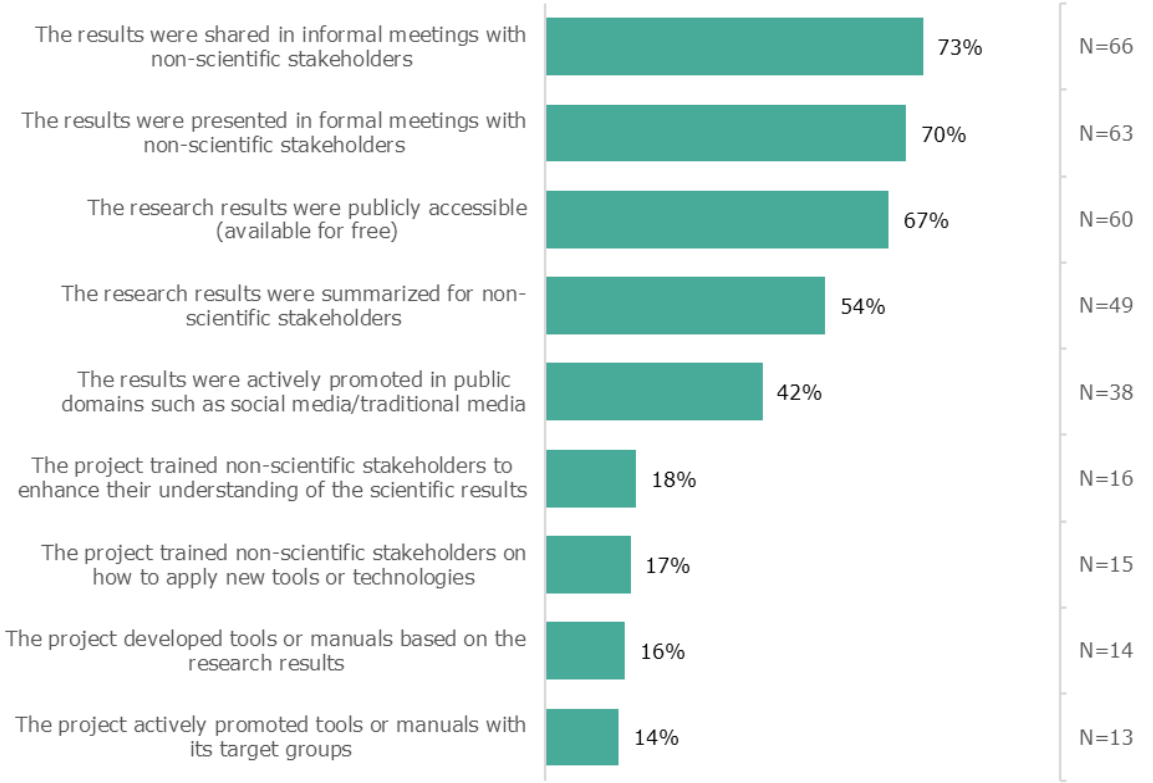


Source: Syspons 2017, N=91, multiple answers possible

Although interaction with non-scientific stakeholders thus did not only serve dissemination purposes, the dissemination of results is a crucial step towards influencing policy or practise. According to the conducted interviews the projects used a wide range of activities to disseminate results of the project to different groups such as users, policymakers, development programme designers or other relevant stakeholders outside the academic community. Many of the projects included meetings and workshops with stakeholders. Several researchers indicated to have formed informal networks with stakeholders and to have distributed results. In most cases, policymakers were among the receivers of scientific results and in some projects policy briefs were produced. A number of projects also trained practitioners or provided manuals or tools. Several researchers made press appearances, launched websites and were active on social media.

However the online survey also shows that researchers had some common strategies for results dissemination. The primary used transmission vehicle for dissemination were meetings (figure 28). 73% of respondents communicated results in informal meetings with stakeholders and a similar share did so in formal meetings (70%). Moreover, the majority of respondents made the research results publicly accessible (67%) and an equal share summarized results for non-scientific stakeholders. 42% also promoted results in public domains such as social or traditional media.

Figure 28: Activities undertaken to make the Research Results accessible to Target Groups



Source: Syspons 2017, N=90, multiple answers possible

Actively convincing stakeholders of the importance of the research results is also part of proactive dissemination. According to qualitative interview data, researchers can go further than merely communicating their results. The research results of one project for example pointed at a need for capacity building of NGOs. The researchers did not merely inform these NGOs of these results, but organized a workshop in which they were introduced to academics that could regularly provide scientific back-up for their work. The external interviewee claimed that the exchange between these actors had since improved. Similarly, researchers in another project organized an informal dinner in which beneficiaries and policymakers could informally get to know each other, which was crucial for the advance of policy that suited the needs of these beneficiaries. Interestingly, neither of these two projects had planned this activity but instead responded to a need that they had identified in their research. Crucially, they went further than simply describing the need but took the opportunity of the previously developed trust relationship to actually act on this need.

Moreover, researchers can build on the research results and train target groups on how to use the results. They can also disseminate guidelines or manuals that further explain how results apply to target groups. This makes it easier for stakeholders to implement changes based on the results. According to the online survey however, such translation of results into manuals or training sessions occurred on a limited scale. Only 16% of respondents had developed tools or manuals based on research results. 17% trained non-scientific stakeholders to apply new tools or technologies. According to qualitative interview data, four out of ten projects had developed tools or manuals. For one of these projects, however, the interviewed external stakeholder had not received the tool.

The common theme for most of the dissemination strategies is that it mostly consisted of direct contact with the researchers. The qualitative interview data confirms that most dissemination occurred in formal or informal meetings with non-scientific stakeholders. Researchers often disseminated results through regular informal contacts with non-scientific stakeholders closely involved in the research. For example, some external interviewees learned about results through workshops. Others were connected to researchers through professional networks, for example.

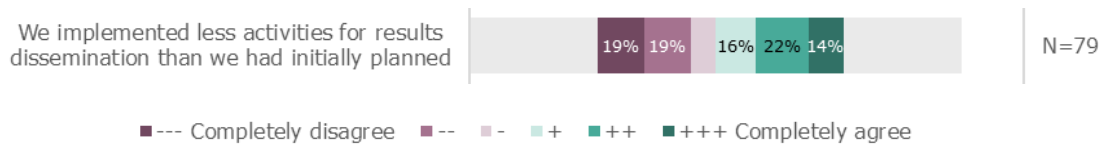
By closely involving non-scientific stakeholders, researchers almost automatically disseminated their approaches and results through these intense working relationships or at least built a basis that made dissemination much easier. In at least three projects, NGOs assisted the researchers in the implementation of the research and while doing so, gained insights from these researchers and were moreover able to shape the research approaches during the project. In another example, a researcher visited stakeholders throughout the project's implementation and updated them on the project while also giving them room for input. In addition, the researcher developed materials developed for stakeholders that they could use in their work. The design of these materials was informed by the research results. Since the research results had gained extensive insights on the situation of beneficiaries, these materials suited their needs. The researcher not only distributed these materials to different stakeholders, but provided the stakeholder with the raw versions of the materials so they could even further adapt them to their needs.

In those cases where researchers either cooperated with organizations that could scale the new approaches, these organizations acted as multipliers who took on the dissemination work for researchers. On the other hand, researchers who directly worked with beneficiaries were not able to disseminate their results at a larger scale. In one project, researchers let farmers try out new methods of production that they developed in the project. On the other hand, in some of these cases this also meant that the scale of dissemination is rather limited to a small group. A much larger audience could have been reached by these projects if dissemination had been more extensive.

Yet, the qualitative interviews also exposed that at least three out of ten projects included dissemination activities that were not appropriate for certain target groups. In one project, the content of a dissemination workshop was too technical for part of the attendees. Two other projects included policy recommendations only within academic articles. These academic articles were then sent to stakeholders. Still, these individuals would have to proactively search for recommendations in these articles. In addition, there is not much opportunity for researchers to convince stakeholders of the importance of the research results since there is no direct contact.

Another aspect of effectiveness, which affects the projects' results, is the planning and timing the dissemination of research results. The document analysis revealed that not all planned communication activities were realized, since more was planned than actually implemented. The survey results confirm (for the first priority target group) that not all activities for results dissemination were carried out. More than a third of respondents (36%) implemented less activities for results dissemination than initially planned. Interestingly, however, a similar share of respondents (38%) completely disagreed with this statement (figure 29). Overall, however it appears that it would have been beneficial to carry out more dissemination activities. Five external stakeholders interviewed (representing four projects) indicated that more dissemination would have been relevant as the research results were new or relevant.

Figure 29: Extent to which Planned Dissemination Activities were completed for First Priority Target Group

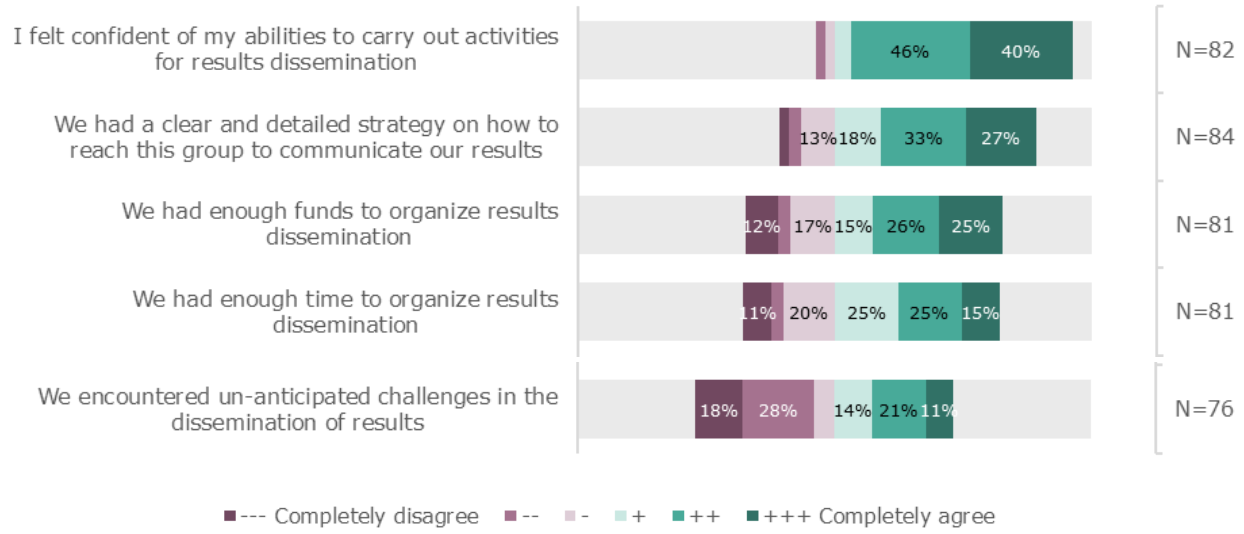


Source: Syspons 2017

One reason for inappropriate or delayed dissemination of results (especially to non-scientific stakeholders) has been the unfamiliarity of communication aspects to researchers. According to the survey, however, most respondents felt confident of their own abilities for dissemination activities (86%, see figure 30). Nevertheless, a smaller share of researchers had a clear and detailed strategy to reach their target groups and communicate results (60%). Furthermore, especially time and funding for dissemination was lacking. Only half of the respondents had sufficient funds to organize dissemination activities (51%) and only a minority had enough time for results dissemination (40%). If researchers lacked time, funding and a plan for communication, this indicates that project planning

requires adjustments towards a dissemination strategy that goes beyond informal conversations with direct partners.

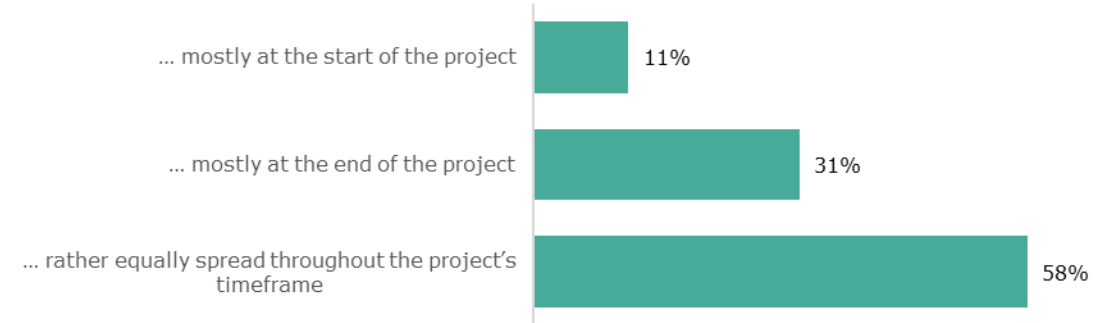
Figure 30: Dissemination Strategies



Source: Syspons 2017

Moreover, in some cases the planned timing of dissemination influenced the extent to which dissemination takes place. According to the document analysis, some projects distributed results throughout the project. The survey confirms this, as half of the respondents disseminated results rather equally spread throughout the project timeframe (see figure 31). However, according to the document analysis, some projects waited until the research produced results and then distribute these results. In that logic, scientific output predated the communication activities. Here, a third of respondents considered results dissemination as something to be done at the end of the project. The qualitative data illustrates how this can prevent dissemination from taking place at all. If dissemination is only planned at the end of the project, there is only a small window during which dissemination can take place. If the research is delayed, less time is available for dissemination and individuals' incentives to finish scientific products are often stronger than incentives to complete dissemination activities. In this regard, one researcher interviewed prioritized finishing the thesis as his funded research time would end soon.

Figure 31: Time Periods for Dissemination



Source: Syspons 2017, N=90

3.2.4 Reception by Target Groups

The Integrated Programmes aim to influence development policy and practice. To achieve this, research results should not merely be communicated. Target groups also need to receive them and

engage with them. The document analysis could not clearly shed light on what happened after dissemination activities took place. It was unclear, for example, whether policy briefs were read or whether attendees of workshops participated with interest and left more informed. Therefore, the survey included questions on how target groups responded to the information they received.

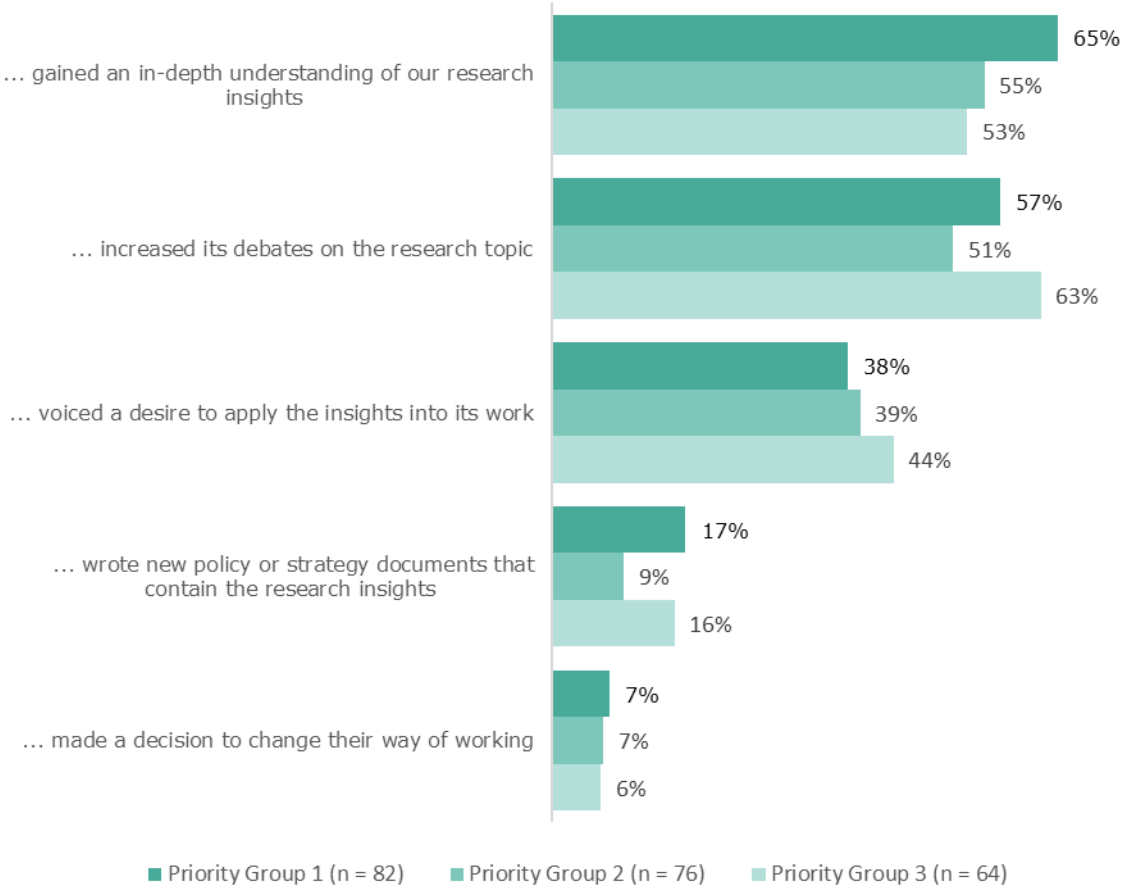
Their reception of the results is broken down in several steps, as illustrated in figure 32. First of all, target groups need to know of and understand the research results. With regards to their first priority target groups, the majority of survey respondents indicated that this group had gained an in-depth understanding of the research results (65%). Also the external stakeholders interviewed had generally gained an understanding of the research results. In addition, the majority of these external stakeholders stated that the research projects reached other target groups as well. In one project for example, the general public was more aware of a certain disease, according to one interviewee. In another, several NGOs absorbed the knowledge received through stakeholder meetings.

In a next step, it was assessed to what extent target groups actively engage with the results and discuss what it could mean for them. The survey results show that the first priority target group increased its debates on the topic for the majority of respondents (57%). Moreover, the qualitative data indicates that also the quality of discourse could in some cases be improved. According to one external stakeholder, the debate between governmental and nongovernmental stakeholders on the research topic had become more informed by data due to the research project.

However, discussing or understanding results does not necessarily mean that the target group is convinced that results should lead to changes in their policies or practice. In fact, for less than half of the survey respondents the first priority target group voiced a desire to apply the insights into its work (38%). Moreover, when it comes to policy or strategy, only 17% of respondents stated that the first priority target group wrote new policy or strategy documents based on research insights. And a decision to change their way of working was made according to only 7% of respondents.

In conclusion, the level of reception by the priority target groups was overall rather high when it comes to a better understanding and a broadening of debates on the field. It was less effective when it comes to actual changes and policy or work. According to the Integrated Programmes' reconstructed Theory of Change in section 2.2.2, the programme aimed to change approaches in development practice via informing the decision-making. According to the gathered data, however, although informed decision-making took place, there appears to be a rather low willingness to implement changes in development practice based on newly generated insights.

Figure 32: Reception of Results for the Priority Target Groups chosen by Respondents



Source: Syspons 2017, multiple answers possible

3.2.5 Effectiveness Assessment

The evaluation team considers the Integrated Programmes to be effective. To begin with, it was confirmed that the successful collaboration and capacity building allowed scientists to build research partnerships, facilitate knowledge exchange and enhance their research competencies as well as strengthen institutional research capacities in the partnering developing countries.

Moreover, the expert team concludes that the Integrated Programmes funded excellent scientific research with regards to research outputs and citation impacts. This is also visible in the fact that the majority of projects explored research questions that had not been researched before. The new research questions managed to spark the interest from colleagues both in developing countries and among the Dutch scientific community. At the same time, researchers managed to deliver valuable, novel insights to their respective target groups or academic fields. The inter-disciplinary approach in the research contributed to analysing development challenges from multiple angles, which led to more holistic insights and solutions that would more closely address the needs of the local contexts.

However, researchers largely limited their activities for disseminating research results to meetings with non-scientific stakeholders. More intense forms of results dissemination, such as providing training and creating more practical tools or manuals based on the research insights, were rather limited. And while the majority of priority target groups appeared to have increased their understanding and the discourse on the respective fields, only a rather small fraction of target group members were stated to have actually changed policies or activities due to the research projects. Effective approaches for results dissemination were present among the funded projects, resulting in increased understanding, debates and intentions to apply insights into the work of target groups. By promoting proven effective dissemination approaches in a larger share of funded projects, the Integrated Programmes can further deepen the target groups' intentions to change their development practices.

3.3 Impact

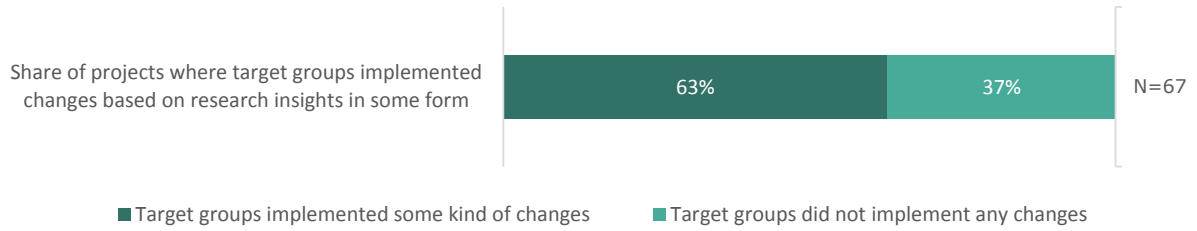
In its 2007-2010 strategy plan, NWO-WOTRO aimed to "support the uptake, translation and application of relevant research results with stakeholders from outside the traditional scientific communities in the countries or regions concerned." By doing so, NWO-WOTRO wanted to increase the use of scientific research in development practice and policy. Impact should therefore be understood as the Integrated Programme's contribution to changes in development policies and practice and the consequent improvements for beneficiaries.

The diversity among the funded research projects furthermore allows an analysis of factors contributing to stronger impacts. The evaluation assessed in what ways projects that managed to achieve impacts differed from projects that did not. Thus impacts are discussed in three steps below: changes in development policy and practice, benefits for beneficiaries and contributing factors for achieving impacts.

3.3.1 Changed Approaches in Development Policy and Practice

According to the logic of the Integrated Programmes, researchers produce novel insights and disseminate them to their target groups, such as governments or NGOs. Ideally the respective target groups should then incorporate these new insights into their development practice and policy. Based on the quantitative survey, 63% of researchers' target groups have implemented changes in their development practice in some form. 37% of researchers' target groups, on the other hand, did not implement changes of any form (figure 33).

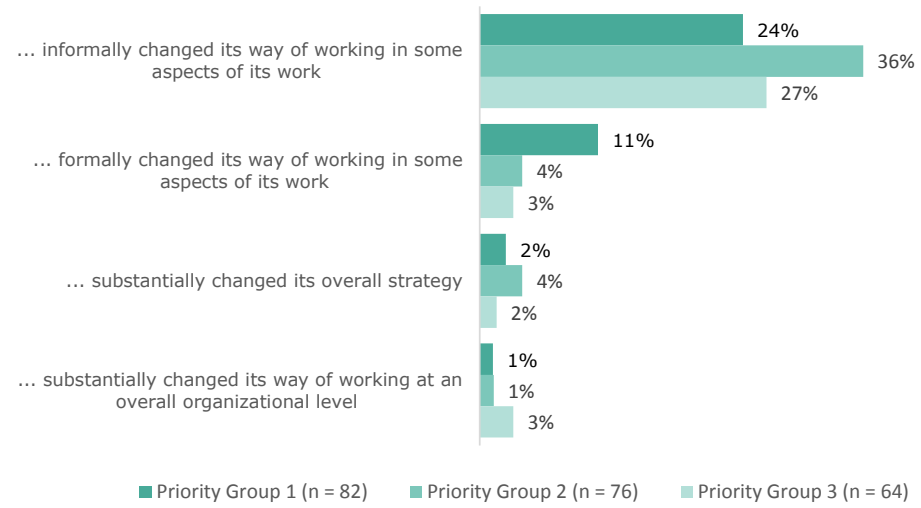
Figure 33: Implementation of changes based on research insights



Source: Syspons 2017

Not surprisingly, informal changes in some aspects of the work were more frequent than overarching changes at an organizational level. The most prevalent changes made by target groups were of informal nature and touched only on some aspects of the work (see figure 34). Such informal changes may refer, for example, to changed approaches taken on by doctors based on new treatment insights created from research. In another case, a group of farmers took on new approaches for managing plant health. However, these cases have in common that they did not reach a more systematic and formal impact such as changing official treatment regimens or promoting changed farming approaches at a larger scale. Target groups who made formal changes in some aspects of their work were much less frequent (11% for the first priority group). Such formal changes affecting partial aspects could be, for example, changed treatment approaches or changed approaches for reaching out to target groups in medical institutions. Less than 5% of respondents' target groups changed their way of working at an organizational level or changed their overall strategy.

Figure 34: Changes in the Practice of Target Groups split by Priority Groups



Source: Syspons 2017, multiple answers possible

According to qualitative data, in six out of ten projects external stakeholders outside of the academic context took up the insights into their work in some way. For example, some projects caused improvements in the ways in which non-profit organizations deliver on their developmental impacts. Moreover, one NGO that partnered with a research project developed a new strategy to ensure a safe environment for communities, because of one researchers' promotion and support. Another NGO changed its approach to orient themselves more around the needs of their target groups.

Moreover, examples also showed that research results were used in capacity building and teaching. In one project, for example, the newly generated insights were used in university teaching by a stakeholder closely involved in the research as well as colleagues of this stakeholder. In one of the projects on agriculture, an external interviewee now uses findings from the project in their capacity building activities after attending dissemination workshops in the project.

A common thread throughout the interviews was the lack of success in influencing governmental actors or policy. In the interviews researchers and external stakeholders agreed that government is beyond the researchers' reach. One project, for example, aimed at changing agricultural policies. The researcher proved that an existing policy was not effective. However, since the government had set certain priorities in the agricultural sector the policy was not changed but rather expanded. Moreover, another project that aimed at changing national policies based on their research results did not succeed because of changes in top government personnel.

However, there is also a common theme in the projects that was not highlighted by interviewees as much. Although many projects aimed to influence policy, the dissemination activities that specifically targeted government were limited. In addition, governmental actors, especially on a ministerial level, were rarely among the close partners. In cases where governmental actors were involved in the projects, they were likely to be extension services, research institutes or local government authorities. In most projects researchers did not have ties to national policy processes. One example illustrates how the positioning of the project can make a difference. In one project, the researchers had a close and trusting working relationship with specialists who influenced national policy via their membership in the specialist panels at a national level. Consequently, they could use the research results to influence debates, receptiveness and decision-making at a policy level. This pattern of influencing policy, however, could only be observed in a single case.

Once changes in development policies and practices have been implemented by the respective target groups, these changes should lead to benefits for beneficiaries. In the logic of the Integrated Programmes, researchers should influence governments and development organizations in a way that they apply the generated insights into their work. Due to the portfolio of projects with very diverse approaches, themes and settings, beneficiary benefits may take on a wide variety of forms.

The qualitative interviews indicate that in at least four out of ten projects, beneficiaries have clearly benefitted from the projects at this stage. In two projects that included experiments with agricultural practises, the farmers included in the sample have increased their yields. In one of these projects, an external stakeholder indicated that this enabled farmers to improve the quality of their housing. In both of these projects, external stakeholders indicated that the new practises gained through the research results also spread to farmers not included in the experiments as the local government extension services spread the practises to another region. In both projects, neighbouring farmers took up the practises after having seen the beneficial results. In another project, the community represented by an NGO was able to benefit from a safer environment. The insights from the research taught the NGO and the community about a new strategy to advocate for their rights. In a project on health, patients are benefitting from treatment procedures that were adapted to their needs.

Looking back at the Theory of Change in section 2.2.2, only a fraction of researchers achieved impacts that lead to changes for beneficiaries – the final link in the Theory of Change. Moreover, the analysis on the following pages shows that specific factors influenced whether research contributed to developmental impacts.

3.3.2 Factors that Advance or Impede Impacts

In order to inform future programming, it is helpful to understand which factors positively or negatively contributed to the projects' developmental impacts. Therefore, Syspons assessed correlations of different project characteristics with the extent to which target groups have taken up research insights into their work. To do so, Syspons tested whether different variables were correlated with the research uptake presented in figures 32 and 34.

The first step in a correlation analysis is deciding which variables should be correlated to one another. In the survey, researchers described their developmental impacts in question 48, where were asked to check the ways their target groups took up the research insights and changed their behaviour. Multiple selections were possible. Hence researchers could check any, none or all of the potential boxes (see figure 35). However, each check-box describes different intensities of impacts, e.g. increasing debates on research topic vs. substantially changing overall strategy. Therefore an impact indicator should reflect these differences in impact intensities.

Syspons defined three variables that approximate a projects impacts:

1. Sum of checked boxes (unweighted) per project
2. Weighted sum of checked boxes per project with the assigned weights in figure x
3. Bivariate indicator that differentiates projects where target groups implemented any kind of changes in their work vs. those projects that did not: projects where target groups implemented changes received a 1, projects where target groups did not implement any changes received a 0 (see figure 35)

Figure 35: Impact Variables for the Correlation Analysis

	Items from question	Weight
a	…gained an in-depth understanding of our research insights	0.2
b	…increased its debates on the research topic	0.2
c	…voiced a desire to apply the insights into its work	0.3
d	…wrote a new policy or strategy documents that contain the research insights	0.4
e	…made a decision to change their way of working	0.4
f	…informally changed its way of working in some aspects of its work	0.5
g	…formally changed its way of working in some aspects of its work	0.7
h	…substantially changed its overall strategy	1
i	…substantially changed its way of working at an overall organizational level	1

3. Projects with implemented changes

1. Sum of research uptakes

2. Sum of weighted research uptakes

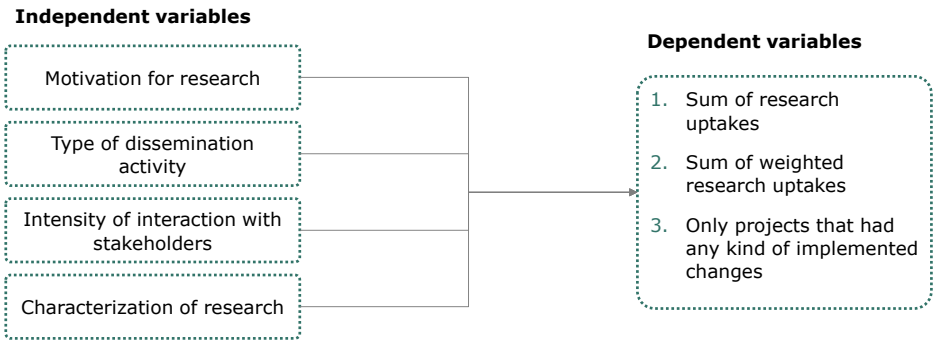
The first indicator treats each check-box equally. Hence, more intense form of impacts are not rewarded compared to less intense forms. The second indicators takes this into account by giving less intense impacts smaller scores. The third indicators only differentiates between two kinds of projects: those that achieve implemented changes for their targets and those that don't.

For example, a project that checked boxes a, d and g will receive the following scores:

- Indicator 1: 1+1+1 = 3 points
- Indicator 2: 0.2 + 0.4 + 0.7 = 1.3 points
- Indicator 3: 1 point (since at least one of the boxes between f through i was checked)

Syspons tested a number of variables from four clusters in order to derive conclusions about their contribution to impacts: motivation for research, type of dissemination activities, intensity of interaction with non-scientific stakeholders and characteristics of the research (see figure 36).

Figure 36: Variables in the Correlation Analysis



In a correlation analysis, only those variables that are at least significant at a $p < 0.05$ level are considered statistically significant. The p value is the probability that an observed correlation in the data sample is merely coincidental and does not represent a valid correlation in the population. Hence a p value smaller than 0.05 means that the probability that the observed correlation in the data does not represent a valid correlation in the population is less than 5%. In the following tables, values with a p value < 0.05 are marked with * and printed in bold letter. P values < 0.01 are marked with ** and also printed in bold letters. All other correlations are not statistically significant and therefore interpreted as being coincidental. In the following tables, the three impact variables are depicted at the top and the variables in the four clusters are shown on the left.

Motivation for Research

In theory, a scientist's motivation may affect the extent to which they achieve impacts. A scientists that is rather motivated to do theoretical work vs. practical work will likely strive for less tangible developmental results. According to the survey data, however, only one motivational question is significantly correlated with impacts. Based on the data, those researchers who aim to develop new practical solutions are more likely to achieve a greater number of unweighted impacts for their target groups. Target groups are more likely to achieve more of the lower-rated impacts, but not more of the higher-rated impacts (see figure 37). This positive correlation for the motivation to develop new practical solutions stands in contrast to all other motivational factors. None of the other motivational factors were significantly correlated with impacts. Hence, according to survey data, only the motivation to develop new practical solutions stands out as being particularly relevant for achieving developmental impacts.

Figure 37: Correlation Analysis – Motivation

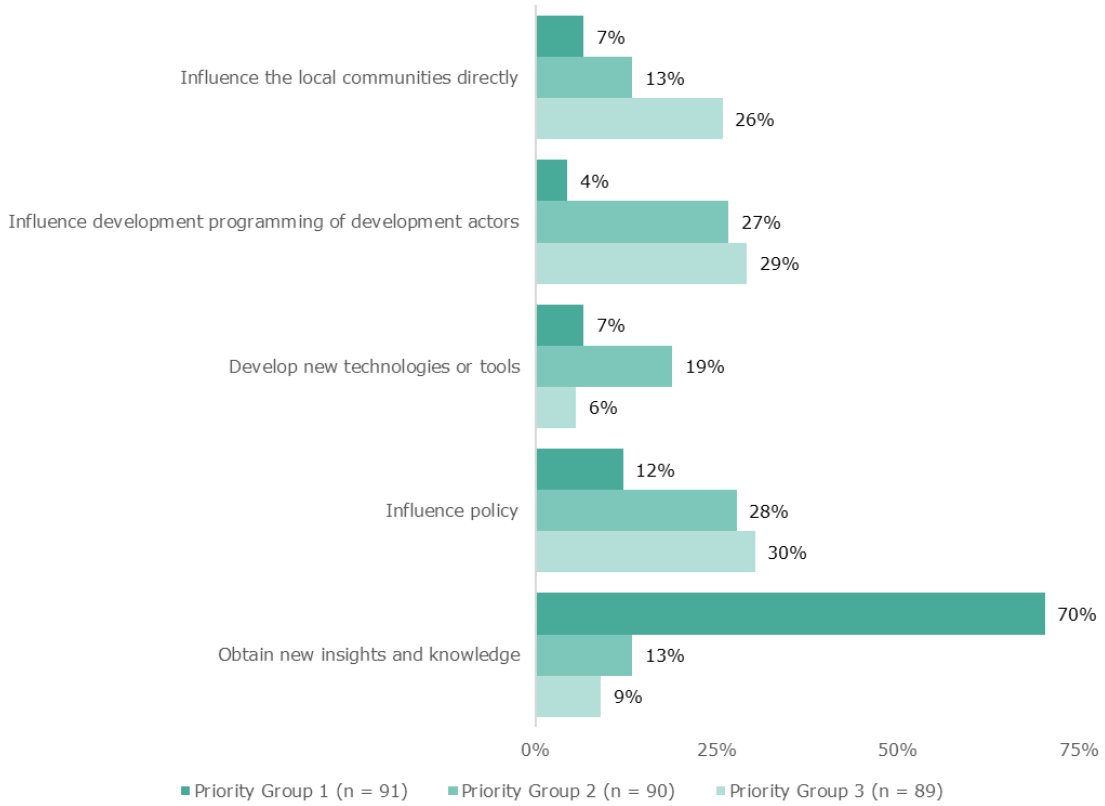
	Unweighted impacts	Weighted impacts	Target group implemented changes
Advance science	-0.11	-0.12	-0.05
Advance development practice	0.14	0.11	0.03
Develop my scientific skills	0.04	0.01	0.09
Develop my practice-oriented skills	-0.01	-0.04	-0.05
Develop new theories	-0.09	-0.03	0.10
Develop new practical solutions	**0.29***	0.24	0.09
Influence other scientists	-0.12	-0.08	-0.01
Influence NGOs, communities, development practitioners or policy-makers	0.07	0.07	0.04
Achieve high-quality research outputs	-0.21	-0.20	-0.19

Source: Syspons 2017

A possible explanation for this may be that more practically motivated researchers may contribute to their target groups increasing their insights, debates and intention to apply the insights. At the same time however motivation by itself is likely not sufficient to contribute to more substantial impacts for the target groups.

One possible factor explaining the rather limited application of insights among target group may lie in the researchers' personal motivations and objectives. According to survey data, the researchers' own objectives leaned towards obtaining new insights and to some extent to influencing policy. Only to a much lesser extent researchers aimed at influencing development actors, local communities and developing new tools and solutions (see figure 38).

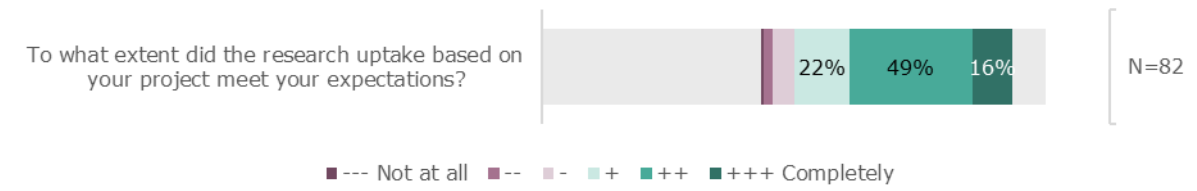
Figure 38: Priority Objectives by Researchers



Source: Syspons 2017

From the perspective of the majority of researchers, the impacts they achieved in their projects did meet their expectations (see figure 39). Qualitative data from the interviews also indicate that there is a reluctance from some senior researchers to aim further than gaining scientific insights. Not all of the researchers see it as their responsibility to translate their results into applicable formats for target groups.

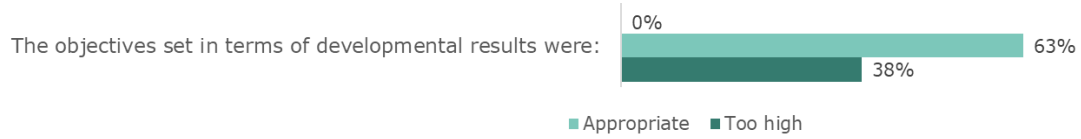
Figure 39: Extent to which Research Uptake based on the Project met Expectations of Survey Respondents



Source: Syspons 2017

Moreover, researchers might have underestimated challenges to achieving developmental results before the start of the project. The document analysis showed that some proposals included far-reaching results (e.g. changes in behaviour, changed policies), but provided limited clarity in terms of the steps that would be undertaken to reach these results. According to the online survey, nearly 40% researchers believe that their developmental objectives were set too high (see figure 40). Moreover, during the qualitative interviews, two out of ten project leaders specifically said during interviews that targets set in their proposals had been unrealistic when looking back.

Figure 40: Appropriateness of Developmental Results (only PIs were asked)



Source: Syspons 2017, N=24

Types of Dissemination Activities

As presented in section 3.2.3 on results dissemination, researchers differed greatly in the types of dissemination activities they undertook to make their insights accessible to target groups, ranging from informal meetings to developing tools and manuals and conducting trainings. It appears quite logical that the type of dissemination activities influences the extent to which target groups take up the insights and apply them to their work. In the online survey, respondents were asked what they would change in similar future projects to increase or sustain research uptake. A little under a quarter of the respondents thought better dissemination could favour research uptake in the future. Especially increased funding of dissemination activities is deemed beneficial, which for some could consist of a follow up phase after the research finished.

In the survey data four types of dissemination activities are positively correlated with some or all of the impact variables:

- Sharing research results in informal meetings with non-scientific stakeholders is significantly correlated with target groups implementing changes ($p < 0.01$) but not with the other two impact variables. Hence, researchers that tended to share research results in informal settings were more likely to have target groups that implemented changes based on insights compared to those that did not. In contrast, sharing insights in formal meetings was not significantly correlated with any of the impact variables. Hence, based on this data informal working relationships outperform formal working relations in their ability to influence target groups to apply insights (see figure 41).
- Promoting research results in public domains such as social media / traditional media is significantly correlated with unweighted and weighted impacts but not with target groups implementing changes. Promoting results in media is therefore likely to contribute to target groups' understanding, debates and their intents to apply the insights to their work. However, on its own it does not contribute to applying the insights in practice. In contrast, simply making results publicly accessible was not significantly correlated with impacts (see figure 41).
- Actively promoting tools or manuals with target groups is significantly correlated with all three impact variables. Those researchers who promoted tools and manuals scored higher both in delivering insights to their target groups, increasing their intent to apply them into their work and in the practical application of insights. However, simply developing such manuals or tools is not significantly correlated with impacts. Only those researchers that actively promoted them were able to significantly score higher on impacts (see figure 41).
- Training non-scientific stakeholder on how to apply new tools or technologies is furthermore significantly correlated with target groups implementing changes but not with the other two impact variables. Researchers who delivered such trainings were therefore more likely to have their target groups implement more changes. In contrast, training non-scientific stakeholders only on their understanding of scientific results was not significantly correlated with any of the impact variables. Thus, having trainings with a practically oriented approach appears to be the differentiating factor for the application of insights (see figure 41).

Figure 41: Correlation Analysis - Types of Dissemination Activities

	Unweighted impacts	Weighted impacts	Target group implemented changes
The research results were publicly accessible (available for free)	0.03	0.02	0.03
... were summarized for non-scientific stakeholders	0.14	0.14	0.11
... were shared in informal meetings with non-scientific stakeholders	0.17	0.20	**0.32****
... were presented in formal meetings with non-scientific stakeholders	-0.20	-0.18	-0.03
...were actively promoted in public domains such as social media/traditional media	**0.32***	**0.31***	0.15
The project developed tools or manuals based on the research results	0.19	0.18	0.20
... actively promoted tools or manuals with its target groups	**0.35****	**0.35****	**0.25***
... trained non-scientific stakeholders to enhance their understanding of the scientific results	0.06	0.09	0.18
... trained non-scientific stakeholders on how to apply new tools or technologies	0.16	0.19	**0.25***

Source: Syspons 2017

According to qualitative data, dissemination matters. In one project researchers published results only in academic articles while they organized only a single dissemination workshop for farmers and extension services. Consequently they reached only a relatively small group of people that used the insights in their work. Similarly, another project only produced scientific output and incurred no demonstrable change in target groups.

Intensity of Interaction with Non-Scientific Stakeholders

Logically, more intense interaction with non-scientific stakeholders should lead to a higher rate of impacts, both at the level of understanding insights as well as integrating these insights into the work routines.

In the online survey, when respondents were asked what they would change in similar future projects to increase or sustain research uptake, the involvement of stakeholders was a common theme. One third of 66 respondents indicated that they would involve more stakeholders or involve stakeholders differently. They would, for example, work more closely with local communities or specifically involve governmental actors or NGOs. Other would make sure they include stakeholders early on in the project. In general, involvement of stakeholders is seen as a method to increase research uptake in a general sense, but also to create a stronger relevance of the results for stakeholders.

Another main theme was dissemination. According to survey data, interacting with non-scientific stakeholders 5 times or more per year is significantly positively correlated with all three impact variables. On the other hand, none of the other three categories of interaction intensity is significantly correlated with any impacts. According to this data, meeting with external stakeholders more than quarterly marks a cut-off point: researchers who meet with their non-scientific counterparts more than quarterly achieve significantly higher impacts than those that meet less frequently, no matter how much less frequently they meet (see figure 42).

Figure 42: Correlation Analysis - Intensity of Interaction with Non-Scientific Stakeholders outside of Data Collection

	Unweighted impacts	Weighted impacts	Target group implemented changes
Less than once a year	-0.118	-0.134	-0.133
1-2 times per year	-0.130	-0.143	-0.170
3-4 times per year	-0.054	-0.085	-0.036
5 times or more per year	**0.274***	**0.330***	**0.308***

Source: Syspons 2017

According to qualitative data, a strong working relationship with external stakeholders contributes to stronger impacts. In one project researchers established a strong informal working relationship with a person in a position to influence policy-making and were able to achieve some changes in policy. In contrast, those projects that limited their own working scope to publishing papers and disseminating these papers to their target groups were much less successful in influencing their target groups' debates and intentions to change policy or practice.

Characteristics of the Research

Section 3.2.2 shows that different researchers funded by NWO-WOTRO describe their own research in very diverse ways. As expected, most of the variables on research characteristics did not significantly correlate with achieved impacts. However, surprisingly two of the variables did show significant correlations: Scientists who described their own research as being more of a high-risk / high-gain nature scored significantly higher on all three impact variables. And scientists who described their research as being of a more exploratory nature scored significantly higher on target groups implementing changes, but not on the other two impact variables. However, both the significance and the correlations were much higher for high-risk / high-gain than exploratory research. Hence, according to the survey data, especially those scientists who tend to think of their work as being more high-risk / high-gain tend to achieve greater impacts particularly in terms of target groups practically applying insights (see figure 43).

Figure 43: Correlation Analysis - Characterization of Research

	Unweighted impacts	Weighted impacts	Target group implemented changes
… developed a new theory (vs. expanded on existing theories)	0.139	0.151	0.039
… used established methods (vs. used completely new methods)	-0.049	-0.088	-0.169
… had a low risk of failing (vs. had a high risk of failing)	0.068	-0.001	-0.097
… was of exploratory nature (vs. built strongly on existing research and insights)	0.120	0.183	**0.247***
… was of a high-risk / high-gain nature (vs. was of a low-risk / low-gain nature)	**0.340****	**0.350****	**0.334****
… had never been researched before (vs. had been researched before in a similar way)	-0.184	-0.157	-0.077

Source: Syspons 2017

3.3.3 Impact Assessment

The expert team concludes that the Integrated Programmes contain appropriate mechanisms that support the achievement of developmental impacts in the funded projects. However, for many of its funded projects the Integrated Programmes did not achieve or achieved only little development impacts. Altogether there was a wide variance between projects in the extent to which research insights were taken up in development policy and practice. The evaluation identifies a number of critical patterns that should inform future programming.

First, the Integrated Programmes were more successful in achieving impacts in the practice of NGOs and extension services or local governments than on the level of national policies. Naturally, achieving changes in development practice at the level of implementation organisations is much easier than

influencing government policies. Usually scientists worked with implementation organisations during their research and established stronger working ties with them throughout their projects.

Second, researchers who emphasized intense informal collaboration and intense relationship-building with non-scientific stakeholders were generally more effective in influencing their target groups to apply research insights.

Third, those projects that achieved greater developmental impacts had a close linkage to decision-makers and supported them by developing and implementing practical tools and methods in their work. Researchers who were motivated by the desire to implement practical solutions and characterized their own work as being of a high-risk / high-gain nature were moreover more likely to influence the practices of their respective target groups.

Finally, the Integrated Programmes' impacts may be further strengthened by adjusting the selection and support mechanisms: demanding projects to deliver more structured plans for achieving developmental impacts, favouring projects that (aim to) collaborate closely with their non-scientific stakeholders and build informal relationships, encouraging and training researchers to translate their research into practical tools, approaches and methods for their stakeholders and by more strictly selecting particularly those researchers with a strong motivation to explore new, applicable solutions in their respective fields.

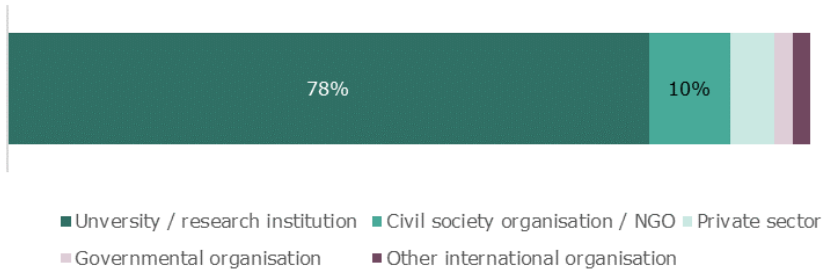
3.4 Sustainability

Sustainability is central for the Integrated Programmes since they aim to promote research that delivers innovative insights for development beyond the timeframe of the funded projects. Thus projects should create a momentum for change that is further expanded on after the projects end. Sustainability of the Integrated Programmes therefore contains two aspects: First, by supporting the research of PhDs and post-docs, the Integrated Programmes aim to inspire follow-up research and further collaboration between researchers. Second, the programme aims to contribute to innovative solutions to development-related challenges that continue to be implemented by the target groups in the long-term.

The first aspect of sustainability lies in the way that research capacities are sustainably built and research networks continue to collaborate in the long run. The researchers' strengthened capacities should be used for the purpose of influencing development policy or practise beyond the financed research projects, either through academic advancement or through practical application in development practice and policy.

According to the online survey, the majority of funded researchers continue to work in university or research institutions (see figure 44, 78%). Smaller shares of funded researchers work in civil society organisations or NGOs (10%) and the private sector (5%). Only very few respondents now work in governmental organisations or international organisations. The qualitative data confirms that many researchers continue to work in universities or research institutions. However, in at least three projects, some of the researchers now work in NGOs, private sector or government. On the one hand, these results imply that it is likely that researchers continue to use their skills for research. On the other hand, this means that for the majority of the funded projects the expertise and capacities gained by these individuals will only indirectly influence policy and practice.

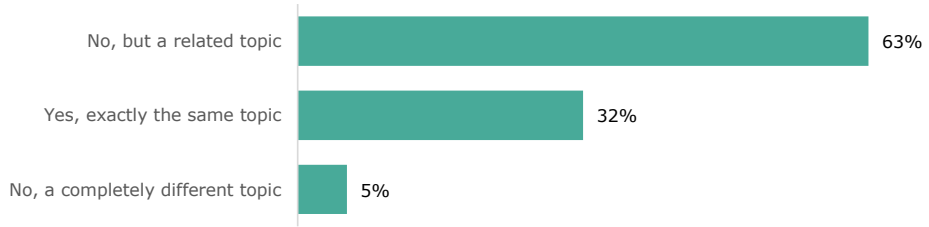
Figure 44: Type of Organisation in which Survey Respondents currently work



Source: Syspons 2017, N=92

A further sign of sustainability is the extent to which researchers continue to work in similar fields after completion of the projects. Generally, continuing work in similar fields means that researchers use and build on the knowledge and skills they gained during the projects. However, the in-depth knowledge that researchers gained on their research topic is only sustainably used if they continue to work on that topic. According to the online survey, most researchers now work on a topic that is related, but not exactly the same as the topic of their Integrated Programmes project. As depicted in figure 45, almost two third of respondents now work on a related topic (63%). About a third of respondents continue to work on exactly the same topic (32%). Only five percent is working on a completely different topic. These results suggest that most respondents work on the same general topic or sector as they researched during the Integrated Programmes.

Figure 45: Current Research Topic of Funded Researchers



Source: Syspons 2017, N=92

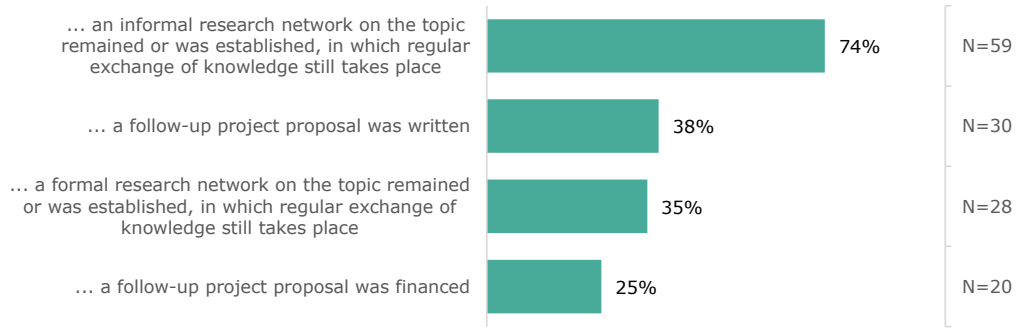
Furthermore, the programme should build a basis for sustainable academic cooperation across institutions, countries and disciplines. Collaborative networks provide a stronger foundation for long term engagement with the topic as they do not depend on isolated individuals to continue the work. According to the survey data, almost three quarters of the researchers set up informal research networks, in which regular exchange of knowledge is still taking place (figure 46). In contrast, setting up formal networks may secure even stronger commitments from researchers. 35% of the NWO-WOTRO funded researchers set up such networks. According to the qualitative interview data, in about half of the projects interviewed, (part of) the researchers involved still collaborate on other projects. Only few of these researchers work together on the same topic as in their IP project however.

In addition, networks also expanded beyond the researchers involved in the Integrated Programmes. From two projects, research networks emerged from the Integrated Programmes project that included external researchers. They met these researchers when attending conferences in the framework of the project, for example. Another project attracted additional researchers to work on a follow-up project. In yet another project, the interviewed external interviewee wrote an article together with the funded researcher that included insights from the project.

Furthermore, most kinds of follow-up research can only be realized if adequate funding is secured. A financed follow-up proposal is moreover testimony to the added value of the initial research project.

It means that the donor of the follow-up project is convinced that the research topic requires more research, demonstrating that the research was relevant and produced promising outputs. According to the online survey, 38% of researchers in the Integrated Programmes scheme wrote a follow-up proposal to finance further research. Moreover, 25% of the researchers were granted funding for follow-up research (see figure 46).

Figure 46: Sustainability in Terms of Scientific Follow-Up



Source: Syspons 2017, multiple answers possible

According to the qualitative data from interviews however, only one of ten projects received funding for a follow up research project on the same topic. In four other projects, however, interviewees asked either for more funding for the research topic or upscaling of this type of project. Such funding had not yet been acquired, however.

Additionally, sustainability for the Integrated Programmes also concerns the developmental impact of the Integrated Programmes. Sustainability in this sense relates to whether solutions can be used in the long run and whether follow-up developmental projects build further on the solutions.

According to the qualitative interviews, the funded projects were able to provide insights, new methodologies or tools that stakeholders could apply themselves. To a certain extent, this knowledge was effectively transferred to non-scientific stakeholders. For example, farmers took up new planting methods, doctors used new insights in diagnoses or NGOs learned to integrate scientific data better in their work. This type of change is therefore sustainable in the sense that stakeholders can build on their own skills and knowledge in the long run. In addition, when new knowledge is integrated in the university curriculum for example, this knowledge is multiplied through integration in teaching. Similarly, extension services of governments and NGOs spread knowledge on new techniques in agriculture through their work. Generally, however, sustainability benefits from a clear mechanism for disseminating knowledge to stakeholders not directly involved in the research projects.

3.4.1 Sustainability Assessment

The evaluation team concludes that the Integrated Programmes are sustainable in building research capacities, networks and contributing to the advancement of research fields that are relevant to development. Due to the intensive capacity building and research collaboration throughout the four years research period, long-lasting research networks continue their co-operation. The Integrated Programmes are therefore an effective mechanism for promoting research in development fields beyond the funding horizon. Their focus on funding international networks of researchers and building capacities by promoting PhD research particularly contributed to the sustainable advancement of research that is relevant to development.

In contrast hereto, the evaluation teams considers sustainability of development impacts to be rather mixed. Due to the programme's innovative nature, the Integrated Programmes did not have a systematic mechanism for promoting developmental sustainability yet. Moreover, there are very few follow-up projects that focus on implementation of the research results or scaling up of this imple-

mentation. However, in those cases where projects did achieve impacts in terms of changing practices of target groups, these changes are likely sustainable. Stakeholders have gained insights and skills that they can use and multiply by themselves. Therefore, the evaluation team concludes that the funding mechanism of the Integrated Programmes should further emphasize developmental impacts more strongly, become more selective in choosing projects with a stronger developmental orientation and demand projects to collaborate with their non-scientific partners to increase the likelihood of acquiring follow-up projects – thereby increasing the sustainability of the projects and the programme.

4. Conclusions and Recommendations

This chapter presents the conclusions of the evaluation along the criteria relevance, effectiveness, impact and sustainability of the Integrates Programmes. Based on these conclusions, the evaluation team developed recommendations for the further development of research funding mechanisms.

4.1 Conclusions

The evaluation team concludes that the Integrated Programmes are doing *the right thing*, but with some limitations. The programme is highly relevant to the partner countries as it addresses research topics and questions that reflect the needs and interests of the target groups. Moreover the funded proposal workshops proved to be an effective mechanism for making the research designs more aligned to the local contexts and most pressing problems of the target groups.

Furthermore, the Integrated Programmes were designed as an open competitive bidding that awards research grants to projects that address development problems relevant to those countries where research was made. Consequently, the programme is by nature not as strongly aligned to the Netherlands' development priorities as it is to the specific development issues in each research context. While the open competition marks a key strength of the programme, it also comes at the cost of less alignment with the donor's development agenda.

Although partner countries' interests are reflected in the research, the relevance of the Integrated Programmes could be improved by more specifically targeting stakeholders that have a high willingness to apply insights generated by scientists into their development practice. Many of the funded research projects targeted policy-makers at the level of national governments whereas the evaluation has shown that national non-profit organizations, district governments and local communities are more willing to implement research insights. Partnering with target groups willing to apply research insights into their practice is moreover a crucial prerequisite for disseminating results at a larger scale and for realizing impacts.

Addressing relevant research issues is a prerequisite for delivering novel research insights to the partners. In this regard, the evaluation teams concludes that the Integrated Programmes are effective in building successful research partnerships across institutions, national borders and disciplines as well as producing novel research insights both from an academic and the practitioners' perspectives. In the citation indices research funded by the Integrated Programmes outperforms global averages. A core strength of the Integrated Programmes is that it delivers insights that were not only excellent from an academic viewpoint but moreover proved to be of value to the respective target groups in developing countries. Often the inter-disciplinary approach in the research contributed to reaching new insights by analysing development challenges from multiple angles.

The Integrated Programmes emphasized the importance of disseminating research insights to relevant target groups. In practice, the programme had mixed successes with research dissemination. Most of the researchers limited their dissemination activities to meetings and workshops with external stakeholders. More intense forms of results dissemination, such as providing training and creating more practical tools or manuals based on the research insights, were rather limited. One limiting factor for this was that although the programme successfully built capacities of PhDs to deliver the academic results, the need for training in academic skills sometimes resulted in extending timelines and having less time for results dissemination. Although the programme did provide mechanisms to support researchers in their results dissemination and also urged researchers to intensify their dissemination activities in the mid-term reviews, this was not sufficient to provoke more extensive dissemination of research insights. However, NWO-WOTRO has already changed its approach in the following GCP and ARF programmes, where it provided systematic dissemination support right from the start.

Disseminating research results, developing new tools and methods and training target groups is a critical prerequisite for achieving impacts. Consequently, the Integrated Programmes did not achieve or achieved only little of those developmental impacts stated in the reconstructed Theory of Change (in section 2.2.2) for many of its funded projects, namely changing approaches in development policy

and practice through the generated insights. Although external stakeholders were generally inspired by innovative research results, fewer of them changed their approaches at scale. The Integrated Programmes had comparatively little guidance on how the research insights that it produced could translate into solutions that are implemented by development organizations, governments or beneficiaries themselves. Still, there were a number of research projects that did realize lasting impacts with their target groups. Due to the wide variance in the researchers' success in achieving development impacts, it is possible to draw a number of conclusions on factors that positively contribute to impact.

First, the Integrated Programmes were more successful in achieving impacts in the practice of NGOs and extension services or local governments than on the level of national policies. Second, researchers who emphasized intense informal collaboration and intense relationship-building with non-scientific stakeholders were generally more effective in influencing their target groups to apply research insights. Third, building and maintaining a close link to decision-makers right from the start of the project and supporting them by developing and implementing practical tools and methods in their work positively contributed to impacts. Researchers who were motivated by the desire to implement practical solutions and characterized their research as explorative and being of a high-risk / high gain nature were moreover more likely to influence the practices of their respective target groups. At the programme level, selection and support mechanisms may be adjusted in order to reflect these factors.

Finally, the evaluation team finds the Integrated Programmes' impacts are partially sustainable. With regards to academic objectives, the Integrated Programmes sustainably built the capacities of involved researchers. As most of the funded researchers still work in academic contexts, they continue to apply their skills related to working in development contexts and involving stakeholder from development practice. Researchers also still collaborate in networks, thus creating synergies on the research topic.

Overall, the expert team concludes that future funding scheme should build on the strong points of the Integrated Programmes and emphasize a stronger collaboration with target groups, especially non-profit organizations in the development context as well as district governments and local communities. The Integrated Programmes can be further strengthened by more selectively funding individuals that aim to develop practical solutions and are skilled in stakeholder collaboration. Moreover, dissemination activities throughout the project lifecycle should receive more emphasis.

4.2 Recommendations

The evaluation results show that the Integrated Programmes are a relevant and effective program but also reveal potential for further development. To make use of this potential, the evaluation team derived the subsequent 8 recommendations relating to the strategic as well as operative level from the results.

4.2.1 Strategic recommendations

1. *NWO-WOTRO should continue to fund international collaboration of researchers with inter-disciplinary approaches.*

As the evaluation has shown, international research collaborations have positive effects both on the researchers and the quality of scientific outputs. Therefore NWO-WOTRO should continue to fund international research partnerships. Moreover, it has been shown that inter-disciplinary research designs have the potential to yield additional benefits for target groups, for example by developing ways in which medical treatments may be improved while also analysing patients' treatment seeking behaviours, preferences and social needs and restrictions with regards to specific diseases and their treatments. Moreover, researchers greatly benefit from the additional perspectives that are arise from cross-cultural and inter-disciplinary cooperation.

2. *In future research funding programmes NWO-WOTRO should finance projects which are (1) of a high risk / high gain nature, (2) emphasize intense informal collaborations and intense relationship-building with non-scientific stakeholders, (3) build and maintain close links to decision-makers from the start until the end of the project and (4) develop and implement practical tools and methods in their projects.*

The evaluation results demonstrated that high risk / high gain research as well as projects that had close relationship with non-scientific stakeholders and decision-makers were more successful in achieving impacts in the practice of NGOs and extension services or local governments than other projects. Moreover, these projects were marked by the development and implementation of practical tools and methods in their projects (e.g. practice-oriented trainings for the relevant target groups). Additionally, these projects were often conceptualised and implemented by researchers who were motivated by the desire to implement practical solutions. As a result NWO-WOTRO should take these factors into account when designing future research funding programmes. Particular attention should hereby be paid to the selection criteria of future research funding programmes.

3. *NWO-WOTRO should address target groups with stronger willingness to apply research insights into development practice, for example by formulating selection criteria.*

To increase both relevance, effectiveness and impact of research funding, NWO-WOTRO should demand from applicants to show in which ways their non-scientific partners will potentially change their practices based on the research results. The evaluation results show that a number of projects successfully cooperated with partners who were not only interested in the research but moreover willing to apply in their practice. In competitive bidding for research grants, NWO-WOTRO could, for example, explicitly state that it prefers projects with partners that demonstrate in what ways they might apply the research. Or NWO-WOTRO could go even further by specifying that applications for research funding should address only those target groups that were proven more likely to apply research insights, particularly national non-profit organizations, district governments and local communities / smallholders.

4. *In future research funding programmes that involve PhDs, NWO-WOTRO should plan ahead with a stronger need for capacity building for PhD candidates.*

The Integrated Programmes followed two objectives that came at a trade-off with each other. On the one hand it wanted to deliver excellent scientific research that translates into new solutions in development policy and practice. On the other hand the Integrated Programmes trained PhD candidates to begin their academic careers, deepen their skills in scientific research methods and writing scientific publications. The evaluation shows that in a number of cases training PhDs took longer than initially expected, which resulted in deadline extensions for their publications. Correspondingly, the PhDs were forced to prioritize their academic work and could spend less effort on disseminating and translating their results. Hence, NWO-WOTRO should address this need for capacity building by adjusting timeframes and potentially providing additional training opportunities to PhDs.

5. *NWO-WOTRO and the Netherlands' Ministry of Foreign Affairs should continue emphasizing research that caters to the development contexts of countries where research takes place.*

According to the evaluation results, research designs varied greatly between countries and contexts. The fact that the Integrated Programmes did not prescribe specific designs and topics allowed researchers to develop research proposals that reflect the needs of their respective target groups. The strong relevance of research designs for the respective contexts in development countries is a core strength of the Integrated Programmes. In future programming, NWO-WOTRO and the Netherlands' Ministry of Foreign Affairs should continue emphasizing this strength.

6. *NWO-WOTRO together with the Ministry of Foreign Affairs should decide whether they want to capitalise on the achieved results of the Integrated Programmes by funding successful projects to further their impact.*

The evaluation has shown that a number of projects developed solutions that were potentially highly beneficial to their target groups. Due to the limited timeframe and the conflicting objectives of delivering scientific publications and implementing dissemination activities, researchers however often disregarded dissemination activities. This means that new solutions to pressing problems have only been implemented for a small number of target groups even though they could potentially be scaled up to a much greater extent. Therefore, NWO-WOTRO together with the Ministry of Foreign Affairs should decide if they want to provide extra funding to successful projects where such promising solutions have been developed. In this way, innovative approaches could be further implemented and reach many more relevant target groups.

4.2.2 Operative recommendations

7. *NWO-WOTRO should continue to demand an intense involvement of target groups and non-scientific stakeholders in the proposal phase of the bidding process. Moreover NWO-WOTRO should further intensify the involvement of non-scientific partners throughout the research.*

According to evaluation results, involving non-scientific stakeholders and target groups in the proposal workshop before researchers were awarded the funding substantially increased the relevance of research for target groups. Therefore, NWO-WOTRO should continue doing so. Furthermore, it has been shown that successful projects closely involved non-scientific partners throughout their research and met with them regularly. Therefore NWO-WOTRO should also emphasize the importance of involving stakeholders intensely throughout the project. It could do so by demanding regular review workshops, in which progress and the possible need of adjusting research to needs of stakeholders may be discussed.

8. *A future programme should provide more support but also guidance and some control mechanisms to researchers on dissemination activities and achieving impacts, i.e. target groups actually implementing the results.*

In addition to the above recommendation, it has also been shown that more intense dissemination activities such as producing tools, methods and trainings contribute to target groups applying the research insights to a greater degree. NWO-WOTRO should increase its support activities and introduce some control mechanisms that support researchers in conducting such dissemination activities.