



# Annual report 2022

## NL-CGIAR Research Programme

NWO-WOTRO Science for Global Development  
(BZ-activity 4000000184)





# Annual report 2022 NL-CGIAR Research Programme NWO-WOTRO Science for Global Development (BZ-activity 4000000184)

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Photos and graphics are courtesy of the projects, unless mentioned otherwise.

Photo of planter on cover page from the SSD project Upscaling improved groundnut varieties in Ghana and Mali.

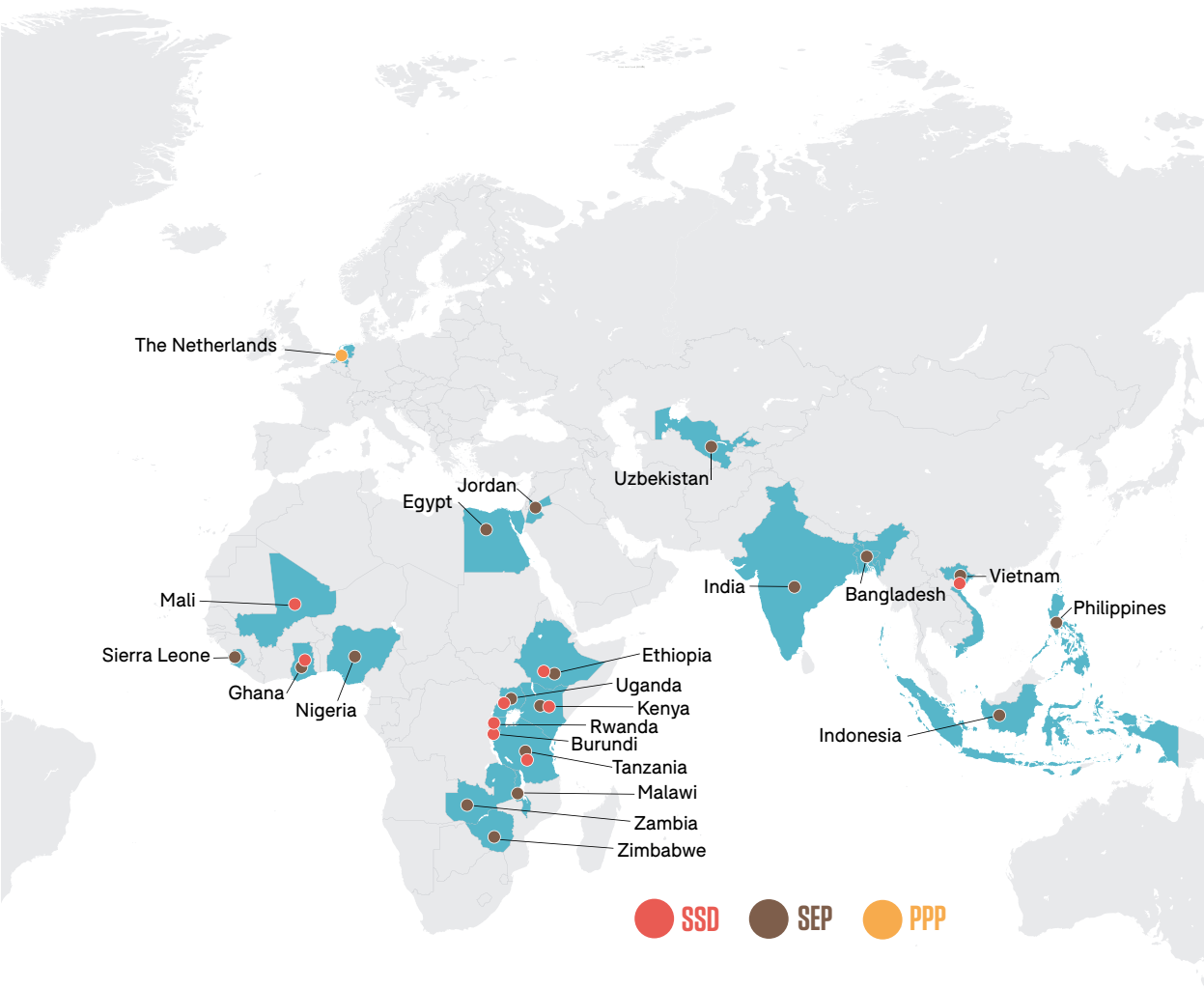
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# NL-CGIAR research programme at a glance

13.4 million euro, 3 instruments, September 2017 – June 2023



## Highlights of the Seed Systems Development (SSD) projects

All nine Seed Systems Development projects have successfully worked on the missing link between variety development and use of these varieties within local farming systems. Gender was a specific element of the Seed Systems Development call. The projects reported amongst others increased women empowerment, higher dietary diversity, higher productivity, higher income, various scaling approaches and business models to make improved seed available in an inclusive way. Local government agencies and other stake-holders are aware of the research findings and in several cases have made a case for endorsing or further evaluating the research findings and/or dissemination activities. In addition, the projects reported that the design of the partnerships clearly benefitted their research, providing a holistic perspective and a true systems approach. Important to note is that several projects highlighted the important role of the informal seed sector and that having a mixed formal-informal system has several merits to smallholder farmers, amongst others a higher diversity of crops grown. Some projects falsified one or more of their assumptions. For example the finding that the main barrier for adopting new varieties is not necessarily risk-related, as initially assumed. This is important, given that a lot of initiatives around agricultural risk management are heavily pushing for bundling seeds with insurance.

## Highlights of Senior (SEP) and Public Private Partnership (PPP) experts

The SEP call succeeded in increasing the involvement of strong NL expertise in CGIAR CRPs/Platforms and thereby strengthening cooperation between NL and CGIAR. All Senior Experts have finalized their assignment. Some key outcomes are that guidance for monitoring unequal impacts of technologies is embedded in the CGIAR M&E framework within three of the new OneCGIAR initiatives; 'Scaling Readiness' has been taken up in the central portfolio management logic and stage-gating procedures of OneCGIAR; Food-based Dietary Guidelines for Ethiopia are incorporated in the Food and Nutrition Strategy by the Ethiopian Government and identified as one of the 22 gamechangers in the Food System transformation Agenda as follow-up of the UN Food System Summit 2021; and, several Senior Experts are involved in various new CGIAR Research Initiatives. So, the added value of the SEP assignment to the CRP and/or Platform and also the strategy of One CGIAR is very clear.

The key output of the PPP-expert assignment is the Special Report "Open for business: Pathways to strengthen CGIAR's responsible engagement with the private sector", launched during the NL-CGIAR Partnership event. The process of compiling this report triggered many people within CGIAR to reflect on their role in private sector engagement and CGIAR's internal organisation. Furthermore, the report has set several processes in motion within CGIAR, for example the development of the CGIAR Private Partnerships for Impact (PP4I) unit.

SEP and PPP experts all contribute to an increased sharing of cross-cutting Dutch strengths in International Agricultural Research (system approach, public-private partnerships, enabling and scaling) with CGIAR.

The SEP evaluation concluded a.o. that the SEP has strengthened the collaboration between Dutch research organisations and CGIAR. The signs of improved collaboration are visible to all stakeholders. The Senior Experts e.g. shared knowledge with CGIAR, co-created knowledge with their counterparts, and enabled knowledge utilization (e.g. a significant number of joint publications). These three mechanisms of applying their expertise have resulted in CGIAR's enhanced use of Dutch strengths (a) in International Agricultural Research and (b) in the four Priority Knowledge Domains<sup>1</sup>. Furthermore, the Senior Experts contributed to the knowledge agenda and worldwide debate and also to CGIAR management-level talks, CGIAR strategy and new CGIAR Research Initiatives.

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<sup>1</sup> The four priority knowledge domains of the NL-CGIAR partnership are: 1) Agriculture for nutrition and health; 2) Sustainable and inclusive value chains and sectors; 3) Genetic improvement and propagation materials; 4) Climate smart agriculture.

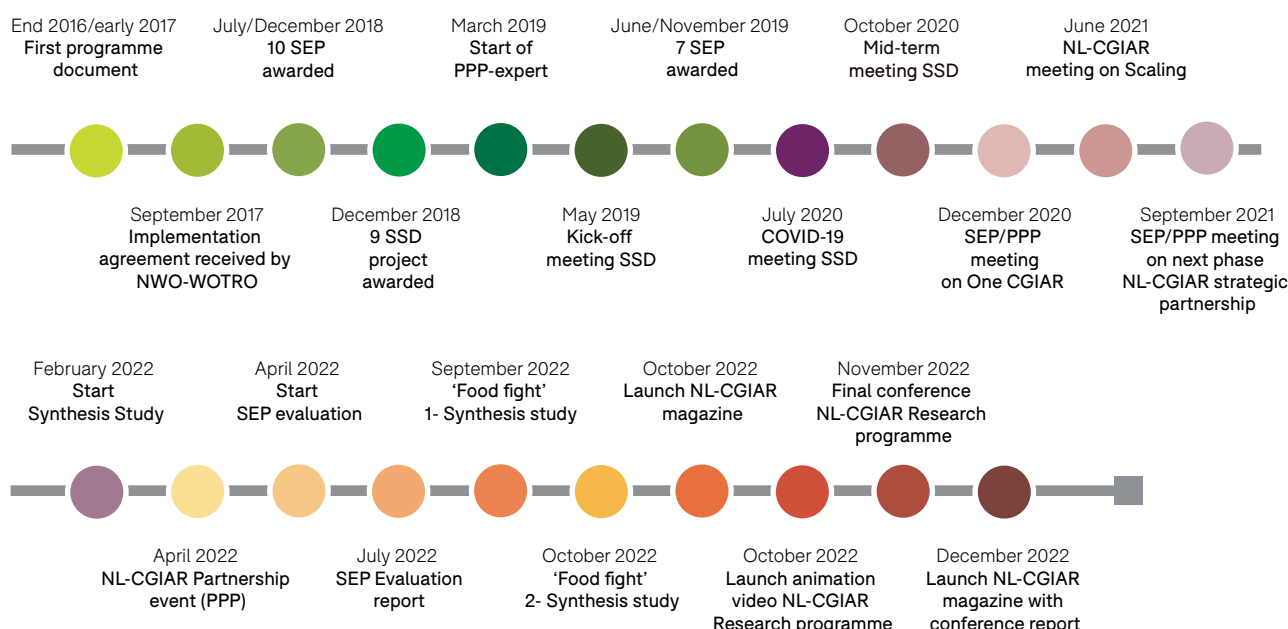


# 1 Background and introduction

The Netherlands (NL) – CGIAR research programme contributes to transformational change in agriculture around the world by advancing food system knowledge and joint public and private innovation. From 2017-2023, this programme is part of a cooperation agreement between the Government of the Netherlands and the CGIAR System Management Organization. This report presents a concise overview of the results and outcomes of Seed Systems Development projects and Senior Expert and PPP assignments as put forward in their final reports (submitted in the second half of 2022 and first half of 2023<sup>2</sup>).

The programme aims to facilitate successful partnering between CGIAR Research Programs (CRPs) and CGIAR Centers with Dutch knowledge institutes and stakeholders from the public and private sector, both for-profit and not-for-profit, as well as enhancing mutual research priorities. The programme is funded by the Dutch Ministry of Foreign Affairs and implemented through NWO-WOTRO Science for Global Development.

The Dutch government committed € M 79.9 to a 3-year contribution to the CGIAR and a number of partnership instruments. An amount of € M 64.8 was destined for the CGIAR System Organization (divided over 3 year, the so-called ‘envelop 1’ funding); and € M 15 for four partnership instruments incorporated in an NL-CGIAR research programme with a duration of 5 years (the co-called ‘envelope 2’ funding). The design and implementation of the four<sup>3</sup> described instruments was carried out in 2017 and 2018 in a consultative process with the NL-CGIAR working group and with the CGIAR System Management Office (SMO).



<sup>2</sup> Project reporting does not align with calendar years. Due to Covid-related extensions of projects, the final reports were received over a longer period from 2022 to first half of 2023.

<sup>3</sup> The Co-Funding call was after all considered not feasible, as the set-up with conditional guarantees for co-funding would surpass the duration of the NL-CGIAR programme. Therefore, this instrument was not implemented and the budget has been changed from 15 to 13,4 million.

The NL-CGIAR programme consists of three instruments:

- a [Seed Systems Development \(SSD\)](#) programme funding projects on Enabling and Scaling Genetic Improvement and Propagation Material;
- a [Senior Expert Programme \(SEP\)](#) to support participation of Dutch knowledge institutes in CGIAR research;
- a [Public Private Partnership \(PPP\)](#) Expert collaborating with the CGIAR .

Implementation of the three instruments is done in close collaboration with CGIAR and with the Netherlands Food Partnership<sup>4</sup> as well as other partners of the Dutch Working Group on CGIAR, notably the Ministries of Foreign Affairs and of Agriculture, Nature and Food Quality, (MoFA and MoA).

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4 Formerly the Food & Business Knowledge Platform (F&BKP), which merged with AgriProFocus into the Netherlands Food PartnershipFood Partnership.

# 2 The three NL-CGIAR instruments

## 2.1 Seed Systems Development (SSD) programme

**8.5 million euros, 9 projects, 10 countries, 53 partners, 3 years**

### Aim and objectives of the NL-CGIAR SSD call: Generating insights that contribute to improving 'seed' systems

The aim of Seed Systems Development (SSD) call is to get improved seed and animal seed<sup>5</sup> stock of good quality from breeders to smallholder and family farms in LMICs<sup>6</sup>. Good improved genetic material may be available in particular public research institutes – including the CGIAR institutes and National Agricultural Research Systems (NARS). But due to limitations in the seed and animal seed stock value chains and the enabling environment, improved varieties and breeds will often not or not easily be available or accessible for smallholder and family farms in LMICs.

By funding projects on seed systems development, the call aims to:

- gain insights in how to increase the contribution of high-quality 'seed' (i.e. seed and propagation materials for crops, livestock and fish) to improving smallholder farmers' food and income security;
- identify and test how to contribute to improving availability and access of high-quality 'seed' for smallholder and family farms, especially faster and at a larger scale than in current practice;
- identify and test how to make value chains for private and public seed and animal seed stock more efficient, sustainable and anchored in a supportive enabling environment;
- strengthen cooperation among CGIAR researchers affiliated to CRPs and/or Platforms, Dutch researchers and relevant (local) public and private partners.

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5 When 'seed' is used, it should be read to include animal seed stock and all other propagation materials for livestock, fish and crops. The latter category refers to all plants produced as food, including cereals, tubers, pulses, horticultural crops, etc.

6 Low- and Middle Income Countries (<http://www.oecd.org/dac/stats/daclist.htm>).

## 2.1.1 Overview of funded Projects

Short SSD project title	Seed System	Aim
<a href="#">Integrated vegetable seed systems development in Vietnam</a>	Vegetables, legumes	This project elucidates how, and under what conditions, increased access and use of high quality vegetable seed translates into enhanced income and nutrition security for ethnic minority farmers in Vietnam's Northern highlands.
<a href="#">Promoting stress-tolerant varieties at scale in Kenya</a>	Maize	The project's main objective is to pilot and implement a scalable approach bundling stress tolerant maize seed with insurance and/or remote assistance to improve risk-management and resilience for smallholder farmers.
<a href="#">Accelerating aquaculture development in Ghana</a>	Tilapia	The project aims to generate and share knowledge on how to best develop the public and private hatchery sector and to promote high-quality Nile Tilapia seed and good aquaculture practices to small-scale cage and pond tilapia farmers.
<a href="#">Scaling quality cassava seed systems in Rwanda &amp; Burundi</a>	Cassava	The project's overall objective is to select a diversity of cassava clones resistant to Cassava Brown Streak Disease (CBSD) and Cassava Mosaic Disease (CMD) while taking farmers' demand into account and to make this material quality certified and available through different agribusiness models and to upscale these models in Rwanda and Burundi.
<a href="#">Seed market development in Uganda</a>	Maize, beans, potatoes	This project aims to improve the functioning, integration, and inclusiveness of seed systems and markets in Uganda by strengthening links between the regulatory framework, seed providers, and seed users across multiple dimensions.
<a href="#">Feed and forage seed business models in Kenya &amp; Uganda</a>	Forages & Livestock	The overall goal of the project is to develop viable business models for forage seed production and marketing that assure economically sustainable access to high quality forage seed to diverse clients in Kenya and Uganda.
<a href="#">Women-led chicken seed dissemination in Ethiopia &amp; Tanzania</a>	Chicken	This project aims to develop, promote and test women-led chicken businesses in Ethiopia and Tanzania with the goal of promoting the economic empowerment of young women, and also of improving the food and nutrition security of their households.
<a href="#">Upscaling improved groundnut varieties in Ghana &amp; Mali</a>	Groundnut	The overall objective of the project is to improve the groundnut seed systems in order to upscale improved groundnut varieties for income and nutrition of men and women smallholder farmers in dryland of Ghana and Mali.
<a href="#">CocoaTarget in Ghana</a>	Cocoa	The goal of the project is to develop and strengthen climate-smart strategies in cocoa production systems to improve the livelihoods of up to 800,000 Ghanaian smallholder farmers who depend on cocoa for income.

## 2.1.2 Results at a glance: key statistics

All funded projects on Seed Systems Development have been finalised in the course of 2022. The SSD International Advisory Committee has advised the NL-CGIAR Programme Committee to approve all projects. The project summaries from the final reports can be found in Annex I. An overview of reporting on the BuZa indicators, and indicators related to training, innovations and partnerships can be found in Annex II. In total, **11994 people have been trained** by the projects in the SSD research programme, of which **48% are female**. Projects reported **up to 8 partnerships per project** (amongst others with community organisations or farmer cooperatives, private businesses, governmental research institutions, etc.) and **multiple innovations** (ranging from novel research design to newly released varieties and diet health clubs).

Annex II also contains an overview of the numbers of peer reviewed articles, and other outputs such as discussion papers, videos, blogs, etc. To access the outputs, we refer to the project pages, accessible through the hyperlinks in the overview with funded projects. Please note that many of the project's scientific publications are still in preparation. The Seed Systems Special issue in the journal *Agricultural Systems*, to which all NL-CGIAR Seed Systems Development projects will contribute, is expected to be published end 2023.

In this chapter, we look again at the seven areas of actions in seed systems research, as defined by P. Ellul at the onset of the research programme. To give an idea of how the projects have been working on those areas of action, outputs and outcomes of the project are linked to the different action areas. In addition, we link project outputs and outcomes to the aims of the SSD research programme. With this, two stories of change illustrate how the SSD research is impacting smallholder farmers and other stakeholders in the seed value chains in the research areas.

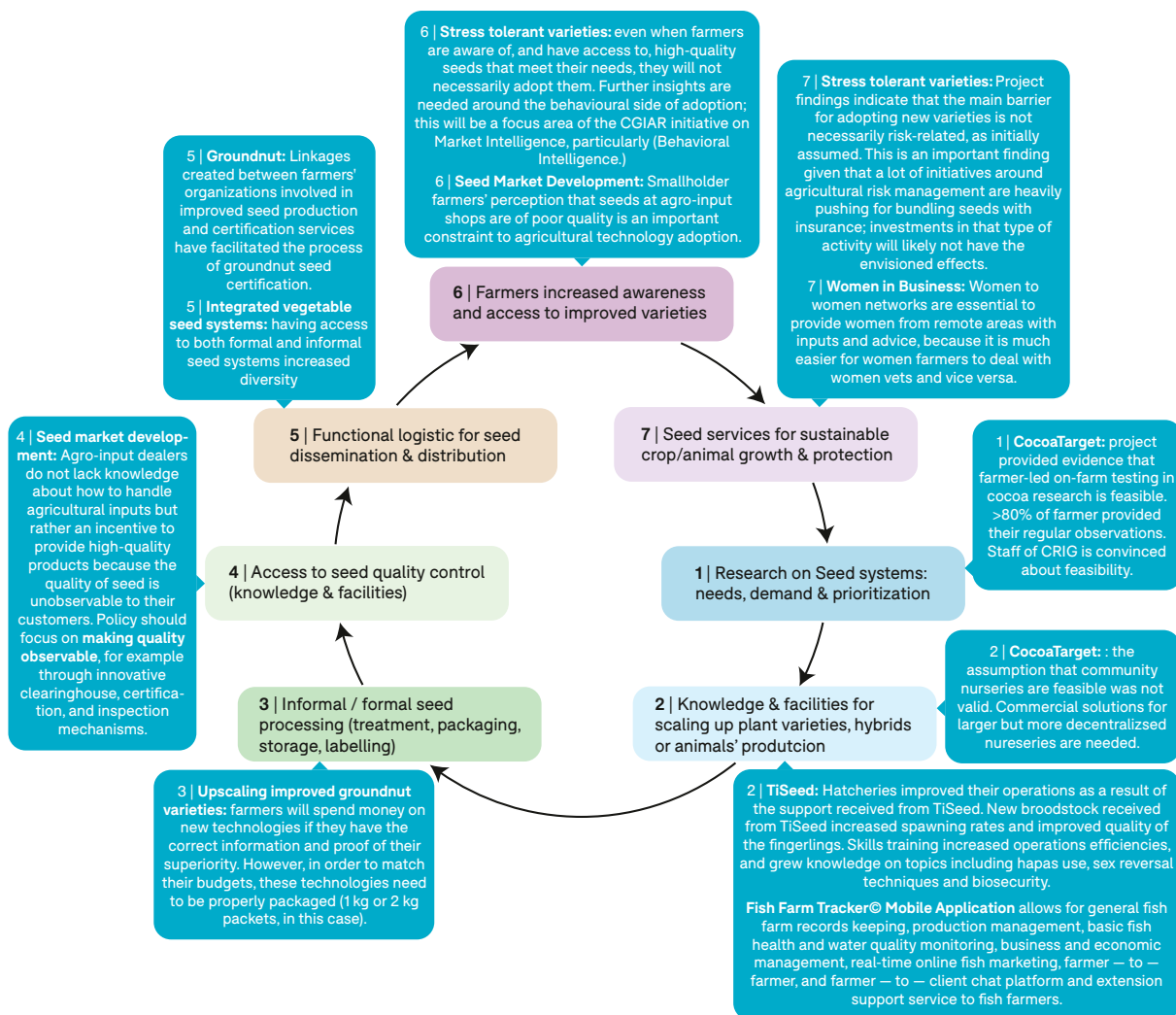
**Diet Health Clubs and Training of Farmers (TOF) on technical and business skills have shown to be very effective in increasing knowledge and skills among farmers (mainly women) and are seen as important scaling mechanisms to enhance nutrition and income security. The 26 Diet Health Club facilitators, of which 17 were women, continue to be change agents and are a source of information in the villages on nutrition, vegetable production and seed production**

(Project: Integrated vegetable seed systems)

**The TiSeed project produced 18-episodes TV/Online based documentary-drama serial, as an extension mechanism for easy and faster learning, towards enhanced adoption of 'good' aquaculture management practices. Stakeholders are very enthusiastic about them and Fisheries Commission endorses their full use and indicated continuing the implementation and evaluation of these activities.**

## 2.1.3 Results in the seven areas of action

Below we show the seven areas of action defined in the Seed System Development call. One or more achievements from each project are presented, distributed over all the action areas. (As discussed in 2020's annual report, the majority of the actions taken by the projects focus on 'Research on Seed Systems: needs, demand & prioritisation'; 'Farmers' increased awareness and access to improved varieties'; and 'Functional logistics for seed dissemination and distribution'.)



Farmer/group businesses seem to address needs of smallholder farmers better compared to established/mature businesses

(Project: Feed and Forage Seed Businesses)

Given the large diversity [of vegetables] grown, also where there was poor access to the formal seed system, and the fact that having access to both formal and informal system enhanced diversity, there is great merit to a mixed system to support the large diversity fit to the local culture including cuisine.

(Project: Integrated vegetable seed systems)

# A functioning trial network for cocoa research

## Project: Cocoa Target

The project identified tricot as a more efficient way to test cocoa genotypes on farms. A first outcome of the project is that a functioning trial network has been established, that extension agents and farmer organizations are now fully aware of the potential of tricot and its value has been recognized by a majority of stakeholders in the Ghanaian cocoa sector. The final workshop evidenced that overall stakeholders were positive about its potential, that with more data it could be relevant to scale, and that it can be supported by successor project by IITA/WUR to ensure this happens. Feasibility of tricot in perennial crops has thus been evidenced. The research supports a positive policy recommendation on tricot.

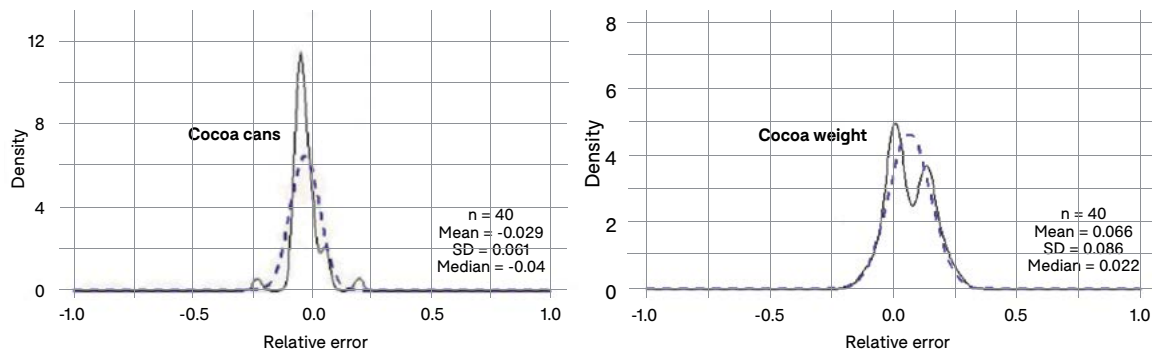


Figure 1 | Farmer-led volumetric measurement of cocoa yield gave accurate results (left), which were interestingly more accurate than measurements with a butcher's scale (right)



Photo of exercise on farmers' accuracy in estimating yield visually, as a baseline against several other measurements methods.

Credit: J. Ulzen, Alliance

## 2.1.4 Working towards the programme's aims – from outputs to outcomes

A Theory of Change on programme level for the Seed Systems Development research programme has been designed at programme start. Research outputs, outcomes and impacts of the Impact Pathway all contribute to the four objectives or aims of the research programme (see Figure 2). Below, a selection of the projects' contributions to these aims have been specified, based on their reported outputs and outcomes. Figure 3 shows an example of an Impact Pathway at project level (project Women in Business).

Research outputs	Research outcomes	Impacts
<ul style="list-style-type: none"> <li>– Networks and value chains analysed; constraining factors for access identified</li> <li>– Improved quality varieties of marketable seeds are available, accessible and affordable</li> <li>– Demand, potential for adoption assessed</li> </ul>	<ul style="list-style-type: none"> <li>– Access and uptake to markets, finance and value chains are improved</li> <li>– Improved quality varieties are taken up, planted and sold</li> <li>– Demand improved through trainings, awareness campaigns, financial benefits shown</li> </ul>	1. Increased contribution of high-quality seed to improved smf income security
<ul style="list-style-type: none"> <li>– High quality seed of accepted and nutritional foods available, accessible, affordable</li> <li>– Awareness of (health) benefits of improved crops/seeds, also for women and youth</li> </ul>	<ul style="list-style-type: none"> <li>– High quality seed taken up and planted for home consumption</li> <li>– Increased consumption of high-quality, nutritious foods, also by women and youth</li> </ul>	2. Increased contribution of high-quality seed to improved smf food and nutrition security
<ul style="list-style-type: none"> <li>– Constraining factors for smallholder and family farms in value chains, availability, finance and access identified (with a gender lens)</li> <li>– Quality assurance and accreditation needs of smallholder and family farms identified</li> <li>– Training needs for farmers/extension officers, women/youth, etc. identified.</li> </ul>	<ul style="list-style-type: none"> <li>– Constraining factors addressed</li> <li>– Innovations, including accreditations mechanisms, implemented or improved</li> <li>– Trainings are offered that increase capacity of stakeholders (e.g. on management practices)</li> </ul>	3. Improved availability and access of high quality seed stock for sm and family farms
<ul style="list-style-type: none"> <li>– Policy and regulatory reforms designed</li> <li>– Markets and private sector enabling factors identified</li> <li>– Relevant socio-cultural constraining factors (including for women) identified and awareness for importance of socio-cultural factors increased.</li> </ul>	<ul style="list-style-type: none"> <li>– Policy and regulatory reforms implemented</li> <li>– Enabling factors for the private sector implemented</li> <li>– Socio-cultural factors taken into consideration during development of interventions, policies, etc.</li> </ul>	4. Enabling environment for more efficient, sustainable and anchored value chains for private and public seed stock
<ul style="list-style-type: none"> <li>– Partnerships established and strengthened</li> <li>– Capacity development, co-creation and training needs identified and trainings developed</li> </ul>	<ul style="list-style-type: none"> <li>– Additional and/or follow-up research/activities</li> <li>– Capacity development measures, co-creation and trainings implemented – specified</li> </ul>	5. Strengthened cooperation among CGIAR, Dutch and relevant (local) public and private partners.

Figure 2 | Impact pathway from the programme level Theory of Change for the Seed Systems Development research programme.



## **AIM 1 and 2: Gain insights in how to increase the contribution of high-quality ‘seed’ (i.e. seed and propagation materials for crops, livestock and fish) to improving smallholder farmers’ food security and income security**

### **Integrated vegetable seed systems**

Among farmers in the nutrition group, increased consumption of vegetables and improved vegetable production practices (e.g., treating seed, applying fertiliser, seed storage) across seasons were noted. Farmers from the Diet Health Clubs, particularly those that received both treatments, reported higher improved dietary diversity and on-farm vegetable diversity, and increased use of self-saved seed than the control group.

### **Promoting stress tolerant varieties at scale**

The interventions a) providing trial packs, b) last-mile delivery of drought-tolerant varieties, and c) bundling seed with insurance had no large effects on the adoption of drought-tolerant varieties. This limits the potential for these varieties to increase incomes and smallholder farmers’ food security. Moreover, the varieties – at least during the project period – did not appear to have a substantial effect on farmers’ yields in times of drought. This projects therefore states that more behavioural research is needed to understand the behavioural drivers of varietal adoption.

### **Upscaling improved groundnut varieties**

Farmers have shown willingness to purchase seeds of their favourite varieties. Some of the farmers who received small seed packs in Ghana claimed to produce as much as 25 kg of seed, which they then sold for GHC 22 per kg. The project reported this as evidence that farmers will spend money on new technologies if they have the correct information and proof of their superiority. However, in order to match their budgets, these technologies need to be properly packaged (1 kg or 2 kg packets, in this case). The end of project survey showed improvement in adoption of improved varieties with preferred varieties such as SARINUT 2 in Ghana reaching as high as 55% adoption rate in the Upper East region (29.7% average) from 1.1% in 2019 and Fleur 11 (Allasson) in Mali reaching 8% from 3% in 2019.

### **TiSeed**

The project gained insights fish strains and aquaculture practices. For example, the project found that simple adjustments in fingerling stocking and management practices can significantly improve productivity and incomes. From these insights, the project saw the need for the distribution of quality broodstock to hatcheries and provision of a series of intensive trainings. Study findings also showed the limits of the Akosombo strain and the need to review and reform the policy regarding the introduction and management of exotic fish strains.

An RCT and impact evaluation study showed that training farmers on good aquaculture practices (GAP) improved the adoption of good management practices – including good record-keeping, water quality management, and biosecurity practices – and the productivity and incomes, leading to an increase of .45 more kilogram of fish harvested per square meter (4.5 ton/ha). Additional income of USD 627 per trainee per year on average were achieved as an impact of the trainings. Entrepreneurs reported that training was a critical success factor to growing their operations. See also: [Impact of aquaculture training on farmers’ income: Cluster randomized controlled trial evidence in Ghana – Ragasa – 2022 – Agricultural Economics – Wiley Online Library](#) and [Highlights of the Ghana Tilapia Seed Project \(TiSeed\) \(vimeo.com\)](#)

### **Seed market development**

Focussing on perceived seed quality, Miehe et al. (in progress) showed that smallholder farmers’ perception that seeds at agro-input shops are of poor quality is an important constraint to agricultural technology adoption. Farmers in catchment areas where the information clearinghouse was in place tended to use more quality seed and were more likely to use seed from agro-input dealers. Furthermore, they recorded higher productivity in subsequent seasons.



## Feed and forage seed business models

Following the forage promotional efforts, there has been general increase in seed demand as can be deduced from the importations. Farmers who participated in Farmer Field Schools and field days have shown a keen interest and some have started buying and promoting seed on their own. The project found that investment in field days ranks higher than radio programs and farmer field schools in terms of cost efficiency for changing farmers' awareness or behaviour.

## Women in Business

The nutrition analysis showed that the control group had a lower overall mean household diet diversity score compared to the intervention group. The empowerment analysis showed a highly statistically significant change in the percentage of those achieving empowerment. The correlation between women's empowerment and household dietary diversity was high (0.38). The project therefore concludes that supporting the access to and rearing of improved chicken breeds is a good strategy to enhance the empowerment of women farmers and household nutrition.

## AIM 2: Identify and test how to contribute to improving availability and access of high-quality 'seed' for smallholder and family farms, especially faster and at a larger scale than in current practice

### Feed and forage seed business models

Based on project insights, the project developed two Policy briefs to inform seed policy and regulatory frameworks: 1. Redefining the regulatory framework to enhance farmers' access to improved forage seed in Kenya and 2. Revamping Forage seed systems in Uganda: Unlocking policy barriers to enhance the productivity of Uganda's livestock.

### Upscaling improved groundnut varieties

To improve access to improved varieties, about 55 tons of breeder and foundation seed was produced and made available. This was achieved by the national research institutes which have the monopoly on EGS production mandated by the national seed policies. Efforts for policy change to engage the private sector to produce EGS have not yet been successful. Hence, further consultations and dialogue with policymakers are needed. For certified seed, the project sought public-private partnerships to enhance certified seed production. The research institutes made foundation seed available to private companies and facilitated linkage between out growers and seed companies. Besides, the out growers and the technicians of the seed companies were trained in good agronomic practices and quality seed production. This resulted in the production and marketing of more than 390 tons of certified seed. This seed is anticipated to potentially benefit more than 19,500 groundnut growers, assuming a farmer purchases 20 kilograms.

### Promoting stress tolerant varieties at scale

At project inception, we aimed for insights from our research to lead to strengthening of policies and institutions to create an enabling environment for seed systems development to distribute stress tolerant varieties. Our findings on the champion farmer model for inclusive seed delivery have highlighted ways to implement last-mile distribution of seeds, and can inform future initiatives that are aiming to use a champion farmer model for the distribution of seeds. ACRE Africa is now looking for strategic partnerships with financial institutions to leverage on their existing infrastructure and promote sustainability (see this blog and an accompanying project note).

One of the impact areas of this project was the scaling of private sector approaches to improve adoption of ST seeds (incl. training of seed company marketing agents and champions for product promotion), with potential to reach 750 farmer groups and 100,000 farmers nationwide (Stage 4 innovation: uptake of seed-PBI bundles). The project partner ACRE Africa has scaled the picture-based crop monitoring solution nationwide and is expanding the model to other countries where they work.

### Seed market development

Reducing information asymmetries can incentive agro-input dealers to provide high-quality products because the quality of seed is unobservable to their customers. In addition, gender equity bias is observed for both perceived general characteristics of dealers as well as the perceived seed quality sold by the dealers. Consumers' biased perceptions continue to be an important entry barrier for women in the seed sector. The results provide concrete policy suggestions to reduce information asymmetries (clearinghouse mechanisms), and to challenge gender norms and correct gender bias in perceptions.

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## SeedAdvisor – Story of Change

### Project: **Seed market development in Uganda**

John has always liked farming. Even though he did not have a lot of land, he was always able to grow enough food for his family and even remain with some extras to sell in the market. He realized this was mainly because he used improved seed varieties obtained from a reliable source.

When John turned 40, he decided he wanted to help fellow farmers to become equally successful. He realized farmers were struggling to get sufficient quality inputs like seed and fertilizer, so he decided to open a small agro-input shop in his village. While most farmers knew John's shop, not all farmers were aware he was a passionate entrepreneur that takes pride in helping fellow farmers to foster. Furthermore, John knew his close friends were raving about the seed he sold to them, but he did not know what other farmers thought. This all changed when we piloted SeedAdvisor. Similar to TripAdvisor, SeedAdvisor collects opinions of customers of agro-input shops and uses this information to rate and rank them. This information is then made available to both agro-input dealers and farmers.

Through SeedAdvisor, John learned that he was considered the best in the business! This recognition motivated him to improve even further by providing even better services to his customers, and by increasing his knowledge on proper handling and storage of agro-inputs. John also heard that some of his competitors in the neighborhood were somewhat envious about John's ratings, and they now also started to adopt some of the best practices and to increase customer care.

Needless to say, John's top rating also earned him a lot of new customers. Many of these new customers had no previous experience with improved seed varieties, and so these farmers saw their maize production increase substantially in subsequent years. This further reinforces the virtuous cycle whereby farmers become increasingly satisfied with their suppliers and suppliers are further motivated by the recognition they get and try to improve in areas where they can.



### **AIM 3: Identify and test how to make value chains for private and public seed and animal seed stock more efficient, sustainable and anchored in a supportive enabling environment**

#### **CocoaTarget**

The project described the current limitations of cocoa nurseries, provided inputs for alternative business models and informed policy recommendations on cocoa nurseries. However, no consensus has been established yet on a model to be promoted. That the need for more investment is recognized was underlined by COCOBOD/SPD, which announced in the final meeting to the cocoa sector that it will invest more in community nurseries. This shows that the conversations stimulated by this project do play a role in keeping this issue on the agenda.

[https://www.kit.nl/wp-content/uploads/2022/02/Inclusive\\_Business\\_Models\\_For\\_Cocoa\\_Nurseries\\_in\\_Ghana.pdf](https://www.kit.nl/wp-content/uploads/2022/02/Inclusive_Business_Models_For_Cocoa_Nurseries_in_Ghana.pdf)

Inclusive nurseries not only require financial investments, but also a change in social and gender norms to overcome some specific barriers for women and youth to engage in commercial nurseries, including access to quality land close to water sources, distribution of household tasks, restricted mobility, and a lack of capital.

#### **Women in Business**

The marketing component of the project whereby the vendors bought the older chicken back from the farmers and sold them for the farmers in good markets proved essential for this model to work. The women farmers argued that thanks to this market outlet they could make a living out of the chickens and not stress about looking for good markets. The vendors also made a better profit (in addition to the other component of this job) by searching for better markets and creating marketing relationships.

The government in both project sites have adopted the model of this project. The project partners have started adopting the WELI and WELBI tools. Street theatre for behaviour change toward nutrition and gender equality was suggested, promoted and implemented by the partners. This shows the extent of the adoption of gender transformative approaches.

#### **TiSeed**

Nursery operators were all enthusiastic about the nursery business model and were expecting their operation to be profitable. They also experienced high demand and improved proximity to supply customers. Farmers' most important benefit related to the improved hatcheries and nurseries were a reduction in mortality. Customers and potential customers of the hatcheries and nurseries consistently reported they only bought their fingerlings and feed from suppliers who they trust. The strengthened hatcheries have revived confidence and fish production of farmers in the study areas.

#### **Integrated vegetable seed systems**

This project found that informal and formal systems are largely complementary. Both need strengthening in terms of skills and knowledge at farmer and institutional levels and support through policy and research. Within this context, two policy briefs were prepared targeting the broader research and development community; the first focusing on local vegetable seed systems (<https://hdl.handle.net/10568/116469>) and the second on opportunities and challenges for linking informal and formal seed systems, and the role of governance, social inclusion, and seed security (pending).

Two farmer groups, of which one is now a cooperative, gained knowledge and skills in vegetable and seed production and business. Two nursery houses were established with in-kind support from farmers for seed/seedling production. Through strengthened linkages and farmer business skills, connections were made, and vegetable and seed/seedlings sold to buyers. There was also improved selection and use of quality seeds from both formal and informal seed systems for vegetable production. Flexibility and tailoring of support and linking groups to value chain actors was crucial to facilitate group growth and participation.

The nursery houses that were established with support of the project are managed by the farmer group and cooperative to enable consistent production of seedlings for sale, as well as practice and share recommended practices in seed and vegetable production

#### **Seed market development**

This project found that a crowd-sourced information clearinghouse, which makes seed quality more observable to farmers, significantly affects agro-input dealer outcomes. Treated dealers increase their efforts, improve their services, and attract more customers, while the intervention also impacts farmer outcomes, especially their adoption of improved maize seed. These results can be used by private sector entrepreneurs to shape the design and scale-up of an information clearinghouse for seed and possibly other inputs in Uganda.

#### **AIM 4: Strengthen cooperation among CGIAR researchers affiliated to CRPs and/or Platforms, Dutch researchers and relevant (local) public and private partners.**

##### **Integrated vegetable seed**

The gender related needs identified during the seed system characterization provided an opportunity to engage with the CGIAR gender platform and IFPRI to further explore women empowerment. This led to capacity building within the project team and partners in use of gender methodologies, and insight on the level and drivers of empowerment among men and women in ethnic minority communities. The results can be used to guide scaling design, further or contextualisation of seed system and vegetable interventions in the project sites.

Key local partner and authorities have become strong partners over time, which was most clearly expressed during the end of project-workshops, where both district partners provided their continuing support for healthy vegetables and quality seeds, including investment opportunities, as well as limitations.

##### **Stress tolerant varieties**

Working closely together throughout the project duration has resulted in major changes in attitudes. Frequent interactions across consortium members brought about capacity development on how to (i) adopt a more holistic approach towards risk management in the marketing of stress-tolerant seeds, (ii) develop business models for the marketing and distribution of seeds, (iii) think of how to design the project in a more gender-responsive way, treating gender as a broader concept than just reaching women, and (iv) processing of crop images for insurance and remote advisory purposes.

Research staff was spending significant amounts of their time in this project on co-creation, capacity development, monitoring, and supporting implementation of interventions, instead of data analyses or paper writing. This created a richer project in which we truly worked as transdisciplinary team, and we achieved our research outcome of improved capacity in the consortium and sphere of influence to strengthen marketing of ST seeds through holistic risk management. At the same time, it meant that the papers planned as indicators under the other action areas are still in progress.

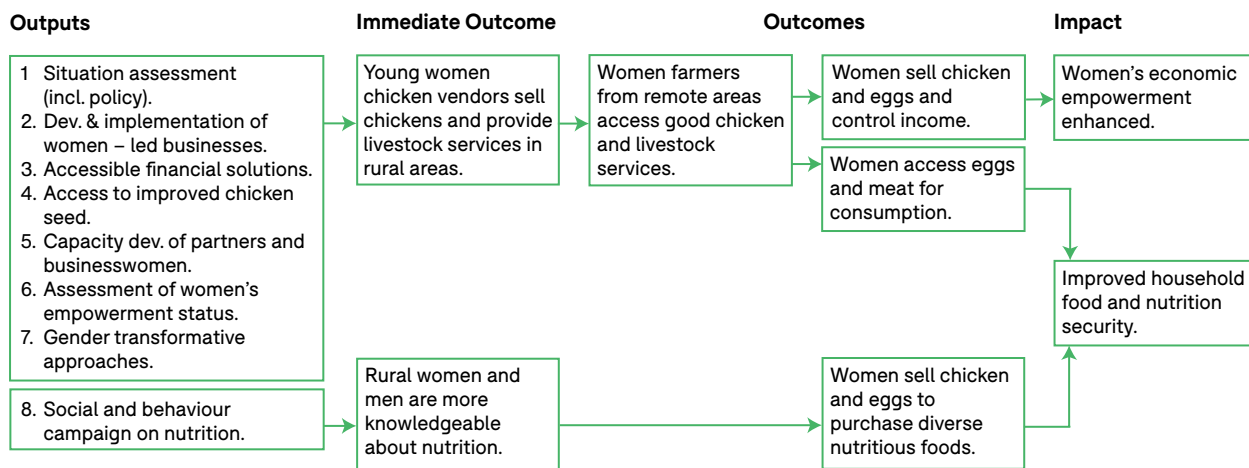
The research conducted under this subsidy mechanism was leveraged by the CGIAR initiative on Market Intelligence, which will help foster cooperation among CGIAR researchers and Dutch researchers.

##### **TiSeed**

Partnership between research institutions and government agency were central to research uptake, impacts, and sustainability of the project. The study recommends focusing on building strong and effective partnerships and capacity strengthening.

##### **Women in Business**

A better understanding of the gender relationship paved the way to internalize and customize gender dynamics into each project stage and ensure that the entire project was operating with high sensitivity to gender lenses. Partners explained that a turning point for them was the Reach, Benefit, Empower and Transform (RBET) continuum, and how it relates to gender transformative approaches, introduced to them by KIT during the trainings, and the understanding that transformation only occurs when access and reach are translated into empowerment and transformation. This new understanding of RBET and GTA made them highlight the need for future work to continue focusing on: gender relations in business, the engagement of men and male actors, as well as furthering the link between gender equality and nutrition outcomes. One outcome of the project is thus that partners are better able to implement the project activities and address the needs of the project stakeholders.



We test

Local norms allow women to lead a business. Income & access to meat and eggs improve nutrition. Women control chicken income.

There is demand for improved chickens in the rural areas. Young women vendors can effectively reach rural farm women.

We do not test

Households support women engaging in business. Women farmers have funds to purchase chickens and required inputs.

Financial service providers support women led business. Farmers have skills and inputs to manage the chickens.

Figure 3 | Project level Theory of Change (project Women in Business)

## The Wise Woman – Story of Change

### Project: Promoting stress tolerant varieties at scale

Gender biases in agriculture shape farmers' productive relationships, and men's ideas are often more respected than female farmers' ideas, because of assumed social stereotypes that men are better farmers than women. Moreover, in many rural smallholder households, women face a real threat of domestic violence, further

increasing the gender gap in agricultural participation. When there is a real concern that speaking up, or making the wrong decision, could lead to violence, women will be discouraged from actively sharing knowledge acquired through their social networks, and contributing to decisions which seeds to plant. Midline findings from the “Promoting stress-tolerant varieties at scale” project in Kenya indeed found that widespread acceptance of violence towards women is a major driver of disempowerment.

To address these repercussions from a threat of violence, and create a dialogue within smallholder farming communities, the project consortium decided to develop a movie, [Ep 23: Shamba Shape Up Story – Wise Woman – Shamba Shape Up](#). The team worked together with Mediae, the producers of the popular Kenyan TV show Shamba Shape Up. The team then screened the drama to farmers in randomly selected villages, to test whether this form of edutainment can help shift gender biases, attitudes towards domestic violence, or increase women’s empowerment. Debrief sessions were used to understand how farmers interpreted the movie. And the team was excited to find out that this intervention helped shift farmers’ attitudes towards gender.

In a control group, where farmers watched a regular episode of Shamba Shape Up, both men and women were biased towards their own gender: female (male) farmers were more likely to follow recommendations from women (men). However, this gender bias was absent among farmers who did watch “The Wise Woman”, and the intervention had significant impacts on farmers’ input in productive decision-making, measured a few weeks after the screening.

This was a relatively inexpensive intervention that can be easily scaled up through national media, and “The Wise Woman” was later screened on national TV in Kenya. Similar gender-transformative approaches are currently planned for Mediae’s “Munda Make Over” show in Zambia, suggesting that edutainment can be an effective tool in influencing farmers’ intra-household decision-making dynamics at scale.

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### 2.1.5 Remaining knowledge gaps

A few projects specifically mentioned remaining knowledge gaps. These are presented below.

- Access to financial mechanisms has proven very complex and a main obstacle still faced by the women – a targeted study and project is probably needed to address this challenge (Project: Women in Business)
- There is a dichotomy in that larger nursery businesses are more viable, but smaller nurseries are more inclusive and closer to the client. We would like to recommend further research to explore and validate new business models that combine these two existing models and build on the advantages of both systems. For example, a franchise model could combine working with small-scale community nurseries with reaching economies of scale. (Project: CocoaTarget)
- We believe that there is something more fundamental around the psychology of adopting new varieties that needs to be studied, which is what future research will address through the CGIAR Initiative on Market Intelligence (Project: Promoting stress tolerant varieties at scale)

More insights into the successes and challenges, as well as recommendations for future programming are expected from the programme evaluation, which is conducted in 2023.

## 2.2 The Senior Expert Programme (SEP)

**2,95 million euros, 17 projects, 2 to 3 years**

### Aim and objectives of the Senior Expert Programme (SEP)

- Better use of the strength and quality of Dutch International Agricultural Research (IAR) strengths<sup>7</sup> to the benefit of CGIAR and achievement of common objectives;
- Strengthen the participation of Dutch research organisations in CGIAR;
- Strengthen the level of alignment of the work of the Senior Experts in the CGIAR CRP/Platform to the four priority knowledge domains<sup>8</sup>;
- Increase the added value of the time and tasks of the Senior Experts to the CGIAR CRP/Platform.

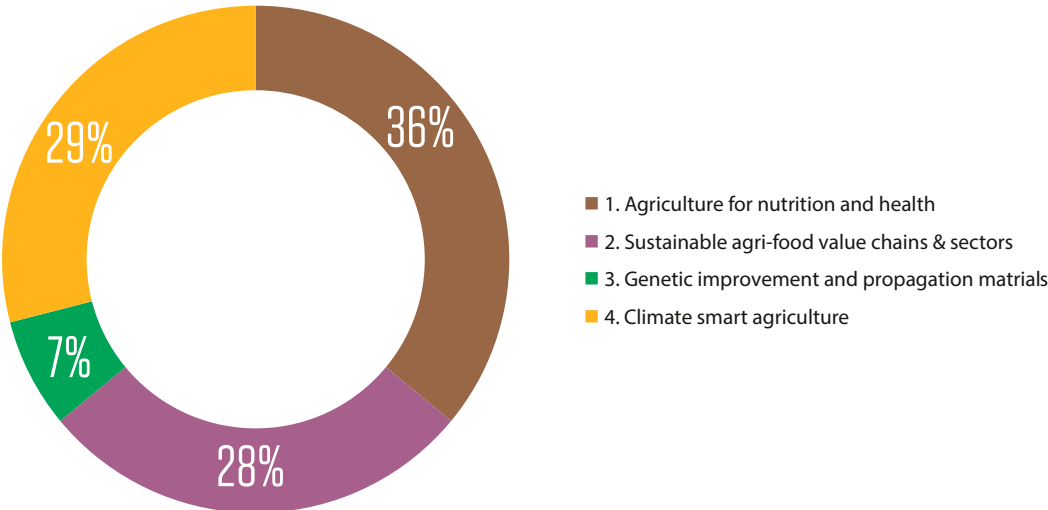


Figure 4 | Linkages of the SEP projects to the priority knowledge domains of the NL-CGIAR partnership. NB: projects can have linkages with multiple domains.

#### 2.2.1 Funded Experts

The SEP call increased the involvement of strong NL expertise in CGIAR CRPs/Platforms and thereby strength-ened cooperation between the Netherlands and CGIAR. In total, seventeen Senior Experts were funded. They participated within ten of the twelve CRPs, while two Experts participated also within one or two Platforms. Please see Annex III for an overview of the funded Senior Experts. Seven of the Senior Expert assignments concerned more managerial positions in the CRP or in the flagship, thus focussing more on managerial tasks.

7 The Dutch International Agricultural Research (IAR) strengths are: Systems approach, Public-Private Partnership and Enabling and scaling.  
8 The four priority knowledge domains of the NL-CGIAR partnership are: (1) Agriculture for nutrition and health; (2) Sustainable and inclusive value chains and sectors; (3) Genetic improvement and propagation materials; (4) Climate smart agriculture.



The others provided scientific leadership. Furthermore, most of the Senior Experts (twelve) were focussing on additional research, filling research gaps and/or new research questions within the CRP or knowledge domain. Five Senior Experts focussed more on the synthesis of existing research<sup>9</sup>. Before they had been awarded part of the SEP call, the Senior Experts in total spent 3,59 fte on the CRP. With the award, the Senior Experts spent 7,13 fte for 24 to 36 months extra on the CRP; in total 10,72 fte.

“The embedding of our guidance for monitoring unequal impacts of agriculture technologies in the CGIAR M&E frameworks is a very positive outcome.”

(Senior Expert on Farming Systems Analysis for Inclusive and Resilient Agriculture – Prof. dr. ir. K.E. Giller)

### 2.2.2 Results of the SEP-assignments

All Senior Experts-assignments were successfully finalised<sup>10</sup>. The first one in October 2021, the last ones at the end of 2022. In annex III the final summary of all SEP-assignments are included.

## Advisory Committee on Senior Experts assignments

The AC is positive about the final results of the Senior Experts. The SEP-assignments had a clear added value to CGIAR and significant results have been achieved. Most assignments have results that lead to outcomes in terms of feeding Dutch and CGIAR policies and strategies and international debates, capacity development, enhanced or new partnerships including NL-CGIAR, and so on. Besides that the 17 SEP-assignments have contributed to an enormous number of outputs. Beyond the initial proposals extra activities and additional products and outcomes have been realized.

### 2.2.3 Results at a glance: key statistics

**126 partnerships** have been developed among the 17 SEP projects (see Annex IV Table 1). For example, Prof. dr. ir. M.K. van Ittersum cooperated with two international fertilizer organisations (IFA and Yara), two CGIAR Research Centers (CIMMYT and Bioversity-CIAT) and two new CGIAR Research Initiatives (Excellence in Agronomy and CGIAR Excellence in Breeding). Dr. I. Brouwer cooperated with four CGIAR Research Centers (IFPRI, CIAT, Bioversity International and IITA), four international organisations (FAO, IFAD, FCDO, BMGF), five national (EPHI, NIN, Rikolto, HMU, ICDD'B) organisations and one new CGIAR Research Initiative (SHIFT).

The Senior Experts reported to be working on **103 innovations**, such as the use of satellite data to manage rangelands in response to climate change and contribute to drought risk financing mechanisms (Dr. ir. A. Vrieling), a wind erosion model specific for dryland conditions (Dr. G. Sterk), a framework for designing inclusive landscape

<sup>9</sup> Please note, on the basis of the proposal texts the WOTRO secretariat made a provisional assessment, these categories are not unambiguous, so distinguishing between them is somewhat subjective.

<sup>10</sup> Sadly one of the Senior Experts Dr Geert Sterk passed away on 2 May 2022 (in memoriam). The assignment was at that moment in the last phase (start date 1 April 2020, end date 30 September 2022). In consultation with his colleagues prof. dr. S.M. de Jong (UU) and dr. L.P.H. van Beek (UU) it was decided that they took over the project and they have completed the project as good as possible.

finance mechanisms (Dr. B.T.M. Louman), a Toolbox for Seed Systems of Roots, Tubers and Bananas (RTB) (Dr. C.J.M. Almekinders), or a framework for classification of food system innovations (Dr. ir. M. van den Berg).

The Senior Experts estimated that **39 policies, legal instruments and/or investments have been modified** in their design or implementation informed by the activities / research of the Senior Experts. This includes 12 improvements in major (inter)national FNS policies/laws. See Annex IV Table 2 for the overview of reporting on more MoFA indicators.

**232 peer reviewed joint NL-CGIAR publications** are published by the Senior Experts and **287 non-peer reviewed publications**, which includes discussion papers, analysis reports, broader media outlets and contributions to congresses/CGIAR events. In addition, more publications are in preparation. Furthermore, the Senior Experts provided **98 training/workshops** and have **trained 28378 people**.

## Results and outcomes of the SEP-assignment on Food Systems for Healthier Diets

**Senior Expert:** [Dr. ir. I.D. Brouwer](#) (WUR, CGIAR-IFPRI) and collaborating team members

**Results:** Understanding of healthy and sustainable diets in a food system context through development of metrics and tools for diet assessment and providing scientific basis for the development of food-based dietary guidelines. Key findings:

- Definitions of healthy (and sustainable) diets must be context-specific and the shift towards healthy diets should be in line with the realities in LMIC.
- A limited focus (i.e. on alternative animal sourced foods), does no justice to the complexities of the changes that need to take place in the diets and in the food system of LMIC.
- Harmonization of metrics, methods, indicators and tools to characterize sustainable healthy diets is needed for global and (sub) national monitoring.
- Food-based Dietary Guidelines (FBDGs) should move from a niche instrument for health and nutrition education, to an overarching integrative platform engaging multi-sectoral policy makers to ensure embedding of FBDGs in multi-sectoral policies, legislative frameworks, programmes, and public and private investments throughout different sectors and settings.
- Key is developing partnerships and capacity in focus countries to anchor change.

### Outcomes:

- Food-based Dietary Guidelines for Ethiopia are incorporated in the Food and Nutrition Strategy by the Ethiopian Government and identified as one of the 22 gamechangers in the Food System transformation Agenda as follow-up of the UN Food System Summit 2021.
- National FS profiles were input to Dialogues, national policy strategies were supported, funders used evidence from research.
- Continuation of the work in the CGIAR new initiative ‘Sustainable Healthy Diets through Food System Transformation’ (SHiFT) and influence on the Initiative ‘Fruits and Vegetables’

### Outreach:

- National and international debates, contribution to publications (43 scientific papers, 2 book chapters, 14 reports, 2 blogs), 45 presentations or (moderation of) panel discussions, 6 PhD facilitation/supervision. Outreach was also achieved by (blog series) [FS Resource Centre](#) and [FS Idea Exchange](#).
- 2000 graduates and trainers trained, 13 FNS relevant knowledge institutions perform better, 5 improved international policies, 10 major systemic (cross-dimensional) linkages realized or improved.

## 2.2.4 Highlights of outcomes and added value of the time and tasks of the Senior Expert to the CGIAR CRP or Platform

The final reports of the Senior Experts show great results of the Senior Expert grant. Some highlighted outcomes are strategic in nature. Other highlighted outcomes are more focused on research. The intention of the Senior Expert Programme was to add value to the CGIAR CRP or Platform. This added value, as presented in the final and progress reports of the Senior Experts is diverse: amongst others provision of and contribution to know-ledge, additional research, training and guiding of PhD students/CRP staff, contribution to better coordinating of CRP, intensifying collaboration between CRP and relevant stakeholders, contribution to international debates, discussion on the future and themes of One CGIAR, contributions to development of the new CGIAR initiatives, etcetera. A few examples of strategic highlights, research-related highlights and added value to CRP or platform and/or the strategy of One CGIAR are presented below.

Title – Senior Expert (SE)	Highlighted outcomes – strategic
Senior Expert on Food Systems Analysis & Integration <b>Prof. dr. R. Ruben</b>	<ul style="list-style-type: none"> <li>– Keynote presentations at international (IFPRI and WUR) webinars on food systems transformation processes with <b>impact on the policy</b> discourses by donors and international agencies (IFAD, IBRD);</li> <li>– Leadership provided to the writing of <a href="#">IFAD Rural Development Report 2021</a> for the UN Food System Summit, with <b>large-scale impact to a world audience</b> interested in welfare effects from food system transformation;</li> <li>– In-depth analysis of <b>public policy</b> incentives and <b>private sector engagement in food system transformation</b> processes, with envisaged uptake by stakeholder platforms (WBCSD) and in policy dialogues;</li> <li>– Support to analytical approaches for food systems analysis (Editorship of special issue of the Springer journal Food security and methodological development of the Food Systems Index) with <b>impact on professional community</b>.</li> </ul> <p>These activities were instrumental to support the CRP A4NH for the knowledge exchange between national and international policy institutions, development agencies and research institutes in the 4 focus countries (Ethiopia, Nigeria, Bangladesh and Vietnam). In addition, the SEP engagement in food systems transformation analyses was helpful to inspire the international discussion on leverage points for steering food system transformation in different types of countries.</p>
Senior Expert at Policies, Institutions and Markets <b>Prof. dr. ir. E.H. Bulte</b>	<ul style="list-style-type: none"> <li>– The SE have helped to <b>pave the way for future value chain research within OneCGIAR</b> through his involvement in the (design) team of the new research programme ‘rethinking value chains’ within OneCGIAR and his new project together with East-West Seed within Work package 2 of this programme.</li> <li>– The SE has published a <b>(synthesizing) book about value chains and African smallholder farming</b> (Palgrave-MacMillan) with Alan de Brauw from IFPRI; it provides an economic and institutional perspective on how value chains evolve over time and their contribution to <b>agricultural development</b>.</li> <li>– The SE and his colleagues have initiated a project on <b>certification of wheat in Ethiopia</b> in collaboration with local private partners (Digital Green). Their results have been used by a <b>commercial company</b> that is now pioneering an individual-level certification scheme in Ethiopia. Follow-up interventions are planned with a focus on <b>increasing “scale”</b>.</li> </ul>

Title – Senior Expert (SE)	Highlighted outcomes – strategic
<p>Senior Expert on low emission development of cropping in sub-Saharan Africa to triple production towards 2050 <a href="#">Prof. dr. ir. M.K. van Ittersum</a></p>	<p>The assignment of the SE resulted in:</p> <ul style="list-style-type: none"> <li>– <b>New collaborations within One CGIAR</b>, i.e. the initiatives Excellence in Agronomy and Excellence in Breeding and also with the private sector (IFA and YARA), FAO and the African Plant Nutrition Institute (APNI);</li> <li>– Capacity building: <b>a mobile phone-based advisory app</b>, promoting good agronomy, for smallholder maize farmers in Tanzania has been developed and was piloted with extension officers;</li> <li>– The appointment of senior <b>CGIAR scientist</b> Dr. Ramirez-Villegas (Bioversity-CIAT senior scientist) as <b>special professor on Agricultural Climate Impacts and Adaptation</b> at WUR. Dr. Ramirez-Villegas is heavily involved in multiple One CGIAR initiatives (with a focus on climate change).</li> </ul>
<p>See for more strategic highlights the boxes with results and outcomes of the Senior Expert-assignments of <a href="#">Dr. ir. I.D. Brouwer</a>, <a href="#">Prof. dr. ir. C. Leeuwis</a> and <a href="#">Prof. dr. ir. K.E. Giller</a>.</p>	

Title – Senior Expert (SE)	Highlighted outcomes – research
<p>Senior Expert on agroecosystems modelling and systems approaches <a href="#">Dr. ir. J.C.J. Groot</a></p>	<ul style="list-style-type: none"> <li>– The SE has conducted research with scientists of Bioversity, CIAT and CIMMYT on model-based analysis and design of <b>cropping systems, farms and landscapes</b>. The modelling tools developed have been applied in participatory projects in various case studies in Africa (Uganda) and Asia (India, Bangladesh and Nepal).</li> <li>– The activities of the SE have resulted in new collaborations (e.g. with national and international research institutes and non-governmental organisations, e.g. ICARDA), new funding (e.g. NWO-DST (NL-India) project on ‘Co-creating Sustainable Agri-Water Use in the Hindon Sub-Basin – A Multi-Scale Participatory Approach’) and involvement to three new initiatives in <b>OneCGIAR</b> (“Sustainable Intensification of Mixed Farming Systems (SI-MFS)”, “Nature Positive Solutions” (<b>Nature+</b>) and “Transforming Agrifood Systems in South Asia” (<b>TAFSSA</b>)).</li> </ul>
<p>Senior Expert on Food Systems Innovations <a href="#">Dr. ir. M. van den Berg</a></p>	<ul style="list-style-type: none"> <li>– The SE and her colleagues explored the relationship between the food environment and (un)healthy consumption in Vietnam. They found that the consumption of ultra-processed foods was higher in rural areas than in urban areas, presumably due to the large availability of some of such foods in local shops. Furthermore, they analysed the research priority setting process and concluded that initial research actions have been taken up based on the list of research priorities, although not all research questions have been tackled. Also follow-up policy involvement has been initiated. The process achieved initial success in <b>sensitizing local stakeholders about the food systems approach</b>, which has been <b>adopted in official documents</b> approved by potential policy makers.</li> </ul>

Title – Senior Expert (SE)	Highlighted outcomes – research
Senior Expert at Innovative Finance for Sustainable Landscapes <b>Dr. B.T.M. Louman</b>	<ul style="list-style-type: none"> <li>– The SE and his colleagues have published an FTA working paper on innovative finance for sustainable landscapes, identifying investment risks as the main underlying factor for limited access to finance for both integrated landscape management and SMEs and smallholder groups and communities.</li> <li>– As follow up of this paper a <b>new program</b> has been developed and implemented, Green Finance for Sustainable Landscapes (GF4SL); addressing some of the barriers identified in the working paper by setting up a <b>knowledge hub</b> that links business initiatives to potential investors as well as to technical assistance.</li> <li>– The SE and his colleagues has designed a methodology to implement case studies of financial and benefit sharing mechanisms with different strategies to reduce the risks for both beneficiaries and investors. Based on results of this work, input is provided on the <b>Dutch Strategy on Forests</b>, as well as on the <b>FAO report</b> on the state of the world’s forests, published in 2022. Furthermore, the research results are used by the <b>MoMo4C development programme</b> (financed by MoFA) to develop inclusive landscape level financial mechanisms.</li> </ul>
Senior Expert in Entrepreneurial Learning in Inclusive Agribusiness (ELIA) <b>Dr. D. Dentoni</b>	<ul style="list-style-type: none"> <li>– To mitigate unintended consequences of market-led innovations and transformation, the SE and his colleagues have developed, tested and disseminated (research output, training of vocational education &amp; training (VET) institutions) a novel systems mapping approach – meant to collectively understand and envision complex problems in food and agriculture.</li> <li>– The SE and his colleagues <b>increased the awareness</b> of farmers, other value chain actors, knowledge institutions (including trainers and graduates) and microenterprises and SMEs <b>that entrepreneurial learning is a collective sensemaking and envisioning endeavor</b>, across multiple scales (e.g., team, organizational, multi-stakeholder, regional and global scales), to address complex problems such as food insecurity, water scarcity and the negative effects of climate change.</li> <li>– For example, <b>WorldFish</b> scaled the application of the systems mapping approach across the Sub-Saharan African continent to understand the local barriers to scaling innovations in aquaculture. CIFOR/ICRAF are currently considering applying the approach in Guatemala.</li> </ul>
Senior Expert at CGIAR Collaborative Platform for Gender Research and CRP PIM <b>Ir. R. Pyburn</b>	<ul style="list-style-type: none"> <li>– The SE co-edited and coordinated a landmark publication, as well as co-authored the introductory chapter entitled “CGIAR research through an equality and empowerment lens”. <a href="#">Advancing gender equality through agricultural and environmental research: past, present and future</a> is a peer-reviewed IFPRI book with over 55 CGIAR gender researcher co-authors that addressed the question: <b>How does agricultural and environmental research and development contribute to gender equality and women’s empowerment?</b> It was <a href="#">launched</a> in December 2021 and was <a href="#">presented</a> at the CGIAR GENDER Platform conference Cultivating Equality in October 2021 – see <a href="#">synopsis</a>. The book sets an <b>ambitious agenda for a next generation of CGIAR gender research</b> and is endorsed by leaders in the field.</li> <li>– An additional outcome is the learning process within CGIAR (re-thinking how gender research has been approached, implemented and evaluated).</li> </ul>
Senior Expert on Food Systems for Healthier Diets Anchoring and Upscaling <b>Prof. dr. ir. P.J.M. Oosterveer</b>	<p>Most important results of the SEP-assignment:</p> <ul style="list-style-type: none"> <li>– Understanding the role of multistakeholder platforms in food system transformations (<b>multistakeholder platforms can potentially play an important role in food system governance</b>); Building on these insights, in the project some steps were made with multistakeholder platforms (MSP) in Vietnam to develop this capacity.</li> <li>– <b>Anchoring food system thinking in Ethiopian and Bangladeshi policy institutions and practices</b>; this resulted in that National government explicitly recognized MSP approach in national dialogues and an improved preparation to the UNFSS in Bangladesh and Ethiopia.</li> <li>– Sharing insights in food system governance with other institutions (e.g. WorldFish, IFAD, FAO) which resulted in engaged collaboration with these institutions.</li> </ul>

Title – Senior Expert (SE)	Highlighted outcomes – research
<p>Senior Expert on ‘ecological intensification of aquaculture’  <b>Dr. M.C.J. Verdegem</b></p>	<p>The SE and his colleagues contributed to the development of the <b>innovative</b> (change from feeding the fish to feeding the whole pond) <b>Nutritious Pond (NP) concept</b>. The NP-concept was successfully tested in Bangladesh, Egypt and Zambia with public and private partners. This approach of “feeding the pond” to create a productive and environmentally efficient production environment, instead of just “feeding the fish,” <b>is increasingly being applied for fish farming across Asia and Africa</b>. Most significant outcome is the fact that <b>feed companies have started marketing NP-feed</b>.</p> <p>The SE and WorldFish researchers worked to identify and analyse local, underused feed ingredients in Africa and Asia, and made the ingredient data globally available to feed millers and farmers through the <b>FeedCalculator app</b> which can be downloaded free of charge on smartphones.</p>
<p>Senior Expert at the Restoring Degraded Lands Flagship for sustainable dryland agro-ecosystems  <b>Dr. ir. G. Sterk</b></p>	<p>Several results of the SEP-assignment led to policy impact:</p> <ul style="list-style-type: none"> <li>– <b>Water Harvesting Techniques:</b> The ex-ante scaling approach for various level water harvesting measures was communicated to Jordan’s government and <b>included into NARC’s implementation agenda</b>.</li> <li>– Wind Erosion Assessment: The wind erosion modelling activities of UU were added to ICARDA’s World Bank (WB) project in Lake Aral region and supported WB’s decisions to financially support the implementation of tree-based dry seabed rehabilitation of degraded lands.</li> <li>– Resilient Agrifood Systems: involved in writing team for work package 4: Improving understanding &amp; functioning of resilient pastoral agrifood systems of the <b>One-CGIAR initiative ASPIRE</b>.</li> </ul>

Title – Senior Expert (SE)	Added value of the time and tasks of the Senior Expert (SE) to the CGIAR CRP or Platform
Senior Expert at the CRP RTB and the CRP Maize <b>Dr. C.J.M. Almekinders</b>	The SE co-coordinated the CRP Root, Tuber and Bananas (RTB) community of practice, a multidisciplinary groups of app. 50 researchers from 3 different centres and 2 universities. Therewith she: <ul style="list-style-type: none"> <li>– Contributed to the visibility and the application of the knowledge products (e.g. the '<a href="#">RTB Seed System Toolbox</a>', golden egg of the CRP RTB) in and beyond the group itself, through training and the use of tools by other researchers.</li> <li>– Served as a paramount example of system thinking and the associated use of inter/transdisciplinary approaches.</li> <li>– Significantly contributed to scientific capacity of a number of junior researchers.</li> <li>– In addition the RTB work contributed to the CRP MAIZE and CRP WHEAT.</li> </ul>
Senior Expert at Livestock Agri-food Systems <b>Dr. ir. A. Vrieling</b>	<ul style="list-style-type: none"> <li>– The SEP-assignment led to improved collaboration with ILRI and a direct contribution to ILRI's drought risk financing agenda (in particular the index-based livestock insurance (IBLI)) and generating knowledge. It contributed to ILRI's agenda on sustainable livestock production systems and drought risk management by exploring options for improved rangeland monitoring using earth observation satellites.</li> <li>– A direct impact of scaling activities is the current <b>large interest in IGAD countries and beyond for IBLI-like drought risk financing</b>. A multi-million World Bank funded project called DRIVE (De-risking, Inclusion and Value Enhancement of Pastoral Economies in the Horn of Africa) is a direct result of IBLI activities, with an aim to increase resilience by financial services that are triggered by satellite-derived estimates of forage availability.</li> </ul>
Senior Expert at Healthy and Sustainable Diets in Vietnam and Bangladesh <b>Dr. E.F. Talsma</b>	The SE was A4NH Flagship co-cluster leader of Food Systems for Healthier Diets (FSHD) and the SEP support enabled her: <ul style="list-style-type: none"> <li>– cross contamination of different disciplines with the topic of healthier diets and food systems.</li> <li>– to provide nutrition assistance to the CGIAR centers and to make sure that the PhD research aligns well with the flagship Food Systems for Healthier Diets (FSHD) work and partners.</li> <li>– the continuation of the started work of the A4NH FSHD project within the CGIAR through the <b>SHIFT initiative</b>.</li> <li>– the research activities led to in depth analysis on diet quality in several countries, analytical methods and tools: development of global diet quality indicators (WISH index), the Diet Quality Questionnaire (DQ-Q) tool.</li> </ul>

“This deliverable (Almekinders CJM, Mausch K, and Donovan J (2021) [Editorial introduction: Design issues and practical questions for demand-oriented seed systems](#). *Outlook on Agriculture* 50 (4) 353–355) showed how the SEP position allowed me to build bridges between different seed communities within and outside the CGIAR. It is the editorial of a special issue that found its origin in the discussions around the efforts to develop a One CGIAR Strategy on Seed Systems Development, led by IPGRI.”

(Senior Expert at the CRP RTB and the CRP Maize and the CRP WHEAT – Dr. C.J.M. Almekinders)

## Results and outcomes of the SEP-assignment on Farming Systems Analysis for Inclusive and Resilient Agriculture

**Senior Expert:** [Prof. dr. ir. K.E. Giller](#) (WUR & CGIAR-IITA) and collaborating team members

**Results:** Research confirmed that unequal benefits are not inherently problematic – but there is a need to be wary of unintended negative consequences. The Senior Expert and his (CGIAR) collaborators provided insights and guidance that it is important for the agricultural research and development sector to: (1) recognize the poorer among the poor, (2) acknowledge unequal impacts, (3) explicitly aim to avoid negative consequences, and (4) include interventions to mitigate against these negative consequences where they occur.

**Outcomes:**

- Guidance for monitoring unequal impacts of technologies is embedded in the CGIAR M&E framework - within three of the new OneCGIAR initiatives (Excellence in Agronomy, Mixed Farming Systems Agroecology).
- Results of the [eDialogue series on “The Future of Small-scale Farming](#), (organised in collaboration with [Foresight4Food](#), IFAD, and APRA with over 550 participants), were made available for the UN Food Systems Summit and the [IFAD Rural Development Report on Food Systems](#) from the WUR.
- Senior Expert is invited to participate in an initiative led by FAO on “Inclusive Rural Transformation”.

**Outreach:**

14 joint NL-CGIAR peer reviewed publications, 9 briefs and 29 lectures, webinars and seminars.

### 2.2.5 Alignment work Senior Expert in CGIAR CRP/Platform to Priority knowledge domains

As mentioned above the work of the Senior Experts in the CGIAR CRP/Platform aligned to one or more of the priority knowledge domains. Some Senior Expert projects have linkages with more than one knowledge domain. In the table in Annex III it is indicated to which priority knowledge domain(s) the work of the Senior Expert in the CGIAR CRP/Platform contributes to. In the table below for each knowledge domain one highlight is provided.



Priority knowledge domains	Added value of the time and tasks of the Senior Expert (SE) to the CGIAR CRP or Platform
1. Agriculture for nutrition and health	<p>The SEP grant has been very instrumental to develop supportive activities that reinforce political and societal outreach of the A4NH program focussing on policy incentives for steering food systems change and broad partnerships for joint actions in the areas of food consumption, food production and agri-food value chain. Mayor attention should be given to strategies for reinforcing the food environment through coordinated public sector policies and by dovetailing private sector innovations and business investments. Moreover, our engagement with the international policy debate and contributions to large-scale training programs has contributed to a wider community of practice around food system transformation processes. <a href="#">Prof. dr. R. Ruben</a></p>
2. Sustainable and inclusive value chains and sectors	<p>The SEP work contributed in two ways to this domain. First, innovative methods for assessing the dynamic rangeland resources at landscape-scale were developed with new-generation satellite data that combine fine spatial with fine temporal resolution (PlanetScope). This resulted in proof-of-concept methods, which demonstrated that a) detailed spatial assessment of temporal variability in rangeland productivity is possible, and b) specific management practices that result in short-term surface changes (but possibly longer-term effects on soil fertility) can be monitored. Second, the SEP assignment helped to synthesize the experience and ideas on effective use of earth observation in index insurance to increase resilience to climate shocks in the pastoral sector. The SEP helped to define useful regions for scaling, partially based on biophysical characteristics. As such, this effort significantly contributed to informing the global livestock and environment agenda (as in ToC), thereby also strengthening national governments and private stakeholders to build and scale solutions that enhance pastoralists' resilience. <a href="#">Dr. Ir. A. Vrieling</a></p>
3. Genetic improvement and propagation materials	<p>The SEP activities have focussed on theory and methodology development that is potentially and actually <b>relevant to all four priority knowledge domains</b> mentioned in the MoU. In other words: enhancement of nutrition and health (domain 1), sustainability (domain 2) and climate adaptation (domain 4) can all benefit from enhanced approaches to scaling and capacity development as well as from genetic improvement (domain 3) that is gender-sensitive and linked to effective seed systems. The actual interest in work at the level of the System Office and OneCGIAR is testimony to this broad relevance.</p> <p>In the latter domain (Genetic improvement and propagation materials) the SE and his colleagues have developed a funding proposal for a large PhD programme entitled: Enabling inclusive breeding and seed system transformation: Methodological advances in generating and leveraging differentiated feedback at scale. In this proposal the SE collaborated with CIP, IITA, Alliance, CIMMYT and the CGIAR platform on Excellence in Breeding. While the larger proposal was not funded, the SE and his colleagues have started to implement important parts of this agenda through newly acquired individual PhD projects. <a href="#">Prof. dr. ir. C. Leeuwis</a></p>
4. Climate smart agriculture	<p>The work on 'living income' the SE developed with colleagues, illustrates well how their work in the priority knowledge domains of sustainability and climate smart agriculture aligns with, and can strengthen the CGIAR's research programmes and platforms. Their 'living income' research not only shifts the focus from agricultural technologies' field-level benefits to farmers' socio-economic realities and existential needs, but it simultaneously provides a benchmarking approach that can be readily deployed in CGIAR project contexts. <a href="#">Prof. dr. ir. K.E. Giller</a></p>

## Results and outcomes of the SEP-assignment on Innovation and Scaling in the CGIAR Research Program on Roots, Tubers and Bananas

**Senior Expert:** [Prof. dr. ir. C. Leeuwis](#) (WUR, CGIAR-IITA/CIP) and collaborating team members

### Results:

- Developing and institutionalizing new ways of thinking about the relations between research, innovation and responsible scaling.
- Finalization of '[Scaling Readiness](#)', a set of concepts, principles and tools aimed at the development, implementation, and monitoring of impactful scaling strategies. Including a guidebook for practitioners and an article with scientific underpinnings.
- Development of a systematic and practical method '[GenderUp](#)' that can be used in OneCGIAR and AR4D to support scaling initiatives to become sensitive to gender and other forms of social differentiation.

### Outcomes:

- 'Scaling Readiness' has been taken up in the central portfolio management logic and stage-gating procedures of OneCGIAR.
- Part of the research agenda is pursued in four of the new OneCGIAR Research Initiatives, notably the Diversification in East and Southern Africa (ESA) Regional initiative 'Ukama Ustawi', the Excellence in Agronomy and the Seed Equal and Mitigate+ initiative.

### Outreach:

- Several trainings developed including a free of charge [online course](#) on innovation and scaling (completed by 1298 people to date, February 2023).
- Contributed to 19 scientific articles/chapters and 8 PhD dissertations in collaboration with the CGIAR. Presentation of the work in several seminars, workshops, conferences and blogs.

*“The SEP enabled me to explore opportunities for collaboration with the Dutch company East-West Seed. We have developed a proposal to analyze factors affecting the diffusion of new seed varieties among target populations of smallholder farmers in Uganda and Nigeria. This project was selected for funding, and will foster intensive cooperation between East-West Seed, WUR and OneCGIAR researchers.”*

(Senior Expert at Policies, Institutions and Markets – Prof. dr. ir. E.H. Bulte)

## 2.2.6 SEP evaluation

In the first half of 2022 the SEP is evaluated by external evaluators MDF Training & Consultancy. The concise evaluation of the SEP focused on the assessment of the effectiveness and deliverables of the SEP and to provide insights and recommendations (changes/adjustments) for the development of a possible SEP 2.0. The [evaluation](#) made clear that the SEP intensified the collaboration between Dutch research organisations and CGIAR.

At CGIAR, the signs of strengthened collaboration with Dutch organisations can be seen through the critical mass of Dutch inputs in CCIAR Research Programs. The Senior Experts e.g. shared knowledge with CGIAR, co-created knowledge with their counterparts, and enabled knowledge utilisation. These three mechanisms of applying their expertise have resulted in CGIAR's enhanced use of Dutch strengths (a) in International Agricultural Research (IARs: system approach, public-private partnerships and enabling and scaling) and (b) in the four Priority Knowledge Domains (PKDs for NL-CGIAR Strategic Partnership in Phase I).

Collaboration between Dutch institutes and CGIAR in the four PKDs was increased: all Senior Experts have published a significant number of collaborative publications with CGIAR related to the four PKDs. Moreover, Senior Experts that were part of strategy Initiative design teams of CGIAR have made significant contributions to the new CGIAR 2030 strategy.

The Dutch research organisations involved noted an intensified collaboration with CGIAR, and increased participation in CGIAR. Trust and (new) relationships have been established, and cooperative proposals and fundraising initiatives are ongoing.

The added value of the SEP for the Senior Experts was that the grant allowed them to free up time from other commitments at their respective research organisations, which was critical in enabling them to take on more formal leadership responsibilities at CGIAR and contribute more effectively.

More insights of the SEP evaluation will be presented in the NL-CGIAR final report.

## 2.3 Public-Private Partnership assignment (PPP)

**300.000 euro, 1 assignment, 3 years**

### Aim and objectives of the Public-Private Partnership assignment

- Increasing the role of the private sector in CGIAR Research Programs (CRPs) and Platforms;
- Detecting opportunities and developing strategies for Public Private Partnerships;
- Strengthen CGIAR System capacity to engage in PPPs;
- Showcase value-proposition of PPP opportunities for CGIAR.

The PPP-expert [Dr Sarah Cummings](#) started on 1 March 2019 and was for this purpose based at Wageningen University and Research. She commenced her work at the same time that CGIAR was starting its major transition process towards One CGIAR. In addition, the COVID-19 pandemic meant that in-person contact and networking, considered key to the fulfilment of the assignment, was limited. In response to both factors, and encouraged by the SEP/PPP Advisory Committee, the original workplan was adjusted. In addition, the Netherlands Food Partnership, as a member of the NL-CGIAR Working Group, committed to supporting the PPP-expert in activities (e.g a PPP-lunch meeting on 20 February 2020 and a follow up NL-CGIAR Partnership Event<sup>11</sup> postponed due to the COVID-19 pandemic till 12 April 2022) focused on identifying and showcasing best practices and lessons learned on PPPs in CGIAR and identifying recommendations for future PPP engagement. By the end of the assignment in 2022<sup>12</sup>, important outcomes could be identified that have facilitated learning across the CGIAR system on how the role of the private sector in CGIAR and in research impact pathways can be increased.

**“An important outcome of the PPP-assignment is the process of compiling the Open for Business report since it triggered many people within CGIAR to reflect on their role in private sector engagement and CGIAR’s internal organisation, also during the NL-CGIAR Partnership Event in April 2022”**

(One of the SEP advisory committee members)

11 The PPP-expert was involved in the organisation of this event. The event was held to celebrate the launch of the Special Report (and discuss the report’s findings and suggestions) and for the signing of an Memorandum of Understanding (MoU) between CGIAR and the Netherlands.

12 The PPP-expert received a budget neutral extension of her PPP-assignment of 6,5 months until September 2022; activities for the assignment had been delayed due to the COVID-19 pandemic, the postponing of the ‘Strategy meeting’ until April 2022 and personal circumstances.

## Impact of the PPP-assignment

The PPP-expert's key output, the report '[Open for Business](#)' was launched at the NL-CGIAR Partnership Event on 12 April 2022. It was well received by CGIAR and by the Dutch Ministry of Foreign Affairs and Ministry of Agriculture. It provides recommendations for putting in place cornerstones for what could become CGIAR's private sector engagement strategy, aimed at stimulating and scaling innovation. The report and event have had an impact at an organisational level within the CGIAR as several processes were set in motion:

- A mandated task force will discuss the recommendations from the Report
- A private partnerships for impact department will take on the role of operationalising a PPP strategy – this resulted in the CGIAR Private Partnerships for Impact (PP4I) unit
- A strategic action plan for a CGIAR one-stop shop for private sector engagement\*

*\*Note: CGIAR decided later on not to develop this one-stop shop further because there was already a lot of activity going on in CGIAR and parts of CGIAR had significant experience working with the private sector.*

It is not yet possible to say what impact the report will have long-term, but it can be considered a starting point for further work on the private sector by CGIAR.

## Activities and outputs/outcomes of the PPP-assignment

Aim/objectives	Activities	Outputs/outcomes
Increasing the role of the private sector in CGIAR Research Programs (CRPs) and Platforms;	Mapping the landscape of the private sector collaboration within the CGIAR in more than 12 case studies.	<ul style="list-style-type: none"> <li>- Several blogs published – highlighting the current experiences of working with the private sector from which other CGIAR institutes, CRPs and platforms can learn.</li> <li>- <a href="#">Special Issue</a> with two papers focusing specifically on the CGIAR and including other papers on the private sector in international agricultural research.</li> <li>- Additional other scientific publications.</li> </ul>
Detecting opportunities and developing strategies for Public Private Partnerships;	Develop a framework within CGIAR about how to cooperate with the private sector in the future, based on the mapping activities, with a focus on specific categories of private sector actors which appear to have the most potential.	<ul style="list-style-type: none"> <li>- It was challenging because the experiences of the various CGIAR institutes on working with the private sector is very different, making it almost impossible to identify universal lessons. However, the specific lessons learned are shared; e.g. via the Special Report<sup>13</sup> '<a href="#">Open for Business: Pathways to strengthen CGIAR's responsible private sector engagement</a>' that identifies, discusses and evaluates pathways for strengthening collaboration between CGIAR and the private sector to stimulate innovation and scaling of these innovations.</li> <li>- As member of the advisory and review group for the <a href="#">NL-CGIAR synthesis study</a> the PPP-expert provided input for the synthesis article '<a href="#">Public private partnerships in international agricultural research</a>'.</li> </ul>

13 The report was written with a diverse group of senior persons within the CGIAR and NL-CGIAR: Jana Koerner and Marc Schut (lead authors with the PPP-expert), Rob Lubberink, Thai Minh, David Spielman and Janny Vos (contributing authors) and Martin Kropff and Cees Leeuwis (Senior Editors) with prefaces from Claudia Sadoff, currently CGIAR Executive Managing Director, and from Kitty van der Heijden, Director-General for International Cooperation at the Ministry of Foreign Affairs of the Netherlands and Marije Beens, Director-General for Agriculture and Food Quality Ministry of Agriculture, Nature and Food Quality. These prefaces are indicative of considerable political commitment.

Aim/objectives	Activities	Outputs/outcomes
Strengthen CGIAR System capacity to engage in PPPs;	Although this was challenging because the PPP-expert was working outside the CGIAR, the project contributed to building capacity by bring to the fore interesting examples of working with the private sector.	<ul style="list-style-type: none"> <li>– NL-CGIAR SEP <a href="#">‘two-pager’</a> on ‘Private Sector Engagement’, written in collaboration with Senior Expert Domenico Dentoni.</li> <li>– E.g. the Special report which was also input for the <a href="#">NL-CGIAR Partnership Event</a>.</li> </ul>
Showcase value-proposition of PPP opportunities for CGIAR;	Different case studies identified by the project showcase the value-propositions of PPP opportunities.	<ul style="list-style-type: none"> <li>– <a href="#">CCAFS blog</a> identifies the role of small and medium enterprises (SMEs) in climate adaptation and migration measures.</li> <li>– <a href="#">ICRISAT blog</a> focuses on the role of national and regional companies.</li> <li>– <a href="#">IRRI blog</a> focuses on developing CGIAR partnerships with the private sector for impact acceleration.</li> <li>– <a href="#">NL-CGIAR Food Fight webinar 3</a>, during the <a href="#">NL-CGIAR conference</a> on 2 November 2022.</li> </ul>

“The article for the NWO website: [‘We don’t give a recipe, we supply ingredients for CGIAR-private sector engagement’](#) and the NL-CGIAR – Food Fight Webinar 3 [‘Public private partnerships in international agricultural research’](#) were instrumental for outreach. Key messages were communicated with the relevant target group”

(One of the SEP advisory committee members)

# 3 Knowledge sharing & communication

The WOTRO bureau uses an integrated approach to facilitate research impact. Besides directly communicating results (3.2), this includes organising additional knowledge sharing activities that stimulate debate and mutual learning, among projects funded, between instruments and with CGIAR in a broad sense (3.1).

## 3.1 Knowledge Sharing

Knowledge sharing activities are organised in cooperation with partners from the NL-CGIAR working group, CGIAR and the researchers and experts funded. NWO-WOTRO focuses especially on the direct impact of the research projects and mutual learning. In addition, NWO-WOTRO oversees the contributions from the NL-CGIAR research programme to the activities that NFP organizes to support the NL-CGIAR strategic partnership as a whole.

### NWO-WOTRO meetings & joint activities

NWO-WOTRO has organised several joint meetings and activities. In addition to mutual learning, these meetings stimulate joint activities among the project teams, such as the gender meta-analysis and a special issue for SSD, and strategic two-pagers by the SEP. NWO-WOTRO also enhanced sharing of results with a wider audience interested in food security, through organising a (final) conference of the programme as a whole at the end of 2022. In the Synthesis study that was commissioned in 2022, researchers were involved in thematic sounding boards and as participants in so called Food Fight webinars to discuss issues brought to the fore by the Synthesis on cross-cutting themes through SSD and SEP activities. The synthesis study resulted in three thematic publications and one approach article discussing the approach of the NL-CGIAR programme. These publications complement the external [evaluation of the SEP](#) (July 2022) and that of the SSD research programme (in progress in 2023). Below follows an overview of the meetings organised in 2022.

- **Joint publication/special issue (follow-up of SSD midterm meeting), regular meetings:** The idea for a special issue on seed systems originated from the SSD midterm meeting. The SSD projects formed an editorial team, which came together regularly to make plans on how to bring the SSD abstracts together and decide on a journal. [ISSD Africa](#) was also interested to join. From the end of 2022 onwards, the SSD research programme has been jointly creating a special issue on Seed Systems in *Agricultural Systems*. The special issue is expected to be published by the end of 2023, with papers from all NL-CGIAR SSD projects.
- **Publications and activities resulting from the NL-CGIAR Synthesis study:** The synthesis study of the NL-CGIAR research programme brings together new knowledge and insights generated by the NL-CGIAR projects and experts. The study was conducted by Daniëlle de Winter and dr. Ellen Lammers in 2022. It addresses three key themes in food system thinking today: the role of the public sector in food system transformation, the diversity of smallholders in agri-food value chains, and the merits and dilemmas of public-private partnerships in international agricultural research. The synthesis study resulted in:
  - **three thematic papers** on (1) [the role of public policy in food system transformation](#) (2) [smallholder diversity and agri-food value chains](#) and (3) [public-private partnerships in international agricultural](#)

- [research](#), presenting a synthesis of key insights and outcomes from the NL-CGIAR research projects and Senior Expert/PPP assignments;
  - [three short animations](#), highlighting key messages from the three synthesis papers;
  - [three ‘Food Fight’ debates](#), in each of which two experts from the NL-CGIAR research programme act as the proponent and opponent of a provocative statement on global food security in relation to the three themes. The Food Fights (FF) webinars were organised in the run-up to [FF1](#) and [FF2](#) and during the NL-CGIAR conference (2 & 3 November 2022 – [FF3](#));
  - [one approach paper](#), a reflection on the set up of the NL-CGIAR research programme and its instruments.
- **NL-CGIAR Conference (2 & 3 November 2022) ‘Partnering for Global Food Security ‘Advancing knowledge and innovation for food system transformation’**: to celebrate the NL-CGIAR research programme and the partnerships within the programme with scientists, policy makers, and stakeholders from companies, public authorities and NGOs. The first day was filled with a keynote speech by CGIAR’s global director of partnerships and advocacy Juan Lucas Restrepo, an interactive debate on the role of the private sector ([Food Fight 3](#)), [an armchair discussion on the future of smallholder farmers](#) and a [poster session](#). The two times four thematic sessions of day 2 of the NL-CGIAR conference opened up space for dialogue among the community of NL-CGIAR researchers. In each of the two dialogue rounds, the attending researchers discovered communalities and formulated an inspiring set of key messages. Those were based on the actual outcomes of one or more individual NL-CGIAR projects, or resulted from collectively reflecting on the research they had done and what that meant for reforming or transforming food systems. The key messages were grouped per cross-cutting theme (Partnerships; Equality; Enabling & scaling; and/or Systems approach). One of the key messages that came back with several of the cross-cutting themes was the involvement of governments. Governments should play a key role in research partnerships and their involvement should be carefully designed, whether it be at programme, country or project level. Also the systems approach, which stood central in the NL-CGIAR research programme, was reflected on in many of the key messages and showed great interconnectedness with the other cross-cutting themes. See Annex V for the conference report and Annex VI for the conference key message sheet and the [NWO website](#) for the videos of the conference.





The PPP-expert Sarah Cummings was one of three lead authors of the Special report [‘Open for business: Pathways to strengthen CGIAR’s responsible engagement with the private sector’](#) published by CGIAR and the NL-CGIAR strategic partnership. David Spielman (engaged in the SSD-programme) was a contributing author, and Senior Expert Cees Leeuwis was one of the senior editors. The special report identifies, discusses and evaluates pathways for strengthening collaboration between CGIAR and the private sector to stimulate innovation and scaling of these innovations. The report was also input for the [NL-CGIAR Partnership event](#).

NWO-WOTRO participates in the NL-CGIAR working group and in activities organised in the framework of the NL-CGIAR partnership. Examples of activities the NWO-WOTRO office and (some of the) awarded experts participated in are:

- **NL-CGIAR working group, 2022:** NWO-WOTRO participated the NL-CGIAR working group meetings.
- **NL-CGIAR Partnership event including PPP meeting “Open for business: Strengthening CGIAR private sector engagement for innovation and scaling”, April 2022:** The PPP expert was one of the lead-authors of the Special Report written for the occasion WOTRO suggested possible SSD-cases and one of the SSD-researchers presented the case during the event.
- **NL-CGIAR Sounding Board:** Senior Experts professor R. Ruben and professor C. Leeuwis are members of the NL-CGIAR sounding board (influential stakeholders within the Netherlands with regard to CGIAR). This is the Sounding Board for the representative of MoFA in the CGIAR System Council and for the NL-CGIAR working group.

## CGIAR

NWO-WOTRO has a regular exchange with the senior communication advisor from the CGIAR Systems Management Office:

- Contacts with communication advisors of institutions/CRPs is being facilitated which led us to e.g. the publication of an NWO-case making use of an earlier PIM-interview/blog on research by one of the SSD-researchers;
- Cross-references to tweets about News from both sides, such as on NWO-WOTRO’s interview with a Senior Expert and his CGIAR counterpart which was published as an NWO-case on the web;
- Alignment of communication, with cross-references to each other’s News items, concerning the Open for Business meeting and interviews with lead author’s by CGIAR and by NWO-WOTRO;
- Suggestions/ideas concerning timing of events, potential speakers and their availability (e.g. for the NL-CGIAR conference);
- Communication around the NL-CGIAR Conference, published on the [CGIAR website](#).

## NFP

NWO-WOTRO cooperates with the Netherlands Food Partnership, both within the NL-CGIAR working group, as mentioned above, as well as more specifically concerning the following occasions:

- NFP organised the NL-CGIAR Partnership meeting ‘Open for Business’ (12 April 2022) and facilitated the PPP-expert to be the lead-author of the PPP Special Report that was prepared for the event. NFP ensured ample communication around the event and the Special Report;
- NFP also communicated widely on the NL-CGIAR Conference organized by NWO-WOTRO on 2-3 November 2022.

“WOTRO provided outstanding support during the [SSD] project’s implementation by organizing a number of forums, including the kick-off meeting, mid-term review, seed and gender-related webinar sessions, and the NL-CGIAR conference”.

(Project: Upscaling groundnut varieties).

## 3.2 Communication

Communication on the NL-CGIAR programme, its instruments and its projects goes through various channels.

- **The NWO NL-CGIAR website** contains all information on programme, instruments and projects. All projects and experts awarded have their own project page on the <http://www.nwo.nl/cgiar> website. The pages present the consortium composition and a project and progress summary of SSD-projects as well as the names of the Senior and PPP experts, their assignments and progress summary. Publications and other output that the researchers and experts submit and upload in the NWO-administrative system are automatically shown on these pages.

Dedicated pages were created to draw attention to the outcomes of the [Synthesis study](#) and accompanying activities, and to the [NL-CGIAR Conference](#).

- **The NFP website:** At the request of NWO-WOTRO the page on the [NL-CGIAR partnership](#) on the NFP-website has been extended to include pages and links to the NL-CGIAR research programme. This enhances visibility of the NL-CGIAR research programme for the wider NFP constituency. Specific pages for SEP and SSD have been made highlighting the cases that are shared with NFP for the aim of wider distribution. News items, such as on publication of cases and the NL-CGIAR conference, are shared with NFP for publication on the side and wider distribution.
- **The CGIAR website:** CGIAR System Office published the [NL-CGIAR Conference](#) on their Events page, and published [News](#) items, such as on the interim results of the NL-CGIAR research programme published early 2022 in a Progress report.
- **News items** are published in NWO’s digital newsletters, NWO’s website and the website of NFP. An overview of the News items and posts on LinkedIn, Facebook and Twitter is given in Annex VII.
- **Twitter** is used by NWO-WOTRO, the NFP and the CGIAR to tweet or re-tweet news-items.
- **YouTube:** In the run-up to the NL-CGIAR conference an animation was published [on YouTube](#).

[NL-CGIAR Magazine](#) ‘Partnering for Global Food Security’ is the magazine that presents results, messages and partnerships of the NL-CGIAR research programme. It features columns and cases to celebrate the outcomes of the programme. It is published online before the NL-CGIAR conference and an updated version has been made after the conference, including highlights and key messages.

An [animated video](#) that introduces the NL-CGIAR research programme and explains the importance of the programme

**Cases.** In 2022, four cases were developed to share results and illustrate communalities and differences between NL-CGIAR research and to showcase practices and achievements from the NL-CGIAR research programme (including key messages such as the seed systems approach).

This resulted in publication of two SEP cases, two combined SEP/SSD cases, and a case on the PPP-expert:

- [‘We can see the world as a testing lab for transforming food systems’](#) about the Scaling Readiness Approach of Senior Expert Prof. Cees Leeuwis and strategic advisor of CGIAR Marc Schut (22 March 2022);

- [‘Sarah Cummings: ‘We don’t give a recipe, we supply ingredients for CGIAR-private sector engagement’](#) (11 April 2022) a case to highlight the PPP-assignment and the special report [‘Open for Business: Pathways to strengthen CGIAR’s responsible private sector engagement’](#) launched at the [NL-CGIAR Partnership Event on 12th April 2022](#).
- [Take a look in the mirror to transform gender roles](#) (5 October 2022), a case on the gender meta-analysis by Senior Expert Rhiannon Pyburn and colleagues from SSD-projects;
- [Farmers take the lead in research](#) (12 October 2022) a case that highlights farmer involvement (citizen science) in the CocoaTarget project (Jacob Ulzen, post-doc in the SSD-project) as well as farmer participation in entrepreneurial learning, by Senior Expert Domenico Dentoni.

**Country overviews.** Separately for SEP and for SSD country overviews were made to facilitate MoFA and MoA sharing information on projects, project partners and Senior Experts with staff working within a geographically oriented division, or at embassy’s in the countries and regions.

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## Take a look in the mirror to transform gender roles

Restrictive gender norms can limit whether and how women benefit from agricultural innovations. Yet gender norms are dynamic – they can and do change. Not only in rural households, but also in institutions and agricultural research projects. Where to start? ‘Take a look in the mirror.’

Continue reading on [Take a look in the mirror](#)



### 3.3 Synthesis

In order to bring project-level insights and outcomes to a higher level a synthesis study of the NL-CGIAR research programme was commissioned. Through aggregation and the identification of patterns across, and by that providing a result that is more than the sum of the individual parts this study should make the results of the programme more accessible for a broader audience, namely policy makers in the Netherlands and abroad, CGIAR partners and other interested parties. Moreover it will enhance the visibility of the value of a (seed) system approach for scientific and policy audiences.

#### Objectives of the Synthesis

The synthesis study serves the following three objectives:

- 1) 1) To **synthesise research insights across a range of (cross-cutting) themes**, from all three instruments, in order to: i. facilitate and promote research use, i.e. to have an effective outreach strategy to reach relevant stakeholders and networks across the instruments at a higher level than at individual projects and; ii. make visible the added value of the NL-CGIAR research programme in terms of new knowledge and insights with regard to respective conceptual and thematic (in policy and practice) debates.
- 2) To analyse the success of the employed **approach and added value for the NL-CGIAR collaboration**, in order to inform future policy and funding decisions.
- 3) To gain more insight into opportunities and strategies for **Public-Private Partnership within CGIAR**. This study also formulated general recommendations for future (Dutch) policy, practice and knowledge agendas in the field of food & nutrition security (FNS) and regarding the collaboration with OneCGIAR.

#### Implementation

Daniëlle de Winter and Ellen Lammers conducted the synthesis study. They have many years of experience as researchers and knowledge brokers in the field of global development. They were supported by an Advisory group consisting of members of the PC and project representatives.

#### Deliverables

The following deliverables were realised:

- 1) **Three thematic articles** on selected key themes across SSD en SEP projects: (1) [the role of public policy in food system transformation](#) (2) [smallholder diversity and agri-food value chains](#) and (3) [public-private partnerships in international agricultural research](#),
- 2) **One approach paper**, an **analytical article on best practices, challenges and lessons learned** with regard to the NL-CGIAR Research programme and the programme approach.
- 3) **2 targeted thematic exchange events**, so-called Food Fights where experts defended statements based upon the thematic articles in order to share knowledge and generate discussion and Q&A with the audience on the topics,
- 4) **Non-written output** with synthesis findings: an animated video of the programme was produced and three thematic animated videos were produced (corresponding to the themes of the articles)
- 5) **Two sessions were organised at the final programme conference** as well as carrying out a thematic advisory role in the organisation of this event.
- 6) **Input was delivered for the popular magazine** '[Partnering for global food security](#)'.

# 4 Finances

The financial account for 2022 is presented in Annex VIII.

NWO-WOTRO gratefully acknowledges the approval of the budget-neutral extension of the NL-CGIAR Research programme to 1 July 2023. Thereby, the (Covid-19 related) extensions of projects and assignment could be accommodated, as well commissioning and finalization of the evaluation of the SSD programme.

Request. Amongst others because of Covid-19 the staff of NWO-WOTRO spent only little on travel, as e.g. the midterm SSD-meeting and other events were held or attended online. A large part of Budget line 9, Travel costs Programme Staff, is thereby remaining. As is most of the miscellaneous budget (Budget line 10). NWO-WOTRO kindly requests that the remaining budget of these two budget lines could be added to Budget line 8, NWO Programme Staff costs. This to provide a financial compensation for the staff time required and dedicated by NWO-WOTRO for organisational as well as administrative tasks involved with the finalisation of the last SSD and SEP projects, commissioning and guiding the evaluation of the SSD programme, preparing for and fulfilling reporting requirements at programme level, and continuation as an active member of the NL-CGIAR working group and preparation (of outlines) for a NL-CGIAR Research programme Phase II.



# Annex I: Seed System Development projects – project information and final summaries

This annex includes information about the 9 SSD projects (see overview below). Each project page includes the following information:

- Project title (doubles as weblink to project website);
- Project coordinator (main applicant);
- Consortium partners;
- Duration;
- Final summary.

**Table: Overview of nine Seed System Development projects**

File number	Project coordinator	Organisation project coordinator	Project title	Seed System	CRPs/PTFs
W 08.240.101	<b>Dr. C.P.M. Swaans</b>	International Center for Tropical Agriculture (CIAT)	Integrated vegetable seed systems development in ethnic minority communities in Northern Vietnam for enhanced nutrition and income security	Vegetables, Legumes	A4NH
W 08.240.102	<b>Dr. B. Kramer</b>	International Food Policy Research Institute (IFPRI)	Promoting stress-tolerant varieties at scale: Interlinking the private seed sector and insurance advisory services in Kenya	Maize	MAIZE, PIM, Big Data
W 08.240.103	<b>Dr. C.R. Ragasa</b>	International Food Policy Research Institute (IFPRI)	Accelerating aquaculture development in Ghana through sustainable Nile Tilapia seed production and dissemination	Tilapia	FISH, PIM
W 08.240.104	<b>Dr. S. Tumwegamire</b>	International Institute of Tropical Agriculture (IITA)	Enabling agribusiness development for scaling quality cassava seed systems for control of major viral diseases in Rwanda and Burundi	Cassava	RTB
W 08.240.105	<b>Dr. R.A. Sparrow</b>	Wageningen University and Research (WUR)	Policy and regulatory reform options for seed market development: Expanding the empirical evidence base in Uganda	Maize, Beans, Potato	PIM
W 08.240.106	<b>Dr. P.R. Gildemacher</b>	Royal Tropical Institute (KIT)	Feed and forage seed business models to support further professionalization of the dairy sector in Kenya and Uganda'	Forages & Livestock	LIVESTOCK
W 08.240.107	<b>Dr. A. Omere &amp; Dr. A. Galie</b>	International Livestock Research Institute (ILRI)	Women in business: chicken seed dissemination in Ethiopia and Tanzania	Chicken	LIVESTOCK, Gender
W 08.240.108	<b>Dr. H. Desmae</b>	International Crops Research Institute for the Semi-Arid Tropics (ICRISAT)	Upscaling improved groundnut varieties through integrated seed systems for improving income and nutrition in dryland of Ghana and Mali	Groundnut	GLDC
W 08.240.109	<b>Dr. J. van Etten</b>	Bioversity International	CocoaTarget: Using citizen science to improve climatic and agro-ecological targeting of varietal recommendations and accelerating planting material access for cocoa farmers in Ghana	Cocoa	FTA, CCAFS



**Dr. C.P.M. Swaans – Integrated vegetable seed systems development in ethnic minority communities in Northern Vietnam for enhanced nutrition and income security | NWO**

**Organisation main applicant:** International Center for Tropical Agriculture (CIAT)

**Consortium partners:** Dr. D. Sako (Institute D'Economie Rurale (IER)), Dr. D.K. Puozaa (CSIR-Savanna Agricultural Research Institute), Dr. P. R. Gildemacher (Royal Tropical Institute (KIT)), Dr. K. Traoré (Société de production de Semences Améliorées (SOPROSA-SARL)), Z. Sumani Iddrisu (Heritage Seeds Company Limited)

**Duration:** 01/04/2019 to 31/03/2022 (approved budget neutral extension to 31-07-2022)

**Final popular summary**

Vegetables are a main source of nutrition and income for ethnic minority farmers in Vietnam's Northern highlands. While the consumption of vegetables and value chains for fresh retail produce and seed markets offer huge opportunities for development, and inclusion of women, current smallholder seed systems suffer from multiple problems.

Local seed systems were enhanced through upgraded production and value chains and nutrition education. In total, 23 community representatives were trained, 3 farmer groups (60 women) skilled in technical production and nutrition, 2 farmer groups/cooperatives (27 men/women) enhanced in vegetable & seed production business, and 18 Village Diet Health Clubs (274 women) formed. Awareness and capacity were raised on seed quality, seed and vegetable production and storage, plus seasonal vegetable availability, diversity, and utilization. It improved farmer selection and use of quality seeds, supporting vegetable production and access. It also increased smallholder engagement in seed and vegetable value chains for income generation.

Both formal and informal vegetable seed systems are important to farmers, but their use is specific to individual vegetables and location. There is strong potential to enhance access to diverse vegetables by building on strengths of formal and informal systems. Flexibility and tailoring of support and linking groups to value chain actors can facilitate sustainable access to quality and diverse seeds. Seeds play a critical role in the pathways to food and nutrition security, requiring an integrated approach. Diet Health Clubs (DHC) and Farmer Business Schools (FBS) are important scaling mechanisms to create awareness on seeds, production, and nutrition and enhance utilization and demand. Harnessing and safeguarding vegetable agrobiodiversity will be critical to improve year-round production and household access. Stakeholder linkages in nutrition sensitive value chains between farmer groups, cooperatives, local stakeholders, and value chain actors can sustain development, with public-private partnerships strengthening linkages between informal and formal systems.

**Dr. B. Kramer – Promoting stress-tolerant varieties at scale: Interlinking the private seed sector and insurance-advisory services in Kenya | NWO**

**Organisation main applicant:** International Food Policy Research Institute (IFPRI)

**Consortium partners:** Dr. B. Kivuva (Kenya Agricultural and Livestock Research Organization (KALRO)), Dr. R. Lensink (Rijksuniversiteit Groningen), Dr. F. Cecchi (Wageningen University & Research), R. Kariuki (Agriculture and Climate Risk Enterprise Ltd. (ACRE Africa))

**Duration:** 01/04/2019 to 31/03/2022

**Final popular summary**

Due to global warming, Kenyan farmers will need to change their agricultural practices and technologies to be more adapted to changing climates, and particularly an increasing incidence of drought. Recent CGIAR research in the region has therefore focused on breeding drought-tolerant varieties (DTVs) of major crops, with seeds that perform better during droughts, but many farmers choose not to adopt these new varieties. Our main research question, then, was how to increase the adoption of DTVs, and we tested a range of innovative approaches for promoting DTVs by means of a cluster randomized trial in Kenya.

First, we hypothesized that farmers do not trust the results typically shown in seed company demo plots, and that they would only adopt DTVs after seeing these new varieties perform in their own plots. We therefore evaluated the effects of giving farmers small DTV trial packs, which they could grow in the same plots as their regular varieties. This intervention indeed resulted in a significant increase in DTV adoption, and the average age of varieties in farmers' fields reduced. However, overall, DTV adoption remained low.

Second, we hypothesized that farmers may not adopt DTVs because their seeds are more expensive than those of regular varieties, and farmers cannot recuperate this investment if their crops fail. To protect farmers against this risk, we offered insurance alongside the seeds. Such bundling increased willingness to pay for both seeds and insurance, but without increasing the adoption of DTVs.

Finally, we conjectured farmers may lack access to DTV seeds. Increasing access to seeds of DTVs by empowering local entrepreneurial champion farmers to sell these varieties enhanced adoption, but only by 2.5 percentage points. This is too small for this business model to be sustainable, and seed companies need better behavioural intelligence on how to create more demand.

**Dr. C.R. Ragasa – Accelerating aquaculture development in Ghana through sustainable Nile Tilapia seed production and dissemination | NWO**

**Organisation main applicant:** International Food Policy Research Institute (IFPRI)

**Consortium partners:** Dr. J. Newton (Koninklijk Instituut voor de Tropen (KIT)), Dr. S.K. Agyakwah (CSIR-Water Research Institute), M. Oyih MSc (Ministry of Fisheries and Aquaculture Development (MOFAD)), Dr. N. Tran (ICLARM (WorldFish)), I. Akortia (S-HOINT Limited), P. Safo MSc (Crystal Lake Fish Limited)

**Duration:** 18/02/2019 to 17/06/2022

### Final popular summary

The TiSeed project has been successful in improving the capacity and operations of public and private hatcheries, resulting in reduced fingerling mortality and stimulating fish farming especially in Ashanti and Brong Ahafo study areas and spillovering to the northern regions. The project has successfully documented and shared the processes and strategies of achieving these objectives. The project has produced 20 research publications in total (including 5 peer-reviewed articles published in top scientific journals).

The project focused on capacity strengthening of different stakeholders at different levels. The project provided capacity assessment on the national breeding programme and technical support to CSIR-WRI and Fisheries Commission (FC) staff. The project provided intensive practical trainings and technical support to over 520 farmers, hatchery and nursery operators, and NABCO graduates, including over 93 women and 120 youth, and mentored 9 MS graduates to solve tilapia value chain issues. The project produced 3 training manuals (on cage & pond aquaculture, & tilapia hatchery management) (with the online version downloaded over 500 times) and 16 extension flyers (distributed to more than 500 farmers, operators, and extension agents). The project also led the review, finalization, and validation of the National Aquaculture Farm Certification Protocol.

Credible diagnostic studies helped to identify binding constraints and solutions for impact. Our rigorous impact evaluation and action learning show that intensive technical assistance, aided by digital tools, on good hatchery and aquaculture practices has been proven effective in improving aquaculture practices and farm performance. Our experiments also show that simple adjustments in stocking density; fingerling size; water treatment; and fingerling packaging, handling, and transportation methods hastened tilapia growth, reduce mortality, and improved farm productivity and incomes. Partnership between research institutions and government agency were central to research uptake, impacts, and sustainability of the project.

**Dr. S. Tumwegamire – Enabling agribusiness development for scaling quality cassava seed systems for control of major viral diseases in Rwanda and Burundi | NWO**

**Organisation main applicant:** International Institute of Tropical Agriculture (IITA)

**Consortium partners:** Dr. M. Schut (Wageningen University & Research), Ir. drs. M. Paauwe (Spark)

**Duration:** 01/04/2019 to 31/03/2022

### Final popular summary

Despite COVID19 outbreak during the 2nd and 3rd years, the project has achieved majority of the planned outputs and intermediate outcomes and summarized are the key ones.

Five and seven CBD/CMD dual resistant varieties have been released and registered for dissemination to farmers in Burundi and Rwanda, respectively. These varieties represent the first meaningful response towards sustainable control of the two deadly cassava viral diseases in the two countries, and possibly Eastern DR Congo. Their release has triggered resumption of full scale multiplication and dissemination of clean planting materials country wide, especially in Burundi where movement of cassava cuttings had been stopped.

The project successfully enhanced capacities for pre-basic and basic seed production and management in both countries. The multiplicative rates of clean seed at pre-basic and basic seed have been improved through increasing infrastructural space for macropropagation under screenhouse and semi-autotrophic hydroponic conditions. The project has also enhanced the actors with knowledge and skill sets for better agronomic and business management.

At the heart of this project was the development and testing of agribusiness models (namely private led, community led and processor led) to identify those most suitable for the different cassava farming typologies. Whereas the project hasn't completed this output, it has fairly achieved involvement of the private sector in cassava seed multiplication. These have been oriented to cassava seed production as a business in addition to registering with the seed regulatory agency to conform to inspection and certification requirements.

We have preliminary demonstrated yield gains from using clean seeds of varieties NASE14 and NAROCASS1 in Rwanda. However, more trials are needed to validate these results in both countries.

Finally the project has improved collaboration of all the stakeholders involved in the value chain. This comes to respond to one of the key constraints identified during RAAIS analysis of the lack of coordination among the stakeholders.

**Dr. R.A. Sparrow – Policy and regulatory reform options for seed market development: Expanding the empirical evidence base in Uganda | NWO**

**Organisation main applicant:** Wageningen University and Research (WUR)

**Consortium partners:** G. Otim (Wageningen University & Research), Dr. D.J. Spielman (IFPRI-Washington), Prof. ir. E. Bulte (Wageningen University & Research), Dr. F. Bagamba (Makerere University), Ir. drs. R.P. Ntakyo (National Agricultural Research Organization (NARO)), Dr. B. Van Campenhout (IFPRI-Washington), Ir. drs. A. Mastenbroek (Wageningen University & Research Centre for Development Innovation (CDI))

**Duration:** 11/02/2019 to 10/02/2022 (approved budget neutral extension to 10/08/2022)

### Final popular summary

Seed and planting material are often central to discussions about sustainable and inclusive economic growth in low-income countries where the majority of people rely on agriculture for their livelihoods. In recent years, Uganda has worked to increase smallholder farmers' access to improved varieties and quality seed through a range of market innovations and policy reforms, including more farmer-friendly quality assurance systems that allow smallholders to become seed producers, the use of SMS to verify the source of purchased seed and discourage counterfeiting, and other reforms to encourage private investment and entrepreneurship in the country's seed sector.

Our project highlights the progress made in Uganda in recent years, identifies what still needs to be done, and tests a few innovations of our own. We test a crowd-sourced information clearinghouse (similar to Yelp or Trip Advisor) designed to make seed quality more observable to farmers who purchase seed from local agro-input dealers. We find that that dealers participating in the clearinghouse increase their efforts to ensure seed quality for their customers, improve their services, and attract more customers, while farmer increase their use of improved maize seed purchased from these dealers and reap higher yields.

Ultimately, these results can be used by private sector entrepreneurs to shape the design and scale-up of a digital information clearinghouse for seed and other inputs in Uganda. In contrast, we find that providing agro-input dealers with only training and information on correct seed handling and storage does not affect dealer or farmer outcomes. While this should not imply that seed companies, extension providers, and public regulators should provide less training to agro-input dealers, it suggests that further thinking and greater investment is needed in the form, content, and intensity of training and information provision from both the public and private sectors. This reflects the broader need for improved domestic capacity to implement many of the policy and regulatory reforms introduced in Uganda during the past decade.

**Dr. P.R. Gildemacher – Feed and forage seed business models to support further professionalization of the dairy sector in Kenya and Uganda | NWO**

**Organisation main applicant:** Royal Tropical Institute (KIT)

**Consortium partners:** D.G. Steyn (Barenbrug South Africa), Dr. C. Wasonga (Advantage Crops Limited), Dr. M. Peters (International Center for Tropical Agriculture (CIAT)), B. Lukuyu PhD (International Livestock Research Institute (ILRI)), Dr. W.N. Nanyeenya (National Agricultural Research Organisation (NARO) – National Livestock Resources Research Institute (NaLIRRI))

**Duration:** 15/03/2019 to 14/03/2022

### Final popular summary

The overall goal of the project is to develop viable business models for forage seed production and marketing that assure economically sustainable access to high quality forage seed to diverse clients in Kenya and Uganda. In East Africa dairy farming has high potential as a means of gainful self-employment for the rural poor. It complements arable farming by making use of less productive land and crop residues as feed, the latter also leading to nutrient recycling and improving soil fertility in the longer term. Feed and forages account for around 65% of the costs of dairy production. The quality of feed and forages directly impacts the quality and quantity of milk produced. As a result of poorly developed forage seed systems, well researched species and varieties that provide for high quality forage for Kenya and Uganda, have remained poorly available and under-utilized. Therefore, economically viable production and distribution of forage seeds is an appropriate starting point for improving forage productivity and access. This also calls for attention to quality assurance mechanisms used by different seed businesses.

Specific objectives of the project include:

- i. Analyzing the functioning and challenges in the forage seed sector and identifying opportunities for change;
- ii. Identifying, assessing and implementing business models for commercially viable forage seed production of promising and highly demanded species, and
- iii. Testing different forage seed promotion strategies.

**Organisation main applicant:** International Livestock Research Institute (ILRI)

**Consortium partners:** Dr. J. Newton (Koninklijk Instituut voor de Tropen (KIT)), Dr. S. Abegaz Kebede (Ethiopian Institute of Agricultural Research (EIAR)), Dr. E. Goromela (Tanzania Livestock Research Institute (TALRI)), Dr. J. Kaijage (Ministry of Livestock and Fisheries), Dr. T. Fseha (Ethiochicken), H. Njakoi (AKM Glitters)

**Duration:** 01/04/2019 to 31/03/2022 (budget neutral extension in progress)

### Final popular summary

Chickens have the potential to enhance the livelihoods and nutrition of the rural poor in Low and Middle Income (LMICs) countries and of women in particular. Low productivity of current chicken enterprises particularly for poorest farmers, however, hinder such potential. Low productivity is associated to lack of good breeds and inputs.

The Women in Chicken Business (WiB) project aimed to bring good breeds of chicken and inputs to raise them, to women farmers in remote areas by creating a women-led input and output chicken business. WiB built on a previous ILRI-led project, the African Chicken Genetic Gains (ACGG), which had selected improved breeds of chicken together with women and men farmers in Ethiopia and Tanzania. Kuroiler was selected in Tanzania and Sasso in Ethiopia. These improved breeds were being multiplied by private companies in both countries (AKM Glitters in TZ and Ethiochicken in ET). These companies, however, struggled to expand their markets to the most remote areas. As a consequence, their business was limited, and the benefits of improved breeds did not reach the poorest chicken farmers. WiB, led by ILRI, partnered with these private companies, local ministries and research institutes, and the Royal Tropical Institute (KIT) to address these challenges.

WiB engaged 20 young women veterinarians (we call them ‘women vendors’) in each country to sell locally-selected, improved chickens to women farmers from remote areas. The vendors also provide animal health and management services to the farmers, buy back the older chickens the farmers raised for a few months, and market them in urban areas. This way both vets and farmers can earn a living through improved chicken breeds. The project explored how the resulting chicken business supported the empowerment of women and how empowerment, in turn, affected the nutrition of their household.

The project has successfully supported the empowerment of the women veterinarians and farmers, and the nutrition of their families. This success is testified by the interest of government officials in the two project districts of Tanzania to replicate the approach by investing government budgets. It is also testified by the interest by the private firm partner, AKM Glitters who are promoting an adapted version of the business model involving brooding and vending as one business.

**Dr. H. Desmae – Upscaling improved groundnut varieties through integrated seed systems for improving income and nutrition in dryland of Ghana and Mali | NWO**

**Organisation main applicant:** International Crops Research Institute for the Semi-Arid Tropics (ICRISAT)

**Consortium partners:** Dr. D. Sako (Institute D'Economie Rurale (IER)), Dr. D.K. Puozaa (CSIR-Savanna Agricultural Research Institute), Dr. P. R. Gildemacher (Royal Tropical Institute (KIT)), Dr. K. Traoré (Société de production de Semences Améliorées (SOPROSA-SARL)), Z. Sumani Iddrisu (Heritage Seeds Company Limited)

**Duration:** 01/04/2019 to 31/03/2022

**Final popular summary**

In year 1 studies on seed sector performance and adoption dynamics were conducted through stakeholders (22) workshops, key informant (24) interviews and household surveys (1200) to assist in identifying and developing the best integrated seed systems and enhancing adoption of improved varieties. Awareness creation through demonstrations and field days for 1495 farmers enabled them to identify preferred varieties and farmers showed interest to buy improved seeds. Training programs for 717 actors helped in enhancing knowledge and skills on groundnut production and post-harvest management. Around 112t seed for improved varieties produced in year 1 will help improve farmers' access to improved varieties.

In year 2, the adoption study results indicated that 29.9% and 39.7% of the sampled farmers adopted at least one improved groundnut variety in Ghana and Mali, respectively. An adoption gap of up to 20% attributable to lack of awareness and access to seed was observed. Awareness creation through demonstrations, small seed packs and field days for additional 2,292 farmers facilitated the selection of preferred improved groundnut varieties. Training programs for 1,954 actors helped in enhancing knowledge and skills on groundnut production and post-harvest management. Around 168t seed of improved varieties produced will help improve farmers' access to improved varieties.

In the final year of the project, awareness creation continued through demonstrations, small seed packs and field days where additional 2,717 farmers participated in the selection of preferred varieties. Training programs for 3,609 actors helped in enhancing knowledge and skills on groundnut production and post-harvest management. Around 157t seed of improved varieties produced has helped improve farmers' access to improved varieties. The End of Project survey indicated a significant increase in adoption of project promoted varieties. For example, SARINUT 2 was adopted by 29.7% of the respondents in the intervention villages in Ghana against 1.1% in 2019.

**Dr. J. van Etten – Using citizen science to improve agro-ecological and climatic accuracy of cacao planting material recommendations in Ghana and its regional-level access and delivery to farmers | NWO**

**Organisation main applicant:** Bioversity International

**Consortium partners:** Dr. H. D. Bisseleua (World Cocoa Foundation (WCF)), Dr. A. Laven (Royal Tropical Institute (KIT)), Dr. F. Padi (Cocoa Research Institute of Ghana (CRIG)), F. Appiah Amponsah (Kookoo Pa Farmers Association (Kookoo Pa))

**Duration:** 01/04/2019 to 31/03/2022

**Final popular summary**

This project focused on contributing knowledge that enables decision makers in Ghana to reshape the cocoa seed system to become more climate-responsive and social inclusive. This was done by focusing on two areas of change. The first area was on-farm testing of cocoa genotypes, which should provide a clearer information signal about climate adaptation of different new cocoa genotypes to the cocoa breeding programme in Ghana. The second area involved research alternative arrangements for cocoa planting material provision, especially business models that are more inclusive to women and youth.

To test a new on-farm testing approach, the citizen science approach 'tricot', 20 cocoa-growing communities hosted a tricot trial, and three sites hosted a conventional on-farm testing of cocoa varieties, to allow comparisons with current practice. Additional experiments provided evidence on farmers' abilities to do relevant measurements on these trials, even before harvest. Taken together, there is strong evidence that the tricot approach is a robust way to provide information. Extension agents and farmers were supportive of the approach, farmers are highly accurate in their measurements, data return was high, and losses were much lower than in the conventional trial. Full adoption of the approach will take several steps, but the project has generated a strong basis for progress in this area.

The project has also delivered insights in current practice in cocoa nurseries and the potential of enhancing cocoa planting material provision. A trial tested grafting as an alternative way that would take advantage of existing cocoa roots and potentially accelerate cocoa plantation renewal. A trial of this approach showed, however, that it is not robust and more demanding, and should therefore not be recommended. The project also provided important economic insights in nursery business, showing that smaller nurseries are more inclusive to women and youth, but larger-scale nurseries are the only ones that can turn a profit. Creating sustainable, inclusive nurseries, therefore requires a radical rethinking of the business models.

# Annex II: Key statistics of Seed Systems Development projects

This annex contains an overview of

- Project reporting on the BuZa indicators
- Overview of trainings given per project, including a specification
- Overview of partnerships per project, including a specification
- Overview of innovations per project, including a specification
- Overview of publications per project, including a specification

**Table 1 | Overview of the BuZa indicators, as reported by the 9 SSD projects. No totals have been given for the research programme as a whole, because 1) not all projects reported on all indicators (the projects choose on which indicators to report) and 2) projects used different interpretations of the indicators.**

Short title	# of family farms directly/indirectly reached (BuZa 2.x.1; 2.x.2)	# of family farms with increased productivity and/or income (BuZa 2.1)	# of family farms with improved access to input and/or output markets	# of farmers that adopted research results / knowledge / new technologies (BuZa 4.1)	# of potential beneficiaries of new FNS-relevant research (BuZa 4.1.2)	# of FNS relevant knowledge institutions supported / engaged directly (BuZa 4.3.1)	# of women that benefitted from FNS interventions (BuZa 8.1)	# of businesses co-investing or involved in FNS activities (BuZa 5.3)
Integrated vegetable seed systems development in Vietnam	370 (direct) and 5000 (indirect)	87	87	231	N.A.	28	350	N.A.
Promoting stress-tolerant varieties at scale in Kenya	36506	N.A.	N.A.	N.A.	17810	1	10686	N.A.
Accelerating aquaculture development in Ghana	978	N.A.	N.A.	N.A.	2000	5	93	36 (co-investing)
Scaling quality cassava seed systems in Rwanda & Burundi	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Seed market development in Uganda	3470	N.A.	1735	N.A.	130000	N.A.	N.A.	175 (involved)
Feed and forage seed business models in Kenya & Uganda	600000	300	300	300	N.A.	N.A.	100	N.A.
Women in business in Ethiopia & Tanzania	320	N.A.	N.A.	N.A.	382	4	N.A.	2 (co-investing)
Upscaling improved groundnut varieties in Ghana & Mali	211	196	N.A.	26066	3600	4	18060	5 (involved)
CocoaTarget in Ghana	N.A.	N.A.	N.A.	N.A.	800000	1	N.A.	1 (involved)

Tabel 2 | Overview of trainings given per project, including a specification

Short title	Country	# of people trained	% women trainees	# of trainings	# of trainings or workshops developed and held - specified
<a href="#">Integrated vegetable seed systems development</a>	Vietnam	544	87%	52	4 Training of Trainers (TOT), 24 Training of Farmers (TOF, core learning extended from crop production to marketing), 4 Learning visit, 2 Facilitator training (TOT), 18 Diet health clubs (108 sessions, 36 cooking demonstrations)
<a href="#">Promoting stress-tolerant varieties at scale</a>	Kenya	237	60%	4*	Mid-term and end-of-project workshops; two meetings with seed companies
<a href="#">Accelerating aquaculture development</a>	Ghana	557	20%	36	20 farmers' practical training sessions; 8 multi-stakeholder workshops; 5 experts' meetings; 3 sensitization workshops on nursery business model
<a href="#">Scaling quality cassava seed systems</a>	Rwanda, Burundi	467	42%	8	3 Trainings: a) cassava seed inspection and certification, b) seed multipliers training; c) SAH training; 2 Kick-off workshops held; 1 One other workshop to decide on promising CASS models to test; 2 Annual workshops
<a href="#">Seed market development</a>	Uganda	2021	24%	37	Training for 3 RCT surveys, 25 trainings on proper seed handling and storage organized. Training for 2 behavioural experiments.
<a href="#">Feed and forage seed business models</a>	Kenya, Uganda	195	36%	N.A.	Several short and long training sessions, and extension campaigns to demonstrate quality seed and train farmers on cultivation practices
<a href="#">Women in bussiness</a>	Ethiopia, Tanzania	81	47%	11	1 Visioning workshop with 15 vendors in Kilimanjaro to identify the needs of vendors for incubation/coaching and mentorship; 8 Gender capacity strengthening activities; 2 Training of enumerators
<a href="#">Upscaling improved groundnut varieties</a>	Ghana, Mali	7487	65%	28	Training programs at the village and regional levels as well as stakeholder workshops in the two countries (16 Mali, 12 Ghana). 5,307 farmers trained on improved varieties, agronomic practices, postharvest handling; 2,004 trained on mini-mechanization; 2 MPhil in seed science and technology; 174 Training of Trainers (ToTs)
<a href="#">CocoaTarget</a>	Ghana	405	48%	7	Training on on-farm experimentation given to farmers, 48% women; training on on-farm experimentation given to extension agents; training on cocoa nursery management given to farmers, 50% men, 50% women
<b>Total</b>		<b>11994</b>	<b>48%</b>	<b>183</b>	

\*The number of trainings for this project might be larger, as champion farmers were also trained.



Table 3 | Number and type of partnerships per project, as reported by the projects

Short title	Country	# of partnerships	phase and type of partnership
<a href="#">Integrated vegetable seed systems development</a>	Vietnam	5	2 District/commune level partnerships/platforms on nutrition and seed systems between farmer groups, local organizations, with support of consortium partners. 2 Partnerships on income and seed systems between farmers groups, input and/or output linkages (value chains), with support of local and/or consortium partners. 1 Partnership between consortium partners
<a href="#">Promoting stress-tolerant varieties at scale</a>	Kenya	4	4 seed companies; phase: scaling/delivery; type: private for profit (businesses). MoUs established with regional distributors of these seed companies type: private for profit (businesses)
<a href="#">Accelerating aquaculture development</a>	Ghana	4	3 main groupings of partnerships: (1) Research partnership with KIT, WorldFish, CSIR-WRI and IFPRI; (2) Partnership in “piloting stage” of certification system with FC and about 37 hatchery operators; (3) partnerships in “piloting stage” of nurseries with 11 nursery operators; (4) partnership with FC in “piloting stage” of broodstock multiplication centers.
<a href="#">Scaling quality cassava seed systems</a>	Rwanda, Burundi	8	One partnership with a Burundi gov’t soil and plant analysis lab to profile end-use quality attributes of promising elite clones (research stage); Three partnerships with community organisations (INGABO, RYAF & RWASMO) in Rwanda to commercially multiply quality basic seed (pilot); Four partnerships with farmer cooperatives in Burundi to commercially multiply quality basic seed (pilot)
<a href="#">Seed market development</a>	Uganda	1	research partner
<a href="#">Feed and forage seed business models</a>	Kenya, Uganda	5	NARS, private seed companies, cooperatives (CBO), local seed business.
<a href="#">Women in business</a>	Ethiopia, Tanzania	7	1 Collaborative research agreement with KIT for gender cap dev or partners and business incubation providers; 2 Contracts with EIAR staff; 2 with TALIRI staff; 2 contracts with business incubation providers
<a href="#">Upscaling improved groundnut varieties</a>	Ghana, Mali	2	2 (research, scaling/delivery), all types of partners
<a href="#">CocoaTarget</a>	Ghana	1	Research partnership between CRIG (national ag research) Kokoo Pa (farmer organization), CGIAR and WCF (private sector) to test cocoa varieties on farm

Tabel 4 | Number and type of innovations reported per project.

Short title	Country	# of innovations	type and stage of innovation
<a href="#">Integrated vegetable seed systems development</a>	Vietnam	5	<ol style="list-style-type: none"> <li>1. Diet Health Clubs – institutional innovation for scaling seed and nutrition education (end piloting, available for uptake)</li> <li>2. Farmer Business Schools – institutional innovation for scaling seed and business education (end piloting)</li> <li>3. Guidelines and recommendations for seed production and storage – technical innovation (end piloting)</li> <li>4. Novel Value Chain arrangements with seeds as input/output – organizational (end piloting – ongoing)</li> <li>5. Partnership to strengthen local seed systems – institutional (end piloting)</li> </ol>
<a href="#">Promoting stress-tolerant varieties at scale</a>	Kenya	4	3 innovations available for uptake, 1 innovation end of research phase. Trial packs, champion farmer model, DT-seed / insurance bundles. Gender edutainment. Type of innovation: social science findings/evidence
<a href="#">Accelerating aquaculture development</a>	Ghana	8	<p>7 innovations are highlighted:</p> <ol style="list-style-type: none"> <li>1. 3 training manuals, which are the accumulation of good aquaculture practices based on good practices. (Availability for uptake)</li> <li>2. Decentralized farmers' practical trainings on good aquaculture practices. (Available for uptake)</li> <li>3. Bundle of communication approaches and ICT tools to deliver knowledge and facilitate interactions and communication, including (1) Fish Farm Tracker® Mobile Application, and (2) 18-episodes TV/Online based documentary-drama serial, as an extension mechanism for easy and faster learning, towards enhanced adoption of 'good' aquaculture management practices. (Stage 2 – pilot)</li> <li>4. Inclusive fish seed business models – hatcheries, nurseries, feed producers (Stage 2 – pilot)</li> <li>5. Water quality treatment – best method of improving the quality of raw water for the nursing of <i>O. niloticus</i> fingerlings (Stage 1)</li> <li>6. Optimal fingerling size and stocking rate (Stage 1)</li> <li>7. Optimal fingerling packaging and transportation (Stage 1)</li> </ol>
<a href="#">Scaling quality cassava seed systems</a>	Rwanda, Burundi	29	<p>1 SAH for increased multiplication of clean pre-basic seed in Rwanda (stage 2)</p> <p>17 Testing elite clones for adaptability and preferred end use qualities in both Rwanda and Burundi (stage 1)</p> <p>11 At least 3 elite clones for homologation in Rwanda and Burundi (stage 2)</p>
<a href="#">Seed market development</a>	Uganda	4	<p>Research: methodology</p> <ul style="list-style-type: none"> <li>– novel stack survey design</li> <li>– novel experimental design</li> <li>– information clearing house (SeedAdvisor)</li> <li>– video on maize farming (with particular attention to behavioural response to quality seed)</li> </ul>
<a href="#">Feed and forage seed business models</a>	Kenya, Uganda		
<a href="#">Women in business</a>	Ethiopia, Tanzania	6	Gender-responsive business incubation model (piloting phase); Evidence on gender norms affecting women's ability to perform as chicken vendors; Study set-up to learn under what conditions livestock business can support the empowerment of women; Project proposal to develop 1 model of scale chicken breeding-to marketing-through dissemination ; GTA strategy; Social media strategy to addressing constraining gender norms

Short title	Country	# of innovations	type and stage of innovation
<a href="#">Upscaling improved groundnut varieties</a>	Ghana, Mali	1	Refers to the 5 improved varieties promoted, which are released and registered in the respective countries for commercialization. 1 – stage (available for uptake); type (genetic varieties)
<a href="#">CocoaTarget</a>	Ghana	1	This falls under research and communication methodologies and tools, stage 2. A validated approach for on-farm testing of perennial crop varieties is available for uptake by a wider group of users.

Table 5 | Number and type of outputs as reported by the projects. Please note that several peer reviewed publications are still to be expected. Please refer to the project websites to access the publications and the most up to date overview of publications.

Short title	Country	# of peer reviewed publications	# other outputs	# of other outputs specified
<a href="#">Integrated vegetable seed systems development</a>	Vietnam	1 (+9 expected)	47	3 more peer reviewed papers in progress in advanced stage, 6 others planned
<a href="#">Promoting stress-tolerant varieties at scale</a>	Kenya	To be expected	14	1 discussion paper, 5 project notes, 1 blog At least 3 broader media outlets. At least 4 contributions to congresses / CGIAR events
<a href="#">Accelerating aquaculture development</a>	Ghana	5	44	5 peer-reviewed scientific journal articles; 5 discussion papers; 1 conference presentation; at least 20 news articles; 3 communication infographics; 9 research posters developed and presented; 1 blog
<a href="#">Scaling quality cassava seed systems</a>	Rwanda, Burundi	1 (more expected)	13	3 assessment reports (1 RAAIS, 1 profiling CASS Models, and 1 Seed network analysis) 5 news articles by different print media and TV news broadcasts with two stations in Rwanda Videos
<a href="#">Seed market development</a>	Uganda	2 (+5 expected)	30	2 working papers, 5 research reports, 2 blogs (reprint), 1 policy brief, 20 seminar and conference visits
<a href="#">Feed and forage seed business models</a>	Kenya, Uganda	3	4	2 working papers, 2 policy briefs
<a href="#">Women in business</a>	Ethiopia, Tanzania	1 (+ 1 brief and 7 planned articles)	20	10 Videos to introduce the project; show project outcomes; impact of COVID-19 on chicken business, 8 International meetings attended and project introduced, 1 Brief on seed systems that includes livestock Template_ProjectNote.pdf (ifpri.org) 1 Deck of slides on seed systems and gender considerations that includes livestock: <a href="https://pim.cgiar.org/cgiar-coe-seed-systems-development/references-and-outputs/">https://pim.cgiar.org/cgiar-coe-seed-systems-development/references-and-outputs/</a>

Short title	Country	# of peer reviewed publications	# other outputs	# of other outputs specified
<a href="#">Upscaling improved groundnut varieties</a>	Ghana, Mali	3	24	1 draft paper and 2 reports (baseline and endline) from seed sector analysis -2 reports (working paper and endline) and 1 draft paper from adoption study 1 draft paper certified seed benefit-cost study results 18 media outlets (Ghana: 6 radio, 3 TV; Mali: 6 local radio, 2 national Radio, 1 national TV)
<a href="#">CocoaTarget</a>	Ghana	3 (advanced drafts)	1	Inclusive Business Models for Nurseries in Ghana

# Annex III: Senior Experts – assignment information and final summaries

This annex includes an overview of the 17 Senior Experts including the aim of the assignments and the final summaries of all Senior Expert-assignments.

**Table: Overview of the seventeen Senior Experts**

File number <sup>14</sup>	Senior Expert	Title project – Senior Expert....	Aim of the assignment	Dutch research organisation	CGIAR host institute(s)	CRP/CGIAR platform	Priority knowledge domain <sup>15</sup>	Duration <sup>16</sup>
17220	<a href="#">Dr. Ir. A. Vrieling</a>	at Livestock Agri-food Systems	To co-lead and execute research on earth observation applications for rangeland monitoring and assessment.	University of Twente	International Livestock Research Institute (ILRI)	Livestock	2, 4	01-01-2019 to 30-6-2022*
17221	<a href="#">Prof. dr. R. Ruben</a>	at A4NH – Food Systems Analysis & Integration	To support A4NH by 1) identification of entry points for food systems change, 2) systematic comparison of food systems dynamics to tune policy, 3) analysis of incentives for a shift to healthier and more sustainable diets.	Wageningen Economic Research	International Food Policy Research Institute (IFPRI)	Agriculture for Nutrition and Health (A4NH)	1	02-10-2018 to 01-10-2021
17222	<a href="#">Dr. Ir. J.C.J. Groot</a>	on agroecosystems modelling and systems approaches at Bioversity International and CIMMYT	To harmonize agroecosystems modelling tools and systems approaches across multiple CRPs and centres for farm and landscape management planning.	Wageningen University and Research	International Maize and Wheat Improvement Center (CIMMYT) / Bioversity International	Roots, Tubers and Bananas / WHEAT	1, 4	01-01-2019 to 01-07-2022*

14 The Senior Experts were funded in four assessments rounds. The different colours of the rows indicate the round in which the Senior Expert was funded. The first seven Senior Experts were funded in the first assessment round etcetera.

15 The four priority knowledge domains are: 1) Agriculture for nutrition and health, 2) Sustainable and inclusive value chains and sectors, 3) Genetic improvement and propagation materials. 4) Climate smart agriculture.

16 The COVID-19 pandemic has affected the progress of great part of the Senior Expert-assignments; traveling was not possible, which made fieldwork, supervision of PhDs/postdocs and collaboration more difficult. Therefore, several Senior Experts had requested a budget neutral extension of the assignments. Projects with a \* have received an extension of 6 months, \*\* have received an extension of 9 months, \*\*\* have received an extension of 4 months, \*\*\*\* have received an extension of 3 months, \*\*\*\*\* have received extension of 8 months

File number <sup>14</sup>	Senior Expert	Title project – Senior Expert...	Aim of the assignment	Dutch research organisation	CGIAR host institute(s)	CRP/CGIAR platform	Priority knowledge domain <sup>15</sup>	Duration <sup>16</sup>
17223	<a href="#">Dr.ir. I.D. Brouwer</a>	at FSHD – Flagship leader Food Systems for Healthier Diets	To coordinate the FSHD <sup>17</sup> flagship program and country teams, to ensure visibility of FSHD activities and successes, and to enhance the analytical understanding of healthiness and sustainability of diets and inclusiveness of food system innovations.	Wageningen University and Research	International Food Policy Research Institute (IFPRI)	Agriculture for Nutrition and Health (A4NH)	1	01-12-2018 to 31-08-2022**
17225	<a href="#">Dr. M.C.J. Vergedem</a>	on 'ecological intensification of aquaculture'	To guide research set-up, execution and data analysis in the 'sustainable fish feed resources' research within the 'Sustainable Aquaculture' flagship.	Wageningen University and Research	WorldFish	FISH: Fish Agrifood Systems	1,4	01-02-2019 to 31-07-2022*
17226	<a href="#">Dr.ir. M. van den Berg</a>	on Food Systems Innovations	To co-lead the FSHD flagship on Food Systems Innovations and execute and supervise research that focuses on identifying concrete opportunities to improve diet quality and develop solutions in partnership with food systems stakeholders.	Wageningen University and Research	International Food Policy Research Institute (IFPRI)	Agriculture for Nutrition and Health (A4NH)	1	01-03-2019 to 01-03-2022
17227	<a href="#">Prof.dr.ir. E.H. Bulte</a>	at Policies, Institutions and Markets	To co-lead the Inclusive and Efficient Value Chains flagship to expand the ability to steer and shape the joint research agenda and contribute towards raising the standards of research (focused on – tools to study – efficiency and inclusion of smallholders).	Wageningen University and Research	International Food Policy Research Institute (IFPRI)	Policies, Institutions and Health (PIIM)	2	01-03-2019 to 01-03-2022

17 FSHD = Food Systems for Healthier Diets

File number <sup>14</sup>	Senior Expert	Title project – Senior Expert....	Aim of the assignment	Dutch research organisation	CGIAR host institute(s)	CRP/CGIAR platform	Priority knowledge domain <sup>15</sup>	Duration <sup>16</sup>
17228	<a href="#">Prof. dr. ir. C. Leeuwis</a>	on Innovation and Scaling in the CGIAR Research Program on RTB. Flagship 5 'Improved Livelihoods at Scale', Cluster 5.4 'Scaling RTB Agri-food System Innovations.	To assist Roots, Tubers and Bananas (RTB) in the further development of effective theories, policies and tools for the responsible scaling of socio-technical innovations, and by playing an ambassador role that contributes to further alignment of scaling approaches across the CGIAR.	Wageningen University and Research	International Institute of Tropical Agriculture (IITA) / International Potato Center (CIP)	Roots, Tubers and Bananas (host institute Bioversity)	1,2,3,4	10-6-2019 to 31-12-2022**
17229	<a href="#">Dr. D. Dentoni</a>	in Entrepreneurial Learning in Inclusive Agribusiness (ELIA)	To advance, test, integrate and disseminate knowledge on "Entrepreneurial Learning in Inclusive Agribusiness" (ELIA) through the creation of an action research platform (the "ELIA platform").	Wageningen University and Research	World Agroforestry Centre (ICRAF) / International Livestock Research Institute (ILRI)	Livestock Livelihoods and Agri-Food Systems (LLAFS)	2	01/06/2019 to 31/12/2022**
17231	<a href="#">Prof. dr. ir. K.E. Giller</a>	on Farming Systems Analysis for Inclusive and Resilient Agriculture	To provide leadership in the deployment of systems analysis tools to understand the strengths and weaknesses associated with current approaches to Sustainable Intensification and Climate Smart Agriculture. Focus: Equity as a key attribute of the sustainability of smallholder farming systems in sub-Saharan Africa.	Wageningen University and Research	International Institute of Tropical Agriculture (IITA)	Maize	1,2,4	01/05/2019 to 30/11/2022**
17940	<a href="#">Dr. C.J.M. Almekinders</a>	at the CRP RTB Seed systems CC 2.1 – Improving RTB planting material and access to new varieties and the CRP MAIZE	To co-lead cross-cutting cluster 2.1 'Improving RTB planting material and access to new varieties' and collaborate in interdisciplinary cross-crop research to better support interventions in seeds systems.	Wageningen University and Research	CRP MAIZE – International Maize and Wheat Improvement Center (CIMMYT)	CGIAR Research Program on Roots, Tubers and Bananas (CRP-RTB) / CGIAR Research Program maize agri-food-systems (CRP MAIZE)	2,3	01/09/2019 to 13/07/2022***



File number <sup>14</sup>	Senior Expert	Title project – Senior Expert....	Aim of the assignment	Dutch research organisation	CGIAR host institute(s)	CRP/CGIAR platform	Priority knowledge domain <sup>15</sup>	Duration <sup>16</sup>
17953	<a href="#">Dr. B.T.M. Louman</a>	at Innovative Finance for Sustainable Landscapes	To coordinate and expand the work of priority 17 'innovative finance for sustainable landscapes' of FTA in order to address the needs felt in the finance and landscape sector for evidence of good practices and risk reduction strategies.	Stichting Tropenbos International	CIFOR/FTA	Forest, Trees and Agroforestry (FTA)	2,4	01/01/2020 to 31/12/2021
17954	<a href="#">Ir. R. Pyburn</a>	at CGIAR Collaborative Platform for Gender Research and Flagship 6 CRP Policies, Institutions and Research Markets	To lead the cluster 6.2 Collaborative Gender Research' (flagship 6 of PIM) and to support and promote CGIAR gender CRP Policies, Institutions and Research Markets system-wide gender research agenda.	KIT Royal Tropical Institute	International Food Policy Research Institute (IFPRI)	CGIAR Research Program on Policies, Institutions, and Markets - CGIAR Collaborative Platform for Gender Research	1,2,4	15/10/2019 to 31/12/2021
17956	<a href="#">Prof. dr. ir. P.J.M. Oosterveer</a>	at A4NH – Food Systems for Healthier Diets Anchoring and Upscaling	To co-lead cluster 3 'upscaling and anchoring of food system transformations' and contribute to identify and better understand drivers and innovations enabling food system transformations for healthier diets at scale.	Wageningen University and Research	A4NH-IFPRI	Agriculture for nutrition and health (A4NH)	1	01/12/2019 to 31/03/2022****
17957	<a href="#">Dr. E.F. Talsma</a>	at Healthy and Sustainable Diets in Vietnam and Bangladesh	To co-lead cluster 1 on Diagnoses of the FSHD flagship, provide nutrition and diet quality expertise to projects within the flagship and conduct research on FSHD in Vietnam and Bangladesh.	Wageningen University and Research	IFPRI	Agriculture for Nutrition and Health (A4NH)	1	10/09/2019 to 30/06/2022*

File number <sup>14</sup>	Senior Expert	Title project – Senior Expert....	Aim of the assignment	Dutch research organisation	CGIAR host institute(s)	CRP/CGIAR platform	Priority knowledge domain <sup>15</sup>	Duration <sup>16</sup>
18442	<a href="#">Dr.ir. G. Sterk</a>	at the Restoring Degraded Lands Flagship for sustainable dryland agro-ecosystems	To support the RDL flagship by co-leading and executing research on drought adaptation and land degradation problems, especially in ICARDA's target areas from North Africa to Central Asia.	University Utrecht	International Centre for Agricultural Research in the Dry Areas (ICARDA)	Water, Land and Ecosystems	4	01/04/2020 to 31/12/2022**
18444	<a href="#">Prof.dr.ir. M.K. van Ittersum</a>	on Low emission development of cropping in sub-Saharan Africa to triple production towards 2050	To provide leadership in investigating intensification pathways for sub-Saharan Africa's cereal production and their assessment in terms of food production, environmental impacts and economic feasibility.	Wageningen University and Research	International Maize and Wheat Improvement Center (CIMMYT)	Climate Change, Agriculture and Food Security (CCAFS) / (and Big Data Platform and Excellence in Agronomy (in development))	4	16/03/2020 to 30/11/2022*****

## Senior Expert-assignments

### Dr. Ir. Vrieling – Senior expert at Livestock Agri-food Systems

**Dutch research organisation:** University of Twente

**CGIAR host institute(s):** International Livestock Research Institute (ILRI)

**CGIAR Research Program(s) (CRP) or Platform(s) (including name Flagship or Module):** Livestock (Livestock Agri-food Systems) (FP4: Livestock and the Environment)

**Duration:** 01/01/2019 to 30/6/2022

#### Final popular summary

Livestock productivity is critical for pastoralists in semi-arid Africa, who largely depend on milk and meat production for their livelihoods. Climate variability strongly influences this productivity; for example, African rangelands face frequent droughts that can lead to livestock loss through reduced availability of forage and water. At the same time, livestock affects climate through the emission of greenhouse gases, although large uncertainties exist in emission estimates over rangelands. Satellite remote sensing can help to reduce some of those uncertainties, and provide important information on rangeland conditions and management. This can help to design, promote, and monitor resilient livestock production systems. This Senior Expert assignment contributed to ILRI's agenda on sustainable livestock production systems and drought risk management by exploring options for improved rangeland monitoring using earth observation satellites.

Part of the assignment explored innovative options for assessing rangeland conditions and management. Two separate studies were performed at the Kapiti Research Station, both using time series of new-generation daily 3m-resolution satellite data from the PlanetScope constellation. The first study showed the possibility of estimating rangeland seasonality and productivity at fine spatial detail, largely overcoming difficulties of frequent cloud cover and irregular short-duration vegetation seasons. While not explored in detail, such spatially-detailed estimates help to better understand climate and degradation impacts on rangeland vegetation, particularly for spatially-heterogeneous rangeland systems that face strong weather variability. The second study demonstrated that short-lived mobile bomas (or: livestock enclosures) can be detected and monitored from these satellite time series. This information can help to reduce uncertainties in greenhouse gas emissions from pastoral livestock systems, given that bomas are emission hotspots. Moreover, the study is a first step towards monitoring bomas in wider landscapes, which is important as emissions decline and rangeland nutrient status improves when boma locations are rotated frequently.

The other part contributed to ILRI's drought risk financing initiatives, in particular with regard to index-based livestock insurance (IBLI). In IBLI, a forage scarcity index is derived for this purpose from satellite time series to trigger indemnity payments based on seasonal and interannual variability of in vegetation greenness. To facilitate scaling of such risk financing solutions, a study was performed to select potentially suitable areas within IGAD countries based on criteria related to rangeland presence, seasonality, and interannual variability of forage availability. In addition, a position paper was written that sets the way forward for using earth observation for drought risk financing in African pastoral regions.

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**Dutch research organisation:** Wageningen University & Research

**CGIAR host institute(s):** International Food Policy Research Institute

**CGIAR Research Program(s) (CRP) or Platform(s)** (including name *Flagship* or *Module*): Agriculture for Nutrition and Health (A4NH) (FP1: Food Systems for healthier Diets (FSHD))

**Duration:** 02/10/2018 to 01/10/2021

### Final popular summary

The SEP assignment created in-depth understanding of the structure and dynamics of food systems, giving attention to analysis of (i) effectiveness of policy incentives, (ii) pathways for private sector engagement and (iii) opportunities for accelerating food system transformation processes. This has been supported by engagement into strategic studies, policy papers and public appearances that outline key leverage points towards more inclusive, sustainable and healthy food systems.

The expert focussed particularly on the development of innovative approaches for analysing and comparing food systems performance, the assessment of drivers and outcomes of food system transformation processes, and the identification of public policies and private sector engagement for food systems transformation. The analysis combines in-depth systematic literature reviews, comparative country statistics, case studies on pathways towards food system innovation, and information gathering through stakeholder workshops.

Main achievements of the SEP include (a) lead authorship for IFAD Rural Development report 2021 (RDR2021) on Food System Transformations for Rural Prosperity to be presented at the upcoming UN Food Systems summit ; (b) guest editor and co-author of journal of Food Security Topical Collection on Food System Transformations for Healthier Diets, Inclusive Livelihoods and Sustainable Environment; (c) analysis of opportunities for supporting, steering and scaling of food system transformation through policy incentives and business investment; and (d) training, webinars, blogs and media appearances on food systems transformation processes for different types of audiences (students, professionals, policy makers, general public).

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**Dutch research organisation:** Wageningen University & Research

**CGIAR host institute(s):** International Maize and Wheat Improvement Center (CIMMYT) & Bioversity International

CGIAR Research Program(s) (CRP) or Platform(s) (including name *Flagship or Module*): Roots, Tubers and Bananas (RTB) (FP5: *Improved livelihoods at scale*) and WHEAT (FP4: *Sustainable intensification of wheat-based farming systems*)

**Duration:** 01/01/2019 to 01/07/2022

### Final popular summary

The SEP project is a collaborative effort between WUR, CIMMYT and Alliance of Bioversity International (ABC) and CIAT. It has developed, improved and applied modelling tools that integrated productive, environmental and socioeconomic indicators of agroecosystems and food systems. These tools have been applied in projects in Asia and Africa focusing on increasing food production, environmental quality, human nutrition and livelihoods of smallholder farmers.

The model-based results have informed participatory sessions with farmers, advisors, scientists and other relevant actors collaborating to improve the sustainability and resilience of farming systems. Example case studies are in India to diversify wheat- and rice-based farms of small and marginal farmers, in Uganda to offer insights into consequences for ecosystem services of climate change and devastating diseases occurring in banana-based farming systems, and in China to improve the environmental sustainability of wheat-maize cropping systems while safeguarding food security.

The SEP project has involved PhD and MSc students that conduct their thesis research with partner organisations and in the field with farmers and other stakeholders. It resulted in numerous products including scientific papers, conference contributions, PhD and MSc theses, modelling software and datasets. The project has engaged in various new linkages with international and national research institutes and non-governmental organisations.

Nutrition-sensitive approaches have potential to identify solutions to simultaneously improve household income, nutrition and resource management in vulnerable smallholder farming systems. Studies among smallholder farmers in Uganda, Senegal, Kenya and Vietnam indicated site specific synergies between income and nutritional system yield for vitamin A. Diversification with novel vegetables could cover vitamin A requirements of 10 to 31 extra people per hectare and lead to greater income (25 to 185% increase) for some households, but reduced leisure time. Although the Vietnamese sites exhibited greater nutrient system yields than those in Kenya, the household diets in Kenya had greater nutrient adequacy because the Vietnamese farmers sold greater proportions of their on-farm produced foods.

Various studies showed that although intensification of farm production increased the average income level indicating improvement in indicators in the economic dimension, these often did not yield sustainable outcomes in environmental, social and dietary dimensions. The integrated analysis of different dimensions of sustainability

illuminated aspects often neglected in assessment studies or policymaking around agricultural intensification, socioeconomic and gender dynamics. The observed local trends were part of a set of patterns that take place throughout the world. To advance sustainable development, stakeholders should move away from the current overemphasis on economic values prioritizing the individual, and that avoiding patterns of unsustainable development requires broadening to environmental and community values.

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**Dutch research organisation:** Wageningen University and Research

**CGIAR host institute(s):** International Food Policy Research Institute

**CGIAR Research Program(s) (CRP) or Platform(s)** (including name Flagship or Module): Agriculture for Nutrition and Health (A4NH) (FP1: Food Systems for healthier Diets (FSHD))

**Duration:** 01/12/2018 to 31/08/2022

### Final popular summary

**Poor diets** are the major cause of malnutrition in all its forms (undernutrition, micronutrient deficiencies and overweight/obesity) leading to high levels of mortality and morbidity. Over 3 billion people in the world cannot afford a healthy diet. They are depending on food systems that have a high environmental impacts and that often aggravate inequalities in access to food to many poor in the world. In **transforming food systems**, most attention is given to increasing production and productivity, and marketing of mainly calorie- or protein-rich foods, but less attention is given to consumption of sustainable and healthy diets. By focusing on **consumer choices and the food environment**, this research programme studied ways to influence consumer behaviour and the food environment through food system transformation of food systems towards healthier diets. The SEP grantee contributed to the CGIAR- A4NH programme starting from 2017. The SEP supported her to coordinate, lead and manage the A4NH Flagship Food Systems for Healthier Diets working in four countries (Bangladesh, Ethiopia, Nigeria, Viet Nam). The SEP supported her also to include and strengthen dietary perspectives in the flagship work. Key findings are: (1) Definitions of healthy (and sustainable) diets must be context-specific and the shift towards healthy diets should be in line with the realities in LMIC. (2) A limited focus (i.e. on alternative animal sourced foods), do no justice to the complexities of the changes that need to take place in the diets and in the food system of LMIC; (3) Harmonization of metrics, methods, indicators and tools to characterize sustainable healthy diets is needed for global and (sub) national monitoring; (4) Food-based Dietary Guidelines should move from a niche instrument for health and nutrition education, to an overarching integrative platform engaging multi-sectoral policy makers to ensure embedding of FBDGs in multi-sectoral policies, legislative frameworks, programmes, and public and private investments throughout different sectors and settings, and (5) Key is developing partnerships and capacity in focus countries to anchor change. The SEP also enabled the inclusion of these findings into the new CGIAR Initiative Sustainable healthy diets through food system transformation (SHiFT) and the SEP grantee to lead the work package on facilitation of food system transformation and co-lead the work package on consumers and their food environments, and finally to become the overall lead of the Initiative on behalf of IFPRI.

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**Dutch research organisation:** Wageningen University and Research

**CGIAR host institute(s):** WorldFish

**CGIAR Research Program(s) (CRP) or Platform(s)** (including name *Flagship or Module*): FISH Fish Agrifood System (FP1: Sustainable Aquaculture)

**Duration:** 01/02/2019 to 31/07/2022

### Final popular summary

Efforts to ecologically intensify aquaculture should start from an in-depth understanding of the processes guaranteeing homeostasis and resilience of the aquaculture ecosystem. To contribute to the development of inclusive, equitable and sustainable aqua-food systems, feeding of the pond ecosystem must (a) be tailored to the needs of the farmers and other value chain actors, (b) be accessible and affordable for poor and marginalized groups, and (c) strengthen the circular economy without competing with food ingredients fit for direct human consumption.

Sixty % of the global animal production through aquaculture are produced in ponds, making ponds the principal aquaculture production system globally and the principal production system for small-scale and poor aquaculture farmers. Therefore, this project focused on ecological intensification of pond aquaculture. By using nutritious pond (NP) feed, farmers can lower their feed cost, while stimulating *in situ* natural food production through the pond food web. An NP-feed is special in that it not only feeds the fish, but also acts as a balanced fertilizer to the pond ecosystem. The NP-concept was developed at Wageningen University, to exploit the inherent capacity of the pond ecosystem to mineralize wastes and to nourish the pond food web that produces natural foods for the cultured fish species. This innovative NP-concept allows to use locally available ingredients to make fish feed that maintains the pond environment healthy and resilient. The NP-concept was successfully tested in Bangladesh, Egypt and Zambia with public and private partners. This approach of "feeding the pond" to create a productive and environmentally efficient production environment, instead of just "feeding the fish," is increasingly being applied for fish farming across Asia and Africa.

Focus was also put on identifying local, presently underused ingredients for inclusion in fish diets. Small-scale farmers require access to affordable fish feeds, but commercial feeds often contain expensive or imported ingredients that may compete with direct human use, like fishmeal, fish oil or soy. Wageningen University and WorldFish researchers worked to identify and analyze local, underused feed ingredients in Africa and Asia, and made the ingredient data globally available to feed millers and farmers through the FeedCalculator app which can be downloaded free of charge on smartphones.

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See for output the NWO [project page](#).

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**Dutch research organisation:** Wageningen University and Research

**CGIAR host institute(s):** International Food Policy Research Institute

**CGIAR Research Program(s) (CRP) or Platform(s)** (including name Flagship or Module): Agriculture for Nutrition and Health (A4NH) (FP1: Food Systems for healthier Diets (FSHD))

**Duration:** 01/03/2019 to 01/03/2022

### Final popular summary

In light of the persistently high levels of malnutrition, which includes undernutrition, micro-nutrient deficiency and obesity, innovations in food systems are needed to provide consumers with sufficient options to obtain diets with adequate nutritional value and to help them make healthy choices for their diets. The expert assignment contributed to the development of a framework for researching such innovations and on generating evidence on their effectiveness.

The core of the framework involved a definition and a classification of food system innovations. Key to the definition is that the innovation is either not used or not widely used within a food system, but has the potential to change diets on a wider scale. The typology classifies innovations along two axis. The first is the location in the food system: food value chains, food environment, and consumer behaviour. The second is the type of innovation: technology, institutions, and policy/regulation. Within the flagship, we focussed on innovations towards the food environment and consumer behaviour.

Based on an extensive review of the literature, we conclude that promising innovations include nutrition-relevant multi-sectoral national policy backed by effective implementation; institutional purchasing offering healthy meals in school or factory environments; compulsory nutrition labelling; and fortified foods, if these can be durably offered or viably commercialised. Promising innovations influencing consumer behaviour include unhealthy food taxes; large-scale information campaigns raising awareness about specific unhealthy food items; and campaigns that provide information and/or fortified food (supplements) to address nutrition of infants and young children. Yet, more evidence is needed before definitive advice can be given on guiding food systems transformations towards healthier diet outcomes.

Own pilot research in Ethiopia, Vietnam, and Mexico suggests that nutrition training can be effective in increasing knowledge and, in some cases, changing behaviour, but the effects can be short-lived and depend on the availability of attractive healthy food.

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See for output the NWO [project page](#).

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**Dutch research organisation:** Wageningen University and Research

**CGIAR host institute(s):** International Food Policy Research Institute

**CGIAR Research Program(s) (CRP) or Platform(s)** (including name Flagship or Module): Policies, Institutions and Health (PIM)  
(FP3: Inclusive and efficient Value Chains)

**Duration:** 01/03/2019 to 01/03/2022

### Final popular summary

Smallholder producers in low-income countries are linked to consumers via value chains. Value chains can be domestic or international, and display different levels of scale and complexity. The organisation of value chains determines their efficiency and inclusivity – the extent to which smallholders are able to participate in them, and earn an income.

My contribution was twofold. First, I supervised three PhD students. This project team focused on the development of tools to study VC efficiency and inclusion. We applied economic theory and quantitative methods to better understand the functioning of VCs, and study the impact of specific chain interventions. We considered approaches to make African smallholder value chains more efficient and inclusive. Among other things, we looked at (i) the individual-level grading and certification of wheat, which provides an impetus to improve crop quality (and which may emerge as a privately-profitable business opportunity); (ii) market power by traders on informal local output markets and its effect on the flow of (quality-enhancing) inputs towards smallholders who otherwise are unable to access such inputs; and (iii) whether modern, improved storage techniques for maize represent an improvement for smallholders over existing storage techniques (they do not). Second, as a flagship leader I was responsible for allocating research funding to research projects, promoting coherence across projects, and synthesizing the main findings into a consistent set of key lessons.

Main achievements are (i) supervising three PhD studies in the fields of storage and certification of food crops, and the extent of market power on local crop markets (all completed in 2022); (ii) leadership at the program level, in particular: research back-stopping and programming for innovation and program coherence; (iii) contributing to the slow transition process of various CG institutes into one new organization (OneCGIAR), and anchoring the research topic “value chains” in the new research program; and (iv) writing a synthesizing book of the most important value chain work in PIM and beyond.

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See for output the NWO [project page](#).

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**Dutch research organisation:** Wageningen University and Research

**CGIAR host institute(s):** International Institute of Tropical Agriculture (IITA) & Centro Internacional De La Papa (CIP)

**CGIAR Research Program(s) (CRP) or Platform(s)** (including name Flagship or Module): Roots, Tubers and Bananas (host institute Bioversity) (FP5: Improved livelihoods at scale)

**Duration:** 10/06/2019 to 31/12/2022

### Final popular summary

A main achievement is the finalization of 'Scaling Readiness' [www.scalingreadiness.org](http://www.scalingreadiness.org): a set of concepts, principles and tools aimed at the development, implementation and monitoring of impactful scaling strategies. It provides an iterative process that supports initiatives to think systematically about what it takes to realize their scaling ambitions. This includes critical examination of whether or not the scaling of a proposed innovation remains indeed an effective, desirable and/or feasible way forward.

We published a guidebook for practitioners and an article with scientific underpinnings of Scaling Readiness as part of a special issue on 'Science of Scaling' in Agricultural Systems. There is strong interest in the approach at management levels in the CGIAR, and elements of the approach have been streamlined in the entire organization to enhance its impact.

The added value of 'Scaling Readiness' has been studied systematically. Results indicate that the approach contributes to critical reflection about scaling and also to the making of new strategic decisions about it. However, contextual factors (e.g. organisational capacities) influence the extent to which such decisions can be implemented.

Another major achievement has been the development of GenderUp [www.genderupforscaling.org](http://www.genderupforscaling.org). This conversational method for responsible scaling responds to the critique that Scaling Readiness is currently blind to gender and social differentiation, and was developed together with gender specialists. The method aims to help practitioners to identify relevant diversity among potential users of innovations and discover how this intersects with gender. This then helps to develop separate innovation and scaling strategies for different segments of users, ensuring both better access to the innovation and the mitigation of possible negative consequences.

Several training activities have been developed and implemented to familiarize professionals and facilitators with Scaling Readiness and GenderUp, including a free of charge online course <https://innovationandscaling.thinkific.com/courses/innovation-and-scaling>.

In addition to the work on scaling, time has been invested in a collaborative research programme that explored the role of connectivity in enabling collective action to address socio-ecological challenges such as pests and diseases <https://www.wur.nl/en/research-results/chair-groups/social-sciences/knowledgetechnology-and-innovation-group/research/research-projects/evoca-2.htm>. As a spin-off to proposal development activities several new PhD projects were started in collaboration with CIMMYT and IITA.

The time investments made possible by the Senior Expert grant contributed to the publication of 19 scientific articles/chapters (2 more submitted) and 8 PhD dissertations in collaboration with the CGIAR. In addition, the work has been presented in several seminars, workshops, conferences, workshops and blogs.

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**Dutch research organisation:** Wageningen University and Research

**CGIAR host institute(s):** World Agroforestry Centre (ICRAF) & International Livestock Research Institute (ILRI)

**CGIAR Research Program(s) (CRP) or Platform(s)** (including name *Flagship or Module*): Climate Change, Agriculture and Food Security (CCAFS) (FP2: *Climate Smart Technologies and Practices*), Livestock Livelihoods and Agri-Food Systems (LLAFS) (FP5: *Livestock*)

**Duration:** 01/06/2019 to 31/12/2022

### Final popular summary

Led by Domenico Dentoni with a team of research collaborators across different Consultative Group for International Agricultural Research (CGIAR) institutes, the Entrepreneurial Learning in Inclusive Agribusiness (ELIA) project took place from 2019 to 2022 as part of a collective effort by Dutch research & development agencies to support the strategic renewal and implementation of the Consultative Group for International Agricultural Research (CGIAR) and, more broadly, of other agricultural research & development institutions worldwide.

This project strived to develop, integrate and disseminate knowledge – through research outputs and the training of vocational education & training (VET) institutions – around two key questions: How do farmers and other actors in agri-food systems innovatively develop market solutions to address local problems of food insecurity and climate change? How do research, development and training institutions support these innovation processes in ways that consider and valorize the role of youth, women and minorities in rural communities? To address these two questions, the project engaged with 250 microentrepreneurs and managers of Small and Medium Enterprises (SMEs) across 13 agri-food value chains across Sub-Saharan Africa, South-East Asia and Europe; developed three quantitative datasets from the Kenyan potato sector, the Zimbabwean seed sector and the Ugandan coffee sector; and trained more than 430 trainers and graduates across 19 knowledge institutions.

Across its qualitative and quantitative research, two key findings of the ELIA project are the following: first, market-led innovations and transformations often generate rural community dynamics around issues of increased inequality. Second, rural business training programs risk to increase inequality when participants have different access to family resources and roles in their family business. To mitigate these unintended consequences of these market-led innovations and transformations, the ELIA project developed and extensively tested a novel systems mapping approach across several agri-food value chain contexts. By combining the use of causal loop diagrams and value network maps in participatory settings, this approach provides an interface for actors in agri-food systems to collectively understand the issues affecting them and envision how to integrate innovations to address these issues.

On the basis of these two findings and novel approach testing, the ELIA project recommends the CGIAR and other international agricultural research & development (R&D) to de-emphasize their investments on scaling climate-smart agricultural innovations, which need and can be led by national agencies or private partners. Instead, it encourages them to focus their investments on scaling participatory approaches for the local adaptation of innovations.

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See for output the NWO [project page](#).

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**Dutch research organisation:** Wageningen University and Research

**CGIAR host institute(s):** International Institute of Tropical Agriculture (IITA)

**CGIAR Research Program(s) (CRP) or Platform(s)** (including name Flagship or Module): Maize (FP4: Sustainable intensification of maize based systems for better livelihoods for smallholders)

**Duration:** 01/05/2019 to 30/11/2022

### Final popular summary

Many agricultural technology interventions have led to positive impacts in poor populations across the world. **Inevitably, not every-body benefits:** some people are passed by, others do not have the capacity to adopt a technology, and technologies cannot be beneficial everywhere. Research on agricultural technology interventions has focused on comparing adopters and non-adopters – largely ignoring impact distributions among those who try out a technology, and seldom investigating what drives impact differentiation. Our research confirmed what may be expected: in absolute terms, **the poor derived smaller benefits** from technology interventions in agriculture than the better-off. In relative terms, benefits were sometimes greater among the poor – primarily as a result of starting out from a lower baseline value. The populations of households studied were poor by global standards, also the better-off among them. So, **on an aggregate level, inequality is addressed** – but there is differentiation nonetheless.

**Unequal benefits are not inherently problematic – but we need to be wary of unintended negative consequences.** For example, labour may be displaced, as we demonstrated in Malawi: better-off farmers adopted herbicides and no longer required the weeding services of the poor, leaving them to go hungry. We should avoid that some people are worse off after an intervention. However, indirect effects or how households depend on each other are rarely investigated. We conclude that it is important for the agricultural research and development sector to: (1) **recognize the poorer** among the poor, (2) **acknowledge unequal impacts**, (3) explicitly aim to **avoid negative consequences**, and (4) include interventions to **mitigate against these** negative consequences where they occur.

Our analyses provide a rather shocking picture of **declining farm size** in many of the most densely-populated regions of Africa. Notably in the East African highlands, which could be considered to be one of the most fertile and potentially productive regions of Africa, median farm sizes are less than 1 ha. Why is small farm size a problem? **Small farms and poor yields** due to continuous cultivation without inputs **converge in a double poverty trap. Farming remains a central contribution to household food and nutrition security.** But closing of yield gaps is insufficient to ensure household food self-sufficiency, let alone provide a living income. This means that **households rely increasingly on income diversification outside farming** for their livelihood. Social protection measures are needed to assist the poorest. More focus on **achieving nutritious diets through diversification** of production is warranted.

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See for output the NWO [project page](#).

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**Dutch research organisation:** Wageningen University and Research

**CGIAR host institute(s):** Research Program on Roots, Tubers and Banana (RTB)

**CGIAR Research Program(s) (CRP) or Platform(s)** (including name *Flagship or Module*): Roots, Tubers and Bananas (FP2: *Adapted productive varieties and quality seed of RTB crops*; Cluster CC 2.1: *Improving planting material and access to varieties*) and Maize agri-food-systems (FP 1: *Enhancing MAIZE's R4D Strategy for Impact*; Cluster 1.4 *Identifying value chain opportunities to enhance MAIZE*)

**Duration:** 01/09/2019 to 13/07/2022

### Final popular summary

As co-lead and collaborating researcher of the RTB community of practice that focuses on support to Seed System interventions, my RTB activities have concentrated on coordinating the multidisciplinary group of app. 50 researchers from 3 different centres and 2 universities. This involved the design of research and development methods and tools, and capacity developing around seed system research. The design, launching and piloting (start of a first training session) of the “RTB Seed System Toolbox” was at the centre of the activities. The tools in this Toolbox were developed and piloted in 2021 beyond the CRP RTB research community (see former report). The RTB Toolbox is one of the “Golden Eggs” of the CRP RTB. We had yearly meetings where we shared and discussed our work, developed the plans for the next year.

Next to the coordination of the RTB cc 2.1 community, I engaged in field research with junior researchers around the topic of understanding farmers' demand for seed. The results of this fieldwork were used to write scientific publications, together with these junior researchers. For some of the researchers, these publications were part of their PhD thesis.

The COVID restrictions have seriously hampered the activities in our last year. In particular, the research that was anticipated with wheat-collaborators in Ethiopia and India to explore actionable entry points for more gender sensitive wheat breeding was jeopardized. COVID also showed how much the digital tools and connectivity have advanced: we were able to launch the RTB Toolbox and pilot a first training in 2121, the last year of the CRP-RTB

In the final phase of CGIAR-Research Programs Phase II, I invested substantial time in contributing – as part of the RTB community of seed system researchers – to the discussions on the future of seed system work in the One-CGIAR. This has continued into the first 6-9 months of the new OneCGIAR and resulted in a collaboration with CG partners in Seed Equal WP3. The finalization of publications and PhD thesis-es with the junior research collaborators still continues, even though the grant period has finished.

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See for output the NWO [project page](#).

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**Dutch research organisation:** Stichting Tropenbos International

**CGIAR host institute(s):** CIFOR/FTA

**CGIAR Research Program(s) (CRP) or Platform(s)** (including name Flagship or Module): Forest, Trees and Agroforestry (FTA) (FP3: Sustainable global value chains and investments for supporting forest conservation and equitable development)

**Duration:** 01/01/2020 to 31/12/2021

### Final popular summary

The Senior Expert and his colleagues have published an FTA working paper on innovative finance for sustainable landscapes, identifying investment risks as the main underlying factor for limited access to finance for both integrated landscape management and SMEs and smallholder groups and communities. Following this publication, a methodology was designed to implement case studies of financial and benefit sharing mechanisms with different strategies to reduce the risks for both beneficiaries and investors. Six case studies have been implemented and three more are in progress to be finalized in 2022. Based on the working paper, additional literature review and the case studies, a conceptual framework for inclusive finance for integrated land management is in preparation for publication early 2022. Elements of this framework have been shared and discussed during a side event of the World Conservation Congress in Marseille in September and during an TBI/FTA organized session at the Global Landscape Forum - Climate in Glasgow in November 2021. Based on the results of this work, inputs have been given to the Dutch Ministry of Agriculture, Nature and Food Quality in their development of the international component of the Dutch Strategy on Forests, as well as to the FAO report on the state of the world's forests to be published in 2022. Both strategy and report have an important finance component and inputs were given on inclusiveness and landscape approaches. In addition, the research results are being used by the Mobilizing More for Climate (MoMo4C) development program financed by the Dutch Ministry of Foreign Affairs to develop inclusive landscape level financial mechanisms, increasing access to finance for small and middle-sized business initiatives that contribute to the transformation towards climate resilient landscapes. Following up on the working paper, CIFOR/ICRAF and UNEP-FI developed and implement a new program, Green Finance for Sustainable Landscapes (GF4SL), addressing some of the barriers identified in the working paper by setting up a knowledge hub that links business initiatives to potential investors as well as to technical assistance.

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See for output the NWO [project page](#).

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**Dutch research organisation:** KIT Royal Tropical Institute

**CGIAR host institute(s):** International Food Policy Research Institute (IFPRI)

**CGIAR Research Program(s) (CRP) or Platform(s)** (including name Flagship or Module): CGIAR Research Program on Policies, Institutions, and Markets (PIM) (FP6: Cross-cutting Gender Research and Coordination) – CGIAR Collaborative Platform for Gender Research

**Duration:** 15/10/2019 to 31/12/2021

### Final popular summary

A key output is the landmark publication, which the Senior Expert co-edited, and coordinated as well as co-authoring the introductory chapter entitled “CGIAR research through an equality and empowerment lens”: [Advancing gender equality through agricultural and environmental research: past, present and future](#) is a peer-reviewed IFPRI book with over 55 CGIAR gender researcher co-authors that addressed the question: **How does agricultural and environmental research and development contribute to gender equality and women’s empowerment?** It was [launched](#) in December 2021 and was [presented](#) at the CGIAR GENDER Platform conference *Cultivating Equality* in October 2021 – see [synopsis](#). The book sets an ambitious agenda for a next generation of CGIAR gender research and is endorsed by leaders in the field.

A second set of knowledge outputs relate to CGIAR-wide gender research grants through PIM flagship 6 on: gender dynamics in seed systems; gender dynamics in value chains beyond production node and single commodity analysis; and, the ‘feminisation’ of agriculture – debunking myths.

The Senior Expert oversaw, reviewed and edited articles for a Special Section in the *Food Security* (FOSE) journal on gender dynamics in seed systems. These have been submitted and are in the final stages or external review and revision. For the grant funded by the *Integrated Seed System Development Africa program* (ISSD-Africa), the Senior Expert co-authored a working paper published by CCAFS entitled: [Gender and seed entrepreneurship: Case studies in Ethiopia, Ghana, Kenya and Tanzania](#). A [PIM Synthesis Brief on gender dynamics in seed systems](#) captures PIM’s work on the topic but within and beyond these grants.

The gender dynamics in value chains grants culminated in knowledge outputs including: a session at the *Cultivating Equality* conference on October 23 2021, [two PIM webinars](#) on the methods and findings of the projects and a [PIM Synthesis Brief](#).

The Senior Expert co-authored another joint output from the grants entitled, [Myths about the feminization of agriculture: Implications for global food security](#), which is part of the June 2022 issue of the journal *Global Food Security* (available online via open access since November 2021). This paper was presented at a [PIM webinar](#) in September 2021. The Senior Expert oversaw the preparation of a second joint output – an IFPRI discussion paper entitled, [Methodologies for researching feminization of agriculture what do they tell us?](#) Two IFPRI webinars presented the findings of grant projects related to migration in [June](#) and other grant projects [July](#) 2021 and a [session in the Cultivating Equality](#) workshop in October 2021 presented the findings to the CGIAR gender audience.

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See for output the NWO [project page](#).

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**Prof. dr. ir. P. J. M. Oosterveer – Senior expert at A4NH – Food Systems for Healthier Diets Anchoring and Upscaling**

**Dutch research organisation:** Wageningen University and Research

**CGIAR host institute(s):** A4NH-IFPRI

**CGIAR Research Program(s) (CRP) or Platform(s)** (including name Flagship or Module): Agriculture for nutrition and health (A4NH) (FP1: Food Systems for Healthier Diets (FSHD))

**Duration:** 01/12/2019 to 31/03/2022

**Final popular summary**

Feeding the growing world population remains an important challenge also in the future. Agriculture can contribute to this ambition provided its focus is not only on the economic outcomes but also on the health and sustainability outcomes. An integrated approach to food systems is necessary to achieve this and social sciences are needed for making critical contributions to this integration. In particular, local, national and global food systems function often without much intended and organized steering and social sciences can inform on the necessary changes here. This project contributes to better govern local and national food systems to improve access to sufficient, safe and healthy food for the (urban) poor. Effective instruments for transforming food systems have been identified, in particular through analysing the role of multi-stakeholder platforms. They create effective mechanisms to involve relevant stakeholders in the necessary food system transformations. Innovations in and transformations of food systems need to be based on identified priorities and this project has done so for the governance of food systems in Bangladesh, Ethiopia, Nigeria and Vietnam. Achieving food system transformations at larger scale remains a challenge for future research.

See for output the NWO [project page](#).

**Dr. E.F. Talsma – Senior Expert at Healthy and Sustainable Diets in Vietnam and Bangladesh**

**Dutch research organisation:** Wageningen University and Research

**CGIAR host institute(s):** International Food Policy Research Institute (IFPRI)

**CGIAR Research Program(s) (CRP) or Platform(s)** (including name Flagship or Module): Agriculture for Nutrition and Health (A4NH) (FP1: Food Systems for Healthier Diets (FSHD))

**Duration:** 10/09/2019 to 30/06/2022

**Final popular summary**

The SEP grantee was A4NH Flagship co-cluster leader of Food Systems for Healthier Diets (FSHD) and the SEP support enabled her to carry out in-depth analysis on diet quality in the FSHD focus countries as well as to provide nutrition expertise to ongoing projects within the flagship. As Flagship co-cluster 1 leader she contributed, in collaboration with other CGIAR Centres (IFPRI, the Alliance of CIAT & Bioversity International, IITA) to the Annual Reporting and Flagship meetings. Furthermore she worked closely with the three PhD candidates (FSHD funded) conducting research on healthy, affordable and environmental low impact diets in Vietnam and on food environment and diet quality in Bangladesh as well as three bilateral funded PhD candidates with projects in Ethiopia on food environment, in Vietnam & Nigeria on food system innovations to increase fruit and vegetable intake, and on Global diet quality indicators. The research conducted with the postdoc (FSHD funded) to assess the quality of the diet as well as the environmental impact of the diet resulted in the development of the WISH index, a new index that combines health with sustainability. The SEP grantee, her PhD students and postdoc published their work in peer review journals and presented their work at several conferences and meetings. The SEP grantee organized and facilitated yearly Learning Lab's at the Agriculture for Nutrition and Health (ANH) conference (2020-2022) on a new method to measure diet quality. Overall the SEP grantee was not only able to advance her own skills on healthy and sustainable diets, but also of those whom she worked with within the flagship and beyond on interconnecting issues on nutrition, gender, affordability and healthy and environmental sustainable diets which resulted in several published reports, blog posts and papers.

See for output the NWO [project page](#).



Dutch research organisation: University Utrecht

CGIAR host institute(s): International Centre for Agricultural Research in the Dry Areas (ICARDA)

CGIAR Research Program(s) (CRP) or Platform(s) (including name Flagship or Module): Water, Land and Ecosystems (WLE) (FP1: Restoring Degraded Landscapes)

Duration: 01/04/2020 to 31/12/2022

### Final popular summary

Dryland areas in the semi-arid climate zone play a key role in the agro-ecosystems with respect to crop production and grazing. The drylands regions suffer from overexploitation and from climate change. These unfavourable processes result in reduced productivity of the lands, soil deterioration such as surface sealing and crusting, frequent rill and gully formation, wind erosion, reduced biodiversity and reduced ecosystem services. As a result, the scarce natural resources deplete. The flagship project 'Restoring Degraded Lands of the Water, Land and Ecosystems (WLE),' aims at restoring degraded land and protect it from future impacts such as droughts and wind/water erosion. In addition, RDL aims to enhance ecosystem services and explore options to mitigate climate change impacts.

In phase 1 of the project, the Senior Expert has contributed to the CGIAR Research Program (WLE-CRP) Flagship by co-leading and executing research on drought adaptation and land degradation problems. To understand the problem and the involved processes, experiments were carried out in the field with the partners involved and the degradation processes were simulated in spatio-temporal GIS-based computer models. To mitigate drought, different water harvesting structures have been tested in the field and their impacts on hydrology, Csequestration and vegetation growth modelled. Water harvesting structures along slopes were proven to conserve moisture, reduce water erosion, diminish the risk of flash floods, store carbon in the soil and provide fodder to local livestock (sheep). The potential areas where such structures could be implemented and would be more efficient have been identified. Apart from water erosion and drought, the drylands in the Middle East and North Africa (MENA) may also suffer from sand and dust storms that degrade the soil and cause air pollution. Modelling was applied to test different vegetation scenarios in relation to water harvesting for reducing wind erosion in the Jordanian desert and the Aral Sea basin.

In phase 2 of the project, the various findings mostly from field experimental and small to medium scale modelling research were synthesized, upscaled and published. For example, research from central Jordan's Badia was out-scaled to other environments such as the Jordan Valley side-Wadi ecosystem, as well as East Africa (Ethiopia) in the context of a WLE-CRP funded activity. Moreover, continental-scale modelling approaches were applied to the MENA and Central Asia regions to upscale the findings. Concretely, Utrecht University's PCR-GLOBWB model was used to identify surface runoff producing areas suitable for the previously (phase 1) tested micro-water harvesting approaches. Accordingly, results have been presented to different local stakeholders (e.g. in Jordan and around the Caspian Sea) and shared with the international scientific community.

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See for output the NWO [project page](#).

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**Dutch research organisation:** Wageningen University and Research

**CGIAR host institute(s):** International Maize and Wheat Improvement Center (CIMMYT)

**CGIAR Research Program(s) (CRP) or Platform(s)** (including name *Flagship or Module*): Climate Change, Agriculture and Food Security (CCAFS) (FP3: *Low Emissions Development*, (and FP2: *Climate Smart technologies and practices*), (and Big Data Platform and Excellence in Agronomy (in development))

**Duration:** 16/03/2020 to 30/11/2022

### Final popular summary

This SEP grant aimed to provide leadership in investigating intensification pathways for sub-Saharan Africa's (SSAs) cereal production and their assessment in terms of food production, environmental impacts and, to some extent, economic feasibility. My work revealed that SSA can, theoretically, keep up with the tripling (2050-2010) or doubling (2050-2020) cereal demand on existing land, but only just, by largely increasing yields to approximately 60-80% of the rainfed potential. This is an unprecedented trend break that needs to happen in less than 30 years given that yields are currently only ca. 20% of their potential. We showed that such an intensification pathway can be climate-smart if it comes with excellent agronomy leading to high use efficiency of for instance nutrients. One factor of such good agronomy, liming to manage soil acidification that may come with fertilisation, was investigated in a trade-off analysis for Western Kenya, investigating agronomic, environmental and economic consequences of liming. To support good agronomy towards smallholders a mobile phone-based advisory app for maize-based farms in Tanzania has been developed and was piloted with extension officers. In a PhD thesis an integrated agronomic and socio-economic analysis of fertilizer use by Ethiopian maize producers was performed. The maize yield gap was decomposed into a lack of efficiency, lack of inputs and lack of technology; the latter was shown to take the largest part of the gap. The study also revealed that fertiliser use by farmers is well below the agronomic optimum, but is close to the economic optimum when including risk aversion of farmers.

An extensive study analysed the effect of climate change on cereal production in ten countries in SSA. It showed that effects on yield potentials are relatively small until 2050 (up to -6% in East Africa), but are likely to become very substantial (up to -24%) by 2090, in particular in West Africa. Adaptation, however, is shown to be very effective, by using adapted cultivars which are already grown elsewhere in the region, to cope with changing growing seasons due to higher temperatures and changing precipitation.

The work was collaborative with the private sector and disseminated to (inter)national policy makers and stakeholders and is an important input to the upcoming African Fertilizer and Soil Health Summit. The collaboration is continuing through new One CGIAR initiatives, and the appointment of CGIAR senior scientist Julian Ramirez-Villegas as special professor at Wageningen University.

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See for output the NWO [project page](#).

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# Annex IV: Key statistics of Senior Expert assignments

Table 1 | Key statistics of the Senior Expert assignments

Senior Expert	# of policies, legal instruments, investments modified <sup>18</sup>	# of trainings/workshop	# of people trained	# of partnerships	# of innovations	# of peer reviewed (joint NL-CGIAR) publications	# of non-peer reviewed publications <sup>19</sup>
<a href="#">Dr. ir. A. Vrieling</a>	3	2	6	5	3	6	5
<a href="#">Prof. dr. R. Ruben</a>	5	9	21.500	7	0	6	5
<a href="#">Dr. ir. J.C.J. Groot</a>	0	6	60	30	0	36	4
<a href="#">Dr. ir. I.D. Brouwer</a>	5	15	2015	14	60	43	60
<a href="#">Dr. M.C.J. Verdegem</a>	0	2	120	2	2	16	6
<a href="#">Dr. ir. M. van den Berg</a>	2	0	7	6	16	5	16
<a href="#">Prof. dr. ir. E.H. Bulte</a>	0	5	2063	12	0	9	14
<a href="#">Prof. dr. ir. C. Leeuwis</a>	0	10	1335	6	2	19	18
<a href="#">Dr. D. Dentoni</a>	16	12	680	11	8	7	14
<a href="#">Prof. dr. ir. K.E. Giller</a>	0	4	0	2	0	14	38
<a href="#">Dr. C.J.M. Almekinders</a>	0	5	8	3	1	11	15
<a href="#">Dr. B.T.M. Louman</a>	1	2	3	6	3	3	23
<a href="#">Ir. R. Pyburn</a>	0	6	75	2	0	5	31
<a href="#">Prof. dr. ir. P.J.M. Oosterveer</a>	4	2	183	3	3	29	8
<a href="#">Dr. E.F. Talsma</a>	0	6	311	9	0	16	20
<a href="#">Dr. ir. G. Sterk</a>	2	3	7	3	3	1	7
<a href="#">Prof. dr. ir. M.K. van Ittersum</a>	1	9	5	6	2	6	3
<b>Total</b>	<b>39</b>	<b>98</b>	<b>28378</b>	<b>126</b>	<b>103</b>	<b>232</b>	<b>287</b>

18 Original question: # of policies, legal instruments, investments and similar modified in their design or implementation informed by your research / activities

19 Original question: # of discussion papers; # of assessment/analysis reports/working papers; # of broader media outlets; # of contributions to congresses/CGIAR events

Table 2 | Overview of reporting on selected FNS framework indicators MoFA<sup>20</sup> of the SEP-assignments

Senior Expert	# of potential beneficiaries of new FNS-relevant research (MoFA 4.1.2)	# of FNS relevant knowledge institutions supported directly (MoFA 4.3.1)	# of improvements in major (inter) national FNS policies/laws (MoFA 7.1)	# of women that benefitted from FNS/reached by interventions (MoFA 8.1(.1))	# of systemic (cross-dimensional) linkages supported (MoFA 9.1.1)
<a href="#">Dr. ir. A. Vrieling</a>	25.000	n.a.	n.a.	n.a.	n.a.
<a href="#">Prof. dr. R. Ruben</a>	n.a.	n.a.	5	800*	8
<a href="#">Dr. ir. I.D. Brouwer</a>	n.a.	n.a.	5	1600*	10
<a href="#">Dr. M.C.J. Verdegem</a>	n.a.	3	n.a.	26*	n.a.
<a href="#">Dr. ir. M. van den Berg</a>	n.a.	n.a.	n.a.	550*	n.a.
<a href="#">Dr. D. Dentoni</a>	n.a.	19	n.a.	n.a.	19
<a href="#">Prof. dr. ir. K.E. Giller</a>	n.a.	n.a.	n.a.	n.a.	1
<a href="#">Prof. dr. ir. P.J.M. Oosterveer</a>	>1.000.009**	5	n.a.	n.a.	4
<a href="#">Dr. E.F. Talsma</a>	400	3	n.a.	17	1
<a href="#">Prof. dr. ir. M.K. van Ittersum</a>	±10.000	n.a.	2	n.a.	n.a.
<b>Total</b>	<b>&gt;1.035.409</b>	<b>30</b>	<b>12</b>	<b>2993</b>	<b>43</b>

\* # of women that benefitted from FNS interventions

\*\* Directly the partners involved, indirectly the vulnerable populations in the Seqota & Kolla Temben Woredas in Ethiopia and the whole population of Bangladesh when food safety has improved

20 Some of the Senior Experts have filled in very limited or no MoFA indicators. They indicated a) it is still too early to report, or b) the effects on MoFA indicators is indirect and not quantifiable or c) that for the CRP indicators could be provided, but not for the SEP assignment. The overview shows only the Senior Experts who have filled in the selected MoFA indicators and not the Senior Experts who have filled in other (not-selected) MoFA indicators.

# Annex V: NL-CGIAR Conference Report



Government of the Netherlands



## NL-CGIAR Conference Report

### *'Partnering for Global Food Security - Advancing knowledge and innovation for food system transformation'*

2 & 3 November 2022

On 2 and 3 November 2022 NWO-WOTRO celebrated the NL-CGIAR research programme and the partnerships within the programme with an online conference on *'Partnering for Global Food Security'*. Researchers, policy makers, and stakeholders from companies, public authorities and NGOs from within and from outside the NL-CGIAR programme came together to discuss the research programme's insights and outcomes and formulated their common narrative on agricultural research for development and peered into the future of smallholder farming in Africa.

### NL-CGIAR conference day 1 – Farmers in the kitchen of co-creation

#### At the studio

It is the morning of the 2<sup>nd</sup> of November 2022. There's only one hour left before the [NL-CGIAR conference](#) (see programme [Annex I](#)) starts and the organising team is working their heads off to settle the last details. The atmosphere is vibrating. Everyone is excited to be at this point, in this room, collaborating, creating, almost flying together. The clock keeps ticking, while the number of things-to-do seem to increase at a similar speed. But, we know that we've got this. We are communicating clearly and every person sticks to his/her task brilliantly. Then it's suddenly time. Hold your breath, spotlights on. Let's celebrate!

**Gerrie Tuitert**, the [NWO-WOTRO](#) coordinator of the [NL-CGIAR research programme](#), looks into the camera and welcomes the audience. What a remarkable thought that she is now connecting live with researchers, policy makers, stakeholders from the private sector and farmer representatives from around the world. **Wilma van Esch** (Dutch Ministry of Foreign Affairs) and **Floor Boselie** (Dutch Ministry of Agriculture, Nature and Food Quality) are also at the studio, both sharing their take on the importance of the NL-CGIAR research programme, its accomplishments and future prospects.

#### Opening session

##### Farmers need to be in the kitchen of co-creation

The conference moderator, **Amanda Harding**, takes the floor and announces the keynote speech by **Juan Lucas Restrepo** (CGIAR). He emphasises that, for food systems transformation, we do not only have to improve our science, but more importantly, improve our ways of conducting it. We need to co-create solutions for agricultural innovation and development within partnerships with national research systems, local universities, the private sector, civil society and off course with the end-users: farmers. According to Juan Lucas Restrepo, 'Farmers need to be in the kitchen', meaning that farmers should have, right from the start, a clear voice in the co-creation process.



Amanda Harding

##### A common vision, real collaboration and the government

**Namukolo Covic** (CGIAR), **Elizabeth Swai** (AKM Glitters Ltd.), **Jan Willem Nibbering** (Dutch Embassy in Burundi) and **Emma Naluyima** (One Acre Fund) take this new form of partnerships one step further and discuss the

biggest challenges for successful partnerships. Namukolo Covic boldly states that we are failing to deliver healthy diets to all localities in a sustainable and affordable way. For a food systems transformation, we need a common vision, which is then contextualised to local realities. Elizabeth Swai adds that, when researchers and stakeholders from the private sector have this common vision, business partners can start to ask the same questions as scientists. What then emerges is a blurred zone between disciplines and sectors where real, transformative collaboration takes place. Furthermore, as Jan Willem Nibbering argues, this common vision should be reflected by public policy. With that vision, governments should create space for all the actors involved in developing a sustainable and viable food system.

### Flexibility

To achieve these new type (other than business as usual) of partnerships, Namukolo Covic states that we especially need flexibility in the way we collaborate. She argues that we should enter the collaboration open-minded to be able to address 'what if' questions, instead of coming to the table with pre-set questions. The advantage of being to answer 'what if' questions is that it allows decisions to be made in real time and link the questions to ongoing policy processes. According to Namukolo Covic, we are often limited to do so because funding calls come with a specific focus and do not allow much flexibility. The [Senior Expert Programme](#) in the NL-CGIAR programme was in that sense an exception, she argues, allowing the scientists to use of the policy levers. [Watch the video](#) of the panel discussion and reaction on it by Emma Naluyima.

## Deep dive into the NL-CGIAR Synthesis Study findings

### Food Fight on public-private partnerships

Before NL-CGIAR Senior Expert [Ken Giller](#) (WUR) and PPP-expert [Sarah Cummings](#) (WUR) battle out whether or not agricultural research can make a contribution to smallholders' livelihoods without engaging the private sector, [Ellen Lammers](#) introduces the [NL-CGIAR synthesis study](#). She explains that the goal of the synthesis study has been to get a better sense of the added value of the [NL-CGIAR research programme](#) in terms of new insights and knowledge gained and outcomes achieved throughout the different instruments. In addition to



*Ellen Lammers and Amanda Harding*

this, the synthesis study is also meant to facilitate and promote the actual use of the research insights. Ellen and her colleague [Daniëlle de Winter](#) (DBM Research) looked at all project outputs and publications, and conducted about 20 interviews with researchers involved on public policy towards food system transformation, smallholder diversity in agricultural research for development, and public-private partnerships in international agricultural research. Those themes formed the basis of three [papers](#) and three associated [Food Fights](#).

Before the final of three Food Fights, on public-private partnerships ([watch the video online](#)) starts (aired for the very first time on this conference), the audience is asked to take a stance. About one third agrees with the statement and thinks that agricultural research cannot make a contribution to smallholders' livelihoods without engaging the private sector. Let's see whether our debaters can convince them to vote in their favour post-debate. Sarah Cumming's throws out the 'killer argument' that farmers are in fact the private sector.

Nevertheless, the second vote does not show a major shift in people agreeing/not agreeing with the statement. Apparently there is also consensus on Ken Giller's argument that the private sector cannot solve everything. *(Please note that Sarah Cummings and Ken Giller are not expressing their personal opinions; they have been requested to take a side in the debate, so the audience gets a clear overview of the dilemmas and arguments).*

### The future of smallholder farmers – an armchair discussion

If you thought it was time to sit back and relax after such a fiery conference element, think again! Because now NL-CGIAR Senior Experts **Conny Almekinders** (WUR) and **Erwin Bulte** (WUR), take their seats in two blue and apparently comfortable chairs for another round of conversation: the [arm chair discussion](#). They explore the balance between resources and attention going to smallholder diversity and resources and attention going to markets. Because for the smallest of the smallholders, markets are still failing, and these farmers always seem to be at a disadvantage. To make a point, they take us 20-30 years ahead and ask the question: what is the future of the smallest of smallholders? Talking about radical food system transformation and the SDGs, for a large number of those small smallholder farmers, Erwin Bulte hardly sees a future in the countryside for them.



*Conny Almekinders and Erwin Bulte*

‘But what about their culture, their livelihoods?’ asks Conny Almekinders. ‘There is value in that.’ Yet, Erwin Bulte argues that we need to think out of the box. Instead of locking farmers, even those who currently are able to ‘hang in’, in an unsustainable system – rapid population growth with further decrease farm sizes - we should ask ourselves what kind of structural transformation paths exists. According to Erwin Bulte, the real challenge and structural transformation lies in what will happen with the labour source that is freed up.

### Who decides?

But who decides how the future of smallholders looks like? This the first question that comes up in the Q&A, for which **Ken Giller** also takes a (virtual) chair. **Conny Almekinders** and **Erwin Bulte** not only argue that there is a tremendous responsibility of governments for the future of smallholders, but that it is a shared responsibility between governments from the North and the South. They come up with transformative approaches such as migration, or governments implementing trade tariffs as possible solutions. Yet, they also argue that policy and research are connected. Science contributes the views on how viable smallholder livelihoods will be in the future, and it is expected that politicians will respond to that. Ken Giller adds that agendas shouldn’t be set by large international foundations, but we should instead focus on the demand of local farmers.



*Amanda Harding and Ken Giller*

And the alternatives? Can we jump straight to services? Or the agro-processing industry? Erwin Bulte and Ken Giller both mention that, with public interference to develop those markets, there might also be alternative futures that focus on agro-commodities serving domestic and regional markets as well as an agro-processing industry.

In a wrap up of the entire synthesis session, **Marja Spiereburg** (Leiden University) also directs us towards the responsibility of states and, echoing Conny Almekinders and Erwin Bulte, international responsibilities. She argues that what happens in the global South, very often is the result of policy decisions in the global North. Combining this point with Ken Giller’s earlier point, local demands should also be part of international policies. [Watch the video](#) of the armchair discussion, including Q&A with Conny Almekinders, Erwin Bulte and Ken Giller and the wrap-up by Marja Spiereburg.

### Poster session

#### Posters and questions

The final part of the first conference day comprises the poster session during which (mostly junior) researchers present their respective projects through a three-minute pitch. All five parallel session are well visited. This is the first time today that presenters and attendees get to interact. They are eager to answer and re-ask questions, eager to connect and exchange. If only we would have had more time. Hopefully, attendees will be able to find each other after the conference and continue the synergy. [Watch the posters online \(see pdf\)](#).

## NL-CGIAR conference day 2 – An interdisciplinary community demonstrates a model for action

### *Dialogue for global food security*

#### **Dialogue sessions and key messages on food systems transformation**

The thematic sessions of day 2 of the [NL-CGIAR conference](#) opened up space for dialogue among the community of NL-CGIAR researchers – who work on a wide range of topics within the global food security spectrum. Prior to the conference, their respective work was grouped into four different subjects, following the four knowledge domains the [NL-CGIAR research programme](#) was built upon:

1. Food systems for zero hunger
2. Inclusive and resilient value chains
3. Inclusive access to seeds
4. Sustainable, inclusive and resilient agriculture.



In each of the two dialogue rounds, the attending researchers discovered communalities and formulated an inspiring set of key messages. Those were based on the actual outcomes of one or more individual NL-CGIAR projects, or resulted from collectively reflecting on the research they had done and what that meant for reforming or transforming food systems. The key messages were grouped per cross-cutting theme (Partnerships; Equality; Enabling & scaling; and/or Systems approach). One of the key messages that came back with several of the cross-cutting themes was the involvement of governments. Governments should play a key role in research partnerships and their involvement should be carefully designed, whether it be at programme, country or project level. Also the systems approach, which stood central in the [NL-CGIAR research programme](#), was reflected on in many of the key messages and showed great interconnectedness with the other cross-cutting themes. With scaling for example, we should anticipate societal and environmental trade-offs beforehand and scale on different levels. Some other key messages echoed ideas or statements that had been explored during the first conference day: a comprehensive common vision, supported by an ambitious strategy is needed rather than ad-hoc policies of interventions. However, we should never forget to actually link the top level vision with local realities and always be aware that a common vision translates differently in local realities. The full list of key messages can be found in [Annex II](#) (see below). Visit the [online dialogue board](#) of the NL-CGIAR conference and/or visit the [PDFs](#) with the dialogue per thematic session.

### *Wrapping up for global food security*

#### **Pulling out red threads - with a call to action for science**

**Mario Teddy Asio** (Ministry of Agriculture, Uganda), **Øystein Botillén** (Yara) and **Domenico Dentoni** (WUR) continued to pull out red threads of the thematic sessions in a panel discussion, reflecting on the critical role of science to create the common vision on food systems and again showing us how interconnected the cross-cutting themes in reality are. Øystein Botillén, for example, sketched a picture of how the political debate is affected by history, culture and current politics in countries, as well as by emotions and ideologies of the people involved. He therefore argues that science should absolutely be engaged in transformative partnerships to create a common vision based on a rational assessment, and bring in a systems view to assess trade-offs. When Dentoni talks about scaling, he asks the question whether we scale solutions or approaches for local adaptation of solutions. He argues that research projects should



*Amanda Harding*



certainly budget and plan for the latter, but that scaling solutions is more a responsibility of governments. And when we talk about adaptation of solutions, can we also do this inclusively? For example, by using citizen science not only as a means to receive information, but also to receive feedback at a meta-level to find out what an adaption means for a local reality. From inclusive scaling to a systems approach, Domenico Dentoni further states that we should not only consider trade-offs in our food systems approach, but also systematically include and challenge constraints (e.g. cultural or institutional). Finally, Mary Teddy Asio reflected especially on the recent shift in thinking to regard formal and informal seed systems as combined opportunities for change, instead of seeing them as one or the other, since in Uganda, and many other African countries, about 85% of the seed supply comes through the informal system. She also stressed an opportunity which was not covered in the NL-CGIAR research programme as such: digitalisation of the seed system; making for example quality declaration of seed just one click away.

#### **Final wrap up – a common vision again**

It seems to be the phrase of the conference: **develop a common vision**. In the final wrap up of the day, **Isabelle Baltenweck** (CGIAR) talks about how she as a scientist in CGIAR now goes about transformative partnerships and co-designing work, constantly asking: how do we agree on a common vision, what is everyone's role, how do we move forward together, what do governments bring to the table? And one of the things **Wijnand van Ijssel** (Dutch Ministry of Foreign Affairs) emphasises in his wrap up is the constant going back and forth between the generic global challenges for food system transformation and the need for contextualisation. Both Wijnand van Ijssel and Isabelle Baltenweck give away clues on how to do this: 'the diversity of voices and exchanges is very important, because diversity and southern participation is still lacking in global science debate' (Wijnand van Ijssel) and 'as researchers we have to be bold and work across disciplines' (Isabelle Baltenweck).

Amanda Harding and Gerrie Tuitert closed the NL-CGIAR conference and shared their gratitude to everybody that made this event possible and a success.

***Amanda Harding** (Convener), conference moderator: From my birds-eye view, the range of NL-CGIAR projects and initiatives nourishing the combination of panels, debates, arm-chair chats, and carefully curated breakout sessions saw a collective call for a comprehensive food system vision supported by an ambitious strategy, the urgent scaling of transformative inclusive partnerships, the knotty need to address the tension of sustainable smallholder livelihoods where economic models are not in their favour, and the imperative to better translate research results to action and impact.*

#### **Interested in more information about the NL-CGIAR research programme?**

- About the programme: [www.nwo.nl/cgiar](http://www.nwo.nl/cgiar)
- NL-CGIAR magazine: <https://www.nwo.nl/en/nl-cgiar-magazine>
- NL-CGIAR synthesis study: <https://www.nwo.nl/en/researchprogrammes/netherlands-nl-cgiar-research-programme/synthesis-study-nl-cgiar-research-programme>
- NL-CGIAR animations: <https://www.nwo.nl/node/50640>
- For questions contact: [NL-CGIAR@nwo.nl](mailto:NL-CGIAR@nwo.nl)

## Annex I – Programme of the NL-CGIAR conference

### Wednesday 2 November

12.00 – 13.15 CET	<b>Opening session</b> <ul style="list-style-type: none"> <li>– Welcome by <b>Wilma van Esch</b> (Ministry of Foreign Affairs) and <b>Floor Boselie Abbenhuis</b> (Ministry of Agriculture, Nature and Food Quality)</li> <li>– Keynote speech by <b>Juan Lucas Restrepo</b> (CGIAR)</li> <li>– Panel conversation with <b>Namukolo Covic</b> (CGIAR), <b>Elizabeth Swai</b> (AKM Glitters Ltd.) and <b>Jan Willem Nibbering</b> (Dutch Embassy Burundi). Reaction by <b>Emma Naluyima</b> (One Acre Fund)</li> </ul>
<b>Break</b>	
13.30 – 15:00	<b>Deep dive into the NL-CGIAR Synthesis Study findings</b> <ul style="list-style-type: none"> <li>– Food Fight 3 on ‘Public Private Partnerships in agriculture for food security’ with <b>Sarah Cummings</b> (WUR) and <b>Ken Giller</b> (WUR)</li> <li>– Armchair discussion with <b>Conny Almekinders</b> (WUR) and Erwin Bulte (WUR)</li> <li>– Q&amp;A with <b>Sarah Cummings</b>, <b>Ken Giller</b>, <b>Conny Almekinders</b> and <b>Erwin Bulte</b></li> <li>– Wrap up by <b>Marja Spierenburg</b> (Leiden University)</li> </ul>
<b>Break</b>	
15.15 – 16.15	<b>Poster session</b>
16.15 – 16.30	<b>Closing of day 1</b>

### Thursday 3 November

12.00 – 12.30	<b>Opening and thematic pitches</b>
12.30 – 13.30	<b>Dialogue for global food security round 1</b> <ul style="list-style-type: none"> <li>– Food systems for zero hunger</li> <li>– Sustainable, inclusive and resilient agriculture</li> <li>– Inclusive and resilient value chains and agribusiness</li> <li>– Inclusive access to seed</li> </ul>
<b>Break</b>	
13.45 – 14:00	<b>Plenary overview of outcomes round 1</b>
14:00 – 15:00	<b>Dialogue for global food security round 2</b> <ul style="list-style-type: none"> <li>– Food systems for zero hunger</li> <li>– Sustainable, inclusive and resilient agriculture</li> <li>– Inclusive and resilient value chains and agribusiness</li> <li>– Inclusive access to seed</li> </ul>
<b>Break</b>	
15.15 – 15.30	<b>Plenary overview of outcomes round 2</b>
15.30 – 16.15	<b>Wrapping up for global food security</b> <ul style="list-style-type: none"> <li>– Panel conversation with <b>Øystein Botillen</b> (Yara), <b>Mary Teddy Asio</b> (Ministry of East African Community Affairs, Uganda) and <b>Domenico Dentoni</b> (WUR and Montpellier Business School)</li> <li>– Wrap-up by <b>Wijnand van IJssel</b> (Ministry of Foreign Affairs) and <b>Isabelle Baltenweck</b> (CGIAR)</li> </ul>

## Annex II – key messages per cross-cutting theme, as emerged from the thematic sessions on day 2 of the NL-CGIAR conference

### Partnerships

- Partnerships need to go well beyond research communities and NGOs, with key roles for the private sector and governments. Partnerships should start open-minded and be related to the innovation and needs in the local context.
- In a research partnership, both the researchers but also other agencies (private sector, public, finance agencies, etc.) could create the conditions under which researchers can work. All partners need to be on board right from the beginning; that would be the ideal situation, however relevant partners can emerge during the process.
- Overcoming the challenges, for example dealing with or overcoming power structures (e.g. when dealing with local partners), requires knowledge and tactics. There are various ways to get around challenges with partnerships, e.g: [New integrated methodology supports inclusive and resilient global food systems transformation – CIMMYT](#).
- Programme design: think carefully about what has to be done at programme level, and what can be done at project level, and what can be done at country level. Maybe not every project has to connect with all stakeholders itself, but some things can be shared across projects or at a programme level.
- The length (including intensity and purpose) of contact with partners and communities needs to be considered more often. Many projects fail because of a lack of time and/or duration of contact to develop meaningful and strong relationships and to gain legitimacy and credibility.

### Equality

- Be intentional, measure progress and impact, make sure that those people/groups who are not typically heard are also represented and think about how to build equity and justice into our analyses.
- Whereas needs for marginalised groups need to be considered from context to context, in the case of women, the gender responsible scaling tool ([GenderUp](#)) might help to systematically tackle some issues.
- Rather than focussing so much on women, also ask the question how we can work with households in a way that gender balance is enhanced, but without taking the household as a ‘unit’.
- Deal with the complexity and trade-offs of one-sided scaling or being inclusive to the broad diversity of smallholders (also the smallest of the smallest) by providing broader baskets of technologies, and providing a wide range of options for a wide range of beneficiaries. And also think about what needs to be downscaled.
- Think about who will address the smallest of the smallholders and how. And think about how to convince funding agencies about working with the poorest of the poor. This might not be in their interest. In addition, we should also acknowledge it is not easy and sometimes impossible to reach the poorest. The role of social protection may be key.
- Think carefully about the notion of demand and the methods we use to determine demands. First, different types of farmers have different types of demands, and there are also the demands of others who are part of the system, e.g. processors or consumers. Second, there are different methods to assess demands, and the choice of method influences the outcome. Methods to assess demand are thus context-dependent. Third, demands are met by different systems.

### Systems approach

- The NL-CGIAR projects and assignments recognised and supported the agency of the very diverse smallholder farmers and worked on ways to remove structural constraints. For example, by ensuring access to finance, changing gender norms, creating and supporting new businesses and setting up different consortia which can create space for farmers to exercise their agency.
- Systemic constraints like infrastructure and education need to be addressed simultaneously. If they are not looked at together, agricultural outcomes will also not be on a desirable level.
- Systems analyses approaches help us understand trade-offs and interconnectedness, for example in scaling questions and issues with the broader societal goals and the environment versus the individual goals.

Furthermore, systems analyses are key to understanding insitutional constraints that can be addressed to increase the “space for innovation”

- Embrace broad, encompassing ways of looking at outcomes. Do not only consider the food security or production related outcomes for farmers, but also consider issues that have to do with the environment and biophysical aspects of the systems, broader benefits to society or a healthy living environment or food safety.
- Strive for agreement on progress and process indicators for working together and moving ahead, suitable for a broad systems approach and to be shared across projects, with common metrics (please note: not all relevant indicators of progress can be captured in metrics) across different projects. Transforming food systems is a long term programme, hence there is an urgent need for good indicators (quality diets, environmental impact of food security) to understand ongoing changes and their impact. Indicators should be combined and instrumental in the transformation of food systems. The Sustainable Development Goals indicators are a start. Please note: ongoing changes cannot be captured in the terms mentioned, but must be assessed in terms of process indicators (emergence of joint visions, strength of coalitions, discursive changes in policy networks, etc etc).
- Think about how people can be rewarded when they benefit the environment or broader societal goals.
- Be aware of silos and find ways to overcome them. Researchers are driven in silos by specialisation, disciplines and methodological preferences, but also by donors, who have specific preferences and development pathways. In the case of seed systems development these preferences are towards commercial pathways and formal seed systems, whereas farmers fit in a multiplicity of systems.
- Recognize the importance of building greater complementarity and coordination in seed systems. This can be done by capacity building, by creating incentives and learning, e.g. based on feedback mechanisms such as was done in the SSD Uganda project.

#### **Enabling & scaling**

- Try to zoom out and learn from examples that already exist elsewhere, e.g. for healthy diets or climate change adaption we can learn from what is being done elsewhere (e.g. specific cultivars). At the same time, never forget the local context, because that determines feasibility and local priorities.
- Scale step-by-step, horizontal and vertical.
- Think carefully about what we are scaling and who is benefitting from the results. Are we scaling a outcomes (and/or capacities) in order to reach more farmers? Or are we scaling outcomes, in order to work with different commodities or contexts? Please note that scaling can only be effective in a package of social and technical changes.
- Scaling needs to be budgeted for in project planning.
- Employ a systems approach to determine potential outcomes of scaling and avoid unintended negative consequences, e.g. for the environment.
- Please also note that not all research leads to technologies / packages or approaches that deserve to be scaled. Learning and knowledge are valuable outcomes to shape future action in their own right.
- There is need for some regulation and control in scaling systems (role of public sector). In some cases spontaneous scaling has not been good to the environment.
- Think about who is responsible for scaling. Are (CGIAR) researchers responsible for scaling or do they create pilots? Include actors in the partnership who are able to scale right from the beginning. Also take into account contextualisation here.
- Scaling is also inherent: researchers pay attention to understanding the enabling environment and context and what we can potentially do. They identify weaknesses or opportunities to allow more space for spontaneous scaling.
- Research can make use of the opportunity-momentum for scaling, which are often political.
- Continuity is important for enabling and scaling. Why not fund successful projects for a follow-up term to provide more time for scaling?
- Include governments from the start in programmes, gain their interest and perhaps have them co-finance programmes.

# Annex VI: Key messages NL-CGIAR conference



## KEY MESSAGES FOR RESEARCH

from the thematic sessions during the NL-CGIAR conference (2-3 November 2022)

### Partnerships

**Key roles 1**  
Partnerships must have key roles for the **private sector** and **governments**. They should start open-minded and be related to the innovation and needs in the local context.

**Right from the start 2**  
In a research partnership, **other agencies create the conditions** under which researchers can work. All partners need to be on board right from the beginning.

**Challenges 3**  
Overcoming the challenges, for example dealing with or overcoming power structures requires **knowledge and tactics**.

**Design 4**  
In programme design, not every project has to connect with all stakeholders itself, but some things can be shared **across projects or at a programme level**.

**Contact length 5**  
The **length of contact** with partners and communities needs to be considered more often. Many projects fail because of a **lack of time** to develop meaningful and strong relationships.

### Systems Approach

**Simultaneous 1**  
Systemic constraints like infrastructure and education need to be addressed simultaneously. If they are not looked at together, agricultural outcomes will also not be on a desirable level.

**Systems approach 2**  
Systems analyses help us **understand trade-offs and interconnectedness**, for example in scaling questions and issues with the broader societal goals and the environment versus the individual goals.

**Broad outcomes 3**  
Embrace **broad, encompassing ways of looking at outcomes**, with agreement on **indicators for working together and moving ahead**. Do not only consider the food security or production related outcomes for farmers. Consider issues that have to do with the environment and biophysical aspects of the systems, broader benefits to society or a healthy living environment or food safety.

**Silos 4**  
Be aware of **silos** and find ways to overcome them. Researchers are driven in silos by specialisation, disciplines and methodological preferences, but also by donors. These donors also have **specific preferences and development pathways**.

### Equality

**Be intentional 1**  
Measure progress and impact, make sure that those people/groups who are not typically heard are also **represented** and think about how to **build equity and justice** into the analyses.

**Scaling tool 2**  
Although context always matters, the **gender responsible scaling tool** might help to systematically tackle some issues

**Addressing the poor 3**  
Think about who will address the smallest of the smallholders and how to **convince funding agencies** about working with the poorest of the poor.

**Demands 4**  
Think carefully about the **notion of demand** and the **methods** we use to determine demands. First, different types of farmers and other actors in the food system have different types of demands. Second, there are different **methods to assess demands**, and the choice of method influences the outcome.

**Gender dynamics 5**  
Rather than focusing so much on women, also ask the question how we can work with **households** in a way that gender balance is enhanced

### Enabling & Scaling

**Context 1**  
Try to zoom out and **learn from examples** that already exist elsewhere. At the same time, **never forget the local context**, because that determines feasibility and local priorities.

**Technology or approach 2**  
Think about what we are scaling and who is **benefiting from the results**. Are we scaling a technology in order to reach more farmers? Or are we scaling the approach, in order to work with different commodities or contexts?

**Responsibility 3**  
Think about **who is responsible for scaling**. Are (CGIAR) researchers responsible for scaling or do they create pilots? Include actors in the partnership who are able to scale right from the beginning.

**Governments 4**  
Include governments **from the start** in programmes to enable scaling, gain their interest and perhaps have them co-finance programmes.

**Scaling and Research 5**  
Scaling is also **inherent**: researchers identify weaknesses or opportunities to allow more space for spontaneous scaling. Research can make use of the **opportunity momentum** for scaling, which is often political.

Read the full list: [nwc.nl/en/nl-cgiar-conference](https://nwc.nl/en/nl-cgiar-conference)

# Annex VII: Overview of news items and posts on LinkedIn, Facebook and Twitter (2022 – June 2023)

## Publications

Date published	Title
March 2023	<a href="#">NL-CGIAR Conference report</a> (and posters and video's)
October 2022 / Updated December 2022	<a href="#">NL-CGIAR research programme magazine</a>

## Videos on NWO YouTube channel

Date published	Title
14 December 2022	<a href="#">Synthesis Study session – NL-CGIAR conference ‘Partnering for Global Food Security’ (November 2022)</a>
14 December 2022	<a href="#">Panel conversation – opening session NL-CGIAR conference ‘Partnering for Global Food Security’</a>
1 November 2022	<a href="#">Synthesis study animation: Public sector’s role in achieving food system change   NL-CGIAR research programme</a>
1 November 2022	<a href="#">Synthesis study animation: Public-Private Partnerships (PPP) in international agricultural research   NL-CGIAR</a>
1 November 2022	<a href="#">Synthesis study animation: Smallholder Diversity in Agro-Food Value Chains   NL-CGIAR research programme</a>
2 November 2022	<a href="#">NL-CGIAR – Food Fight Webinar 3 ‘Public private partnerships in international agricultural research’</a>
27 October 2022	<a href="#">NL-CGIAR – Food Fight Webinar 2 ‘Smallholder diversity in agricultural research for development’</a>
27 October 2022	<a href="#">NL-CGIAR – Food Fight Webinar 1 ‘Public policy towards food system transformation’</a>
11 October 2022	<a href="#">The NL-CGIAR Research Programme: a brief introduction</a>

## News items

Date published	Title
10 January 2023	<a href="#">Synthesis study NL-CGIAR research programme: results of research on agricultural sector transformation in low- and middle-income countries</a>
26 October 2022	<a href="#">International research shows relevance of partnering for global food security</a>
12 October 2022	<a href="#">Evaluation NL-CGIAR Senior Expert Programme (SEP)</a>
12 October 2022	<a href="#">Farmers doing research</a>
11 October 2022	<a href="#">Conversation and dialogue to change gender norms</a>
5 September 2022	<a href="#">Research methods to understand seed systems</a>
19 April 2022	<a href="#">Ingredients for CGIAR-private sector engagement</a>
12 April 2022	<a href="#">Continuing a successful NL-CGIAR Partnership</a>
28 March 2022	<a href="#">Scaling Readiness contributes to innovations for food security</a>
10 March 2022	<a href="#">Interim results NL-CGIAR research programme</a>

## Cases

Date published	Title
12 October 2022	<a href="#">Farmers take the lead in research</a>
5 October 2022	<a href="#">Take a look in the mirror to transform gender roles</a>
11 April 2022	<a href="#">Sarah Cummings: 'We don't give a recipe, we supply ingredients for CGIAR-private sector engagement'</a>
22 March 2022	<a href="#">'Scaling Readiness maximizes the success rate of innovations to improve world food security'</a>

## LinkedIn posts on NWO channel + external

In the run-up to the NL-CGIAR conference, NWO-WOTRO organises an online debate series on global food security (Food Fights). The series consists of three online debates in which two experts from the NL-CGIAR research programme will act as the proponent and opponent of a provocative statement on global food security, originating from the NL CGIAR synthesis study. Register now for:


Food Fight 1: 13 September, Public policy towards food system transformation <https://lnkd.in/ekFAYDtq>  
 Food Fight 2: 6 October, Smallholder diversity in agricultural research for development <https://lnkd.in/eyuZe7kM>


The NL-CGIAR conference 'Partnering for Global Food Security - Advancing knowledge and innovation for food system transformation' will take place on 2 and 3 November. Together we want to better understand, improve and transform food systems. During the NL-CGIAR conference we will discuss the challenges and solutions arising from various research results.

The conference invites scientists, policy makers and stakeholders from companies, governments and NGOs to actively participate in themed sessions, keynote speeches and interviews.

NL-CGIAR conference: <https://lnkd.in/ebkhY-z5>

[Vertaling weergeven](#)






**NWO (Nederlandse Organisatie voor Wetenschappelijk Onderzoek)**  
 36.675 volgers  
 7 mind • Bewerkt •

From 2-3 November 2022 NWO-WOTRO will celebrate the NL-CGIAR research programme and the partnerships within the programme with an online conference. The conference programme is now up on the website!

The conference includes a keynote speech by CGIAR's global director of partnerships and advocacy Juan Lucas Restrepo, an interactive debate on the role of the private sector, a poster session and four thematic sessions. The goal is to inform and inspire scientists, policy makers, and stakeholders from companies, public authorities and NGOs.

View the animation video: <https://lnkd.in/eGAaKa-N>  
 More info about the conference, programme and registration: <https://lnkd.in/ebkhY-z5>  
 Read the magazine: <https://lnkd.in/ebMR74ND>

[Vertaling weergeven](#)



**Amanda Harding** • 3e+  
Leading Convene  
Opnieuw gedeeld via Convene • 7 mnd • 🌐


+ Volgen ...

This has been a fabulous two days "broadcasting" live from the Hague while closely connected to the dialoguers around the virtual table.

The #NL CGIAR Programme proved to be a brilliant springboard as we dived into the urgent challenges of food land and water systems transformation.

I loved the radicality of the conversation. The willingness to talk transformative partnership, to question standard solutions and urge real alternatives.

CGIAR Namukolo Covic Jan Willem Nibbering Gerrie Tuitert Wijnand van IJssel Wageningen University & Research NWO (Dutch Research Council)




**Marielle Karssenber** • 2e  
Knowledge Broker at Netherlands Food Partners...  
Opnieuw gedeeld via Netherlands Food Partnership • 10 mnd • 🌐

+ Volgen ...

🌟 Now available, the event report of the #NL CGIAR Open for Business event hosted on April 12, 2022 in The Hague, the Netherlands.

In the report, you find an overview of event highlights, as well as links to all the different presentations and conversations of the day 📄.

#event #partnerships #privatesector #cgiar



## Twitter posts

Please note that as of February 2023 the WOTRO Twitter account is inactive (therefore NWO-WOTRO (Inactive)) and WOTRO continues to Twitter on @NWO Nieuws and @NWO Funding.

**NWO-WOTRO (Inactive)** @WOTRO · 23 mrt. 2022

Scaling Readiness is a systemic approach for determining the maturity of an innovation for scaling. Read the article with @ceesleeuwis, Senior Expert within the NL-CGIAR research programme and @marc\_schut, strategic advisor innovation @CGIAR: [nwo.nl/en/cases/scali...](https://nwo.nl/en/cases/scali...) @WUR #SDG2



Dutch Ministry of Foreign Affairs en RootsTubersBananas

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**NWO-WOTRO (Inactive)** @WOTRO · 12 apr. 2022

#NL CGIAR | @sarahcummings (@wur) about results from special report on private sector engagement within global agricultural innovation network @CGIAR: "We supply ingredients for CGIAR-private sector engagement." [nwo.nl/en/cases/sarah...](https://nwo.nl/en/cases/sarah...)

**NL Global Issues** @IGG NL · 11 apr. 2022

How to strengthen the private sector to contribute to the #SDGs? Join us tomorrow at the NL- @CGIAR event for an interesting discussion on the future of private sector engagement for innovation and scaling. More info and registration [tinyurl.com/2ccbwywz](https://tinyurl.com/2ccbwywz)

#OpenforBusiness

**Register Now**

Strengthening CGIAR- private sector engagement for innovation and scaling

Hybrid morning session livestreamed from The Hague, the Netherlands - 11:00 to 12:30 CET  
Fully online afternoon Zoom session 13:30 - 16:00 CET

**Tuesday 12 April**



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**NWO-WOTRO (Inactive)** @WOTRO · 12 apr. 2022

The Netherlands **NLCGIAR** research programme (2017-2022) is part of the agreement between the Government of the Netherlands and CGIAR. It is funded by the Dutch Ministry of Foreign Affairs and implemented through NWO-WOTRO. **#MoU #partnership #PublicPrivate #SDG2**

**NL Global Issues** @IGG\_NL · 12 apr. 2022

🇳🇱 is proud to announce the renewal of its partnership with @CGIAR. Together we will cooperate on contributing to #sustainable transformational change in food, land and water systems around the world. **#OpenforBusiness #OneCGIAR**  
 📌 Learn more?: [tinyurl.com/547r8tas](https://tinyurl.com/547r8tas)



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**NWO-WOTRO (Inactive)** @WOTRO · 13 apr. 2022

NWO-WOTRO congratulates @CGIAR, @DutchMFA and MoA (@minlnv) on signing the renewed Memorandum of Understanding to continue the successful NL-CGIAR **#Partnership. #NLCGIAR**

**Netherlands Food Partnership** @nfp\_sdg2 · 12 apr. 2022

Today's NL-CGIAR Partnership event also marked the launch of a new Special Report on Private Sector Engagement, which represents another milestone in CGIAR-Netherlands Partnership.

Full details here ➡️: [cutt.ly/4FQ1Uud](https://cutt.ly/4FQ1Uud)

**#OneCGIAR #OpenforBusiness #NLCGIAR**



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**NWO-WOTRO (Inactive)** @WOTRO · 20 apr. 2022

@sarahcummings: 'We don't give a recipe, we supply ingredients for CGIAR-private sector engagement' Read the interview about taking principles into account during NL-CGIAR research. [nwo.nl/en/cases/sarah](https://nwo.nl/en/cases/sarah) ... @CGIAR @nfp\_sdg2 @DutchMFA #NLCGIAR #OneCGIAR

nwo.nl

Sarah Cummings: 'We don't give a recipe, we supply ingredients for CGIAR-private sector engagement'...

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**NWO-WOTRO (Inactive)** @WOTRO · 20 apr. 2022

The Netherlands - CGIAR partnership aims to strengthen international agricultural research and thus contributes to the **#SDGs**. Read more about Public-private partnership (PPP) expert: [nwo.nl/en/researchpro...](https://nwo.nl/en/researchpro...)

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**NWO-WOTRO (Inactive)** @WOTRO · 15 apr. 2022

The NL-CGIAR project 'Women in business: chicken seed dissemination in Ethiopia and Tanzania' aims to develop, promote and test women-led chicken businesses in Ethiopia and Tanzania with the goal of promoting the economic empowerment of young women. [nwo.nl/onderzoeksprog...](https://nwo.nl/onderzoeksprog...)

**ILRI.org** @ILRI · 12 apr. 2022

Als antwoord op @NicoleMHMetz @DannyWijnhoud en 12 anderen

And you can watch a short animation about the Women in Business project: [youtu.be/BBz5CPFgu80](https://youtu.be/BBz5CPFgu80)

Or, listen to this @BomaPodcast episode: [ilri.org/livestock-matt...](https://ilri.org/livestock-matt...)

**NWO-WOTRO (Inactive)** @WOTRO · 2 aug. 2022

**#Event** | On 2 and 3 November 2022 NWO organizes the Partnering for Global Food Security 'Advancing knowledge and innovation for food system transformation' -conference. Read more about the conference and stay up to date at: [nwo.nl/en/nl-cgiar-co...](https://nwo.nl/en/nl-cgiar-co...)



**Partnering for Global Food Security**

2 & 3 November 2022

**Final conference**

**NL-CGIAR research programme**

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**NWO-WOTRO (Inactive) @WOTRO** · 23 aug. 2022  
 Held earlier this year, the event reflected on the long-standing partnership between the Government of the Netherlands and **@CGIAR**. The continuation of the partnership was reaffirmed with the signing of a renewed MoU between the two parties: [nwo.nl/en/news/contin...](https://nwo.nl/en/news/contin...)  
**@DutchMFA**

**Netherlands Food Partnership @nfp\_sdg2** · 15 aug. 2022  
 The #NL-CGIAR Open for Business; Strengthening @CGIAR Private Sector Engagement for Innovation and Scaling event report is now available, including video recordings and links to the presentation slides.

Download it here [cutt.ly/MXalCO6](https://cutt.ly/MXalCO6)

#openforbusiness #OneCGIAR



1 6



**NWO-WOTRO (Inactive) @WOTRO** · 13 sep. 2022  
**#Event** | In July 2021, we published an article about two NL-CGIAR Seed System Development projects in West-Africa, focusing on tilapia and peanut farming: [nwo.nl/en/cases/kicks...](https://nwo.nl/en/cases/kicks...) Want to learn more about **#FoodSecurity**? Join us during the conference! -> [nwo.nl/en/nl-cgiar-co...](https://nwo.nl/en/nl-cgiar-co...)



CGIAR  
 3



**NWO-WOTRO (Inactive) @WOTRO** · 20 sep. 2022  
**#Event** | On 2 and 3 November **@WOTRO** celebrates the NL-CGIAR research programme and the partnerships within the programme with an online conference. Read the case: [nwo.nl/en/cases/impro...](https://nwo.nl/en/cases/impro...) to get an understanding of the topics discussed during the conference.



nwo.nl  
 Improving nutrition - access to seed and school meals for ethnic minorities in Vietnam and Laos |...

1 2



**NWO-WOTRO (Inactive) @WOTRO** · 6 okt. 2022  
**#Event** | Two participatory projects of the NL-CGIAR programme among ethnic minorities in the mountainous regions of Vietnam and Laos have reduced malnutrition: [nwo.nl/en/news/improv...](https://nwo.nl/en/news/improv...) Learn more about these practices during the NL-CGIAR conference: [nwo.nl/en/nl-cgiar-co...](https://nwo.nl/en/nl-cgiar-co...)



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**NWO-WOTRO (Inactive)** @WOTRO · 6 okt. 2022

**#GenderNorms** | Conversation and dialogue are key to change gender norms, in households, agricultural projects and institutions. @r\_pyburn (@100KIT), Catherine Ragasa and @alegalie on #GenderEquality #nlcgiar #SDG2 #SDG5 nwo.nl/en/cases/take-...



5 6

**NWO-WOTRO (Inactive)** @WOTRO · 13 okt. 2022

**#Event** | In the NL-CGIAR research programme NL and @CGIAR join forces to contribute to global food security. Register now (pgfs2022.nl) for the NL-CGIAR conference, more info: nwo.nl/en/nl-cgiar-co... Video: youtube.com/watch?v=T\_gJfF...



1 3

Je hebt geretweet

**NWO-domein SGW (Inactive)** @NWO\_SSH · 2 nov. 2022

The NL-CGIAR conference will start in one hour. Meet participants and have a look at the conference platform and read the magazine to get started. #NLCGIAR. Moderated by @AmandaConvene.  
 >> pgfs2022.nl/programme/  
 >> nwo.nl/cgiar @CGIAR @MinBZ @DutchMFA @nfp\_sdg2



nwo.nl  
The Netherlands (NL) - CGIAR research programme | NWO

4 9

Je hebt geretweet

**NWO-domein SGW (Inactive)** @NWO\_SSH · 2 nov. 2022

@CGIAR Magazine | 'Partnerships are key to addressing global food and nutrition security,' according to @Wijnand\_DDE (@DutchMFA). Read: NL-CGIAR magazine with results from 27 research projects, synthesis study, the integrated approach and impact. #NLCGIAR nwo.nl/en/news/intern...

**NWO-domein SGW (Inactive)** @NWO\_SSH · 2 nov. 2022

The NL-CGIAR conference will start in one hour. Meet participants and have a look at the conference platform and read the magazine to get started. #NLCGIAR. Moderated by @AmandaConvene.  
 >> pgfs2022.nl/programme/  
 >> nwo.nl/cgiar @CGIAR @MinBZ @DutchMFA @nfp\_sdg2

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**NWO-WOTRO (Inactive)** @WOTRO · 2 nov. 2022

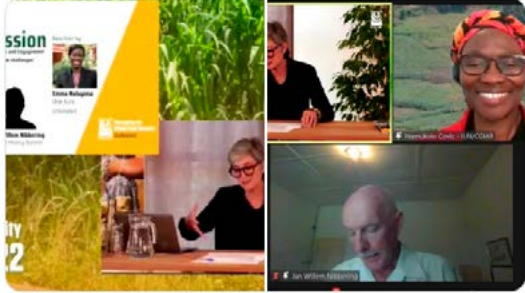
We opened the NL-CGIAR conference! 'Wee need to invest into food systems that can produce food in an environmentally and sustainable way' says Floor Boselie from @minlnv. @CGIAR @nfp\_sdg2 @DutchMFA nwo.nl/en/nl-cgiar-co...



4

**NWO-WOTRO (Inactive)** @WOTRO · 2 nov. 2022


**#Event** | How can public-private partnerships become authentic collaborations for food systems transformation? A panel conversation with Elizabeth Swai, @NamukoloC and Jan Willem Nibbering. @CGIAR @nfp\_sdg2 @DutchMFA #NLGIAR



3 11

**NWO-WOTRO (Inactive)** @WOTRO · 2 nov. 2022

**#Event** | Keynote @jucasrestrepo (@cgjar) talks about how partnerships for agricultural research for development are changing during the NL-CGIAR conference. #NLCGIAR @nfp\_sdg2



**NWO-WOTRO (Inactive)** @WOTRO · 2 nov. 2022  
**#Event** | The **#NL CGIAR** Food Fight 3 takes place during the conference! Agree or disagree: Without engaging private partners, agricultural research cannot contribute to improving the livelihoods of smallholders. @KenGiller & @sarahcummings battle it out. [nwo.nl/en/researchpro...](https://nwo.nl/en/researchpro...)



1 3 6

**NWO-WOTRO (Inactive)** @WOTRO · 2 nov. 2022  
**#Event #NL CGIAR** | 'Deep dive into the NL-CGIAR synthesis study' is now starting. Read more at: [nwo.nl/en/researchpro...](https://nwo.nl/en/researchpro...)



**NWO-WOTRO (Inactive)** @WOTRO · 2 nov. 2022  
**#Event #NL CGIAR** | Conny Almekinders and Erwin Bulte dive deeper into the role of the public sector and how to consider smallholder diversity for agricultural change. @WUR @CGIAR  
 > [nwo.nl/en/smallholder...](https://nwo.nl/en/smallholder...)  
 > [nwo.nl/node/50618](https://nwo.nl/node/50618)



1 6

**NWO-WOTRO (Inactive)** @WOTRO · 2 nov. 2022  
**#NL CGIAR** Food Fight | Statement: 'Without engaging private partners, agricultural research cannot contribute to improving the livelihoods of smallholders'. Watch Food Fight 3 'Public private partnerships in international agricultural research' online [youtube.com/watch?v=ys8g5Y...](https://youtube.com/watch?v=ys8g5Y...) @CGIAR

youtube.com  
 NL-CGIAR – Food Fight Webinar 3 'Public private ...  
 The provocative statement that was up for debate:  
 'Without engaging private partners, agricultural ...

**NWO-WOTRO (Inactive)** @WOTRO · 3 nov. 2022  
 We look back to a successful first day of the **#NL CGIAR** conference! Many thanks to all speakers and participants. Day two will kick off in an hour: check out the programme and synthesis study online to get ready! [nwo.nl/en/nl-cgiar-co...](https://nwo.nl/en/nl-cgiar-co...) [nwo.nl/en/researchpro...](https://nwo.nl/en/researchpro...)



Netherlands Food Partnership en 3 anderen

3 8

**NWO-WOTRO (Inactive)** @WOTRO · 3 nov. 2022  
**#Event #NL CGIAR** | Let's start with day two! Dialogue, dialogue and dialogue. Together with @ConveneSpace, today we will be creating our shared narratives on food systems transformation. Today's programme: [pgfs2022.nl/programme/?pda...](https://pgfs2022.nl/programme/?pda...)





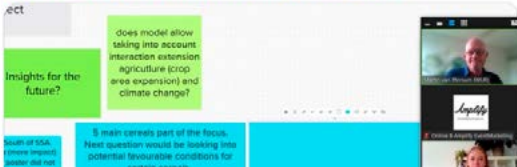
**NWO-WOTRO (Inactive) @WOTRO** · 3 nov. 2022  
 #Event | Many thanks to all attendees of the #NL CGIAR conference for two wonderful conference days! Check [nwo.nl/cgiar](https://nwo.nl/cgiar) for more news, links and final wrap-ups. @CGIAR @nfp\_sdg2 @DutchMFA



2 replies 4 likes



**NWO-WOTRO (Inactive) @WOTRO** · 3 nov. 2022  
 #Event #NL CGIAR | What place do #partnerships, #equality, a systems approach and enabling & scaling have in food systems transformation? Join the NL-CGIAR conference to find out. #NL CGIAR [pgfs2022.nl/programme/](https://pgfs2022.nl/programme/) [nwo.nl/en/nl-cgiar-co...](https://nwo.nl/en/nl-cgiar-co...) @CGIAR



1 reply 3 likes



**NWO-WOTRO (Inactive) @WOTRO** · 15 nov. 2022  
 #NL CGIAR | In 'The public sector's role in achieving food system change' study you will learn more about radical interventions to create a sustainable and resilient food system. Read the summary and full article; watch the food fight and animated video: [nwo.nl/node/50618](https://nwo.nl/node/50618)



1 reply 3 likes



**NWO-domein SGW (Inactive) @NWO\_SSH** · 2 nov. 2022  
 .@CGIAR Magazine | 'Partnerships are key to addressing global food and nutrition security,' according to @Wijnand DDE (@DutchMFA). Read: NL-CGIAR magazine with results from 27 research projects, synthesis study, the integrated approach and impact. #NL CGIAR [nwo.nl/en/news/intern...](https://nwo.nl/en/news/intern...)

**NWO-domein SGW (Inactive) @NWO\_SSH** · 2 nov. 2022  
 The NL-CGIAR conference will start in one hour. Meet participants and have a look at the conference platform and read the magazine to get started. #NL CGIAR. Moderated by @AmandaConvene.  
 >> [pgfs2022.nl/programme/](https://pgfs2022.nl/programme/)  
 >> [nwo.nl/cgiar](https://nwo.nl/cgiar) @CGIAR  
 @MinBZ @DutchMFA @nfp\_sdg2

1 reply 6 likes



**NWO-WOTRO (Inactive) @WOTRO** · 22 dec. 2022  
 #NL CGIAR | Now available: NL-CGIAR approach paper and conference's report.  
 In November 2022 the NL-CGIAR conference took place highlighting the research done so far. Additional information such as thematic papers can be found on the synthesis study page



nwo.nl  
 Synthesis study | NL-CGIAR research programme | NWO  
 The synthesis study of the NL-CGIAR research programme brings together new knowledge and insights generated by the NL-CGIAR ...

1 reply 2 likes 258 views



**NWO-WOTRO (Inactive) @WOTRO** · 22 dec. 2022  
 The conference page contains the report, as well as conference videos and overviews of thematic sessions

## Collection of external Twitter posts

**Rhys Bucknall-Williams** @Swilone · 12 apr. 2022

Packed house at @hntdenhaag for #NLCGIAR #Openforbusiness

@elwynj sets out how the #OneCGIAR process is reframing the way @CGIAR works - including its partnerships - to tackle the climate and food crises in ways that better support human health and resilience.



Netherlands Food Partnership en 2 anderen

4 likes, 19 hearts

**Netherlands Food Partnership** @nfp\_sdg2 · 12 apr. 2022

Today's NL-CGIAR Partnership event also marked the launch of a new Special Report on Private Sector Engagement, which represents another milestone in CGIAR-Netherlands Partnership.

Full details here [cutt.ly/4FQ1Uud](https://cutt.ly/4FQ1Uud)

#OneCGIAR #OpenforBusiness #NLCGIAR



CGIAR en 3 anderen

4 retweets, 11 hearts

**Netherlands Food Partnership** @nfp\_sdg2 · 25 jul. 2022

Having conducted her PhD research in collaboration with #NLCGIAR, with a specific focus on the functioning of #seedsystems of vegetatively propagated crops, Dr. Fleur Kilwinger shared some fascinating insights in a recent interview. Read it in full here [cutt.ly/QZyh3IN](https://cutt.ly/QZyh3IN)



Jij en 3 anderen

2 retweets, 7 hearts

**Rolf Schinkel** @RolfSchinkel · 15 aug. 2022

nfp\_sdg2: The #NLCGIAR Open for Business; Strengthening @CGIAR Private Sector Engagement for Innovation and Scaling event report is now available, including video recordings and links to the presentation slides.

Download it here [...](#)



NL Global Issues en Ministerie van Landbouw, Natuur & Voedselkwaliteit

Retweets, hearts, and share icons are visible at the bottom.

**Amanda Harding** @AmandaConvene · 3 nov. 2022

Day 2 and we're now in true dialogue facing the tension of local realities vs. scaleable models for change where the @NL CGIAR Programme provides evidence and challenge @WOTRO @CGIAR #deliberatedialogue

● **Convene** @ConveneSpace · 3 nov. 2022

Convene's @AmandaConvene is ready for the second day of holding a space for #deliberatedialogue to unfold. #NL CGIAR [twitter.com/WOTRO/status/1...](https://twitter.com/WOTRO/status/1...)

🗨️ 2 ❤️ 5 📊 🔄


**Amanda Harding heeft geretweet**

**Convene** @ConveneSpace · 3 nov. 2022

We are ready to use #deliberatedialogue to accelerate conversations and inspire further innovative solutions to #foodsecurity #NL CGIAR

🕒 **NWO-WOTRO (Inactive)** @WOTRO · 3 nov. 2022

#Event #NL CGIAR | Let's start with day two! Dialogue, dialogue and dialogue. Together with @ConveneSpace, today we will be creating our shared narratives on food systems transformation. Today's programme: [pgfs2022.nl/programme/?pda...](https://pgfs2022.nl/programme/?pda...)



**Amanda Harding heeft geretweet**

**Gerrie Tuitert** @t\_gerrie · 3 nov. 2022

At Day 1 @NWO N-@CGIAR conference we were pleased with the opening words by the 2 Dutch ministries involved, Wilma van Esch emphasized success of the NL-CGIAR partnership and their continued support for it, and Floor Boselie highlighted insights & outcomes @DutchMFA @nfp\_sdg2



🕒 **NWO-WOTRO (Inactive)** @WOTRO · 3 nov. 2022

We look back to a successful first day of the #NL CGIAR conference! Many thanks to all speakers and participants. Day two will kick off in an hour:

**Wijnand van IJssel** @Wijnand\_DDE · 3 nov. 2022

In the studio today for the wrap-up of online #NL CGIAR conference on a treasure of @CGIAR and NL research collaboration and partnership. Great S-S and S-N interaction under @WOTRO @NWO SSH program. Facilitated by @AmandaConvene @IGG\_NL @DutchMFA



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Wijnand van IJssel heeft geretweet

**Netherlands Food Partnership** @nfp\_sdg2 · 12 apr. 2022

This morning an MoU was signed by @CGIAR, @DutchMFA, @minlrv to officially renew the continued collaboration in the achievement of common objectives, that contribute to global transformational change in food, land and water systems. 🌱

Read more [cutt.ly/kFQTIWC](https://cutt.ly/kFQTIWC)



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**Netherlands Food Partnership** @nfp\_sdg2 · 24 mei 2022

The impact of #innovation can be systematically increased with a Scaling Readiness approach according to @WOTRO Senior Experts Cees Leeuwis and @marc\_schut.

Read their paper on this and how science/research and development/impact gaps can be closed [cutt.ly/2HBMF10](https://cutt.ly/2HBMF10)



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**Netherlands Food Partnership** @nfp\_sdg2 · 14 apr. 2022

Warm and heartfelt thanks to all those who participated in the Strengthening CGIAR - Private Sector Engagement for Innovation and Scaling event earlier this week.

In case you were unable to attend, you can watch a rerun of the morning session below [cutt.ly/WFA3Crc](https://cutt.ly/WFA3Crc)



CGIAR en 3 anderen

3 9

Netherlands Food Partnership heeft geretweet

**CGIAR** @CGIAR · 12 apr. 2022

One thing that can propel us forward is putting action to the things we're saying & recognizing the urgency and fragility of global food systems - #OneCGIAR Managing Director @elwyngj at #NLCGIAR #OpenforBusiness.

Watch now: [on.cgiar.org/3MxrdXn](https://on.cgiar.org/3MxrdXn)  
@IGG\_NL @nfp\_sdg2



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# Annex VIII: Financial report 2022

Item	Budget in k€		Revised budget in k€		Commitments							Remaining budget	Remarks	
		%		%	2017	2018	2019	2020	2021	2022	2017–2022			
<b>Instruments</b>														
1	Secondment PPP expert	300,00	2,23%	300,00	2,23%	–	258,00	20,65	–	–	278,66	21,34		
2	Senior expert programme (SEP)	2.950,00	21,96%	2.786,07	20,74%	–	1.143,81	1.378,03	264,23	–	2.786,07	0,00		
3	Co-financing Fund	–	0,00%	–	0,00%	–	–	–	–	–	–	–		
4	Seed system development call	9.100,00	67,73%	9.100,00	67,73%	–	162,26	8.898,10	–	–	9.060,36	39,64		
<b>Additional learning and research uptake activities</b>														
5	Joint activities	175,00	1,30%	338,93	2,52%	–	–	9,99	1,00	209,13	220,12	118,81		
<b>Subtotal Instruments + Additional activities</b>		<b>12.525,00</b>	<b>93,23%</b>	<b>12.525,00</b>	<b>93,23%</b>	<b>–</b>	<b>1.564,08</b>	<b>10.306,77</b>	<b>265,23</b>	<b>–</b>	<b>209,13</b>	<b>12.345,20</b>	<b>179,80</b>	
<b>Programme management</b>														
6	Programme Committee	5,30	0,04%	5,30	0,04%	–	–	–	–	0,57	0,57	4,73		
7	IAC	31,00	0,23%	31,00	0,23%	–	18,32	6,01	–	4,50	28,83	2,17		
8	NWO Programme Staff	827,80	6,16%	827,80	6,16%	35,00	250,00	155,00	115,00	115,00	157,80	827,80	–	
9	Travel costs Programme Staff	25,00	0,19%	25,00	0,19%	0,70	0,51	2,39	0,23	0,34	4,17	20,83		
10	Miscellaneous	20,90	0,16%	20,90	0,16%	–	–	–	–	3,95	5,64	15,26		
<b>Subtotal Programme Management</b>		<b>910,00</b>	<b>6,77%</b>	<b>910,00</b>	<b>6,77%</b>	<b>35,70</b>	<b>268,83</b>	<b>163,40</b>	<b>115,23</b>	<b>123,45</b>	<b>160,40</b>	<b>867,01</b>	<b>42,99</b>	
<b>Total</b>		<b>13.435,00</b>	<b>100%</b>	<b>13.435,00</b>	<b>100%</b>	<b>35,70</b>	<b>1.832,90</b>	<b>10.470,17</b>	<b>380,46</b>	<b>123,45</b>	<b>369,53</b>	<b>13.212,21</b>	<b>222,79</b>	

**Dutch Research Council (NWO)**  
**WOTRO Science for Global Development**

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