Conference
“Research & Policy: two peas in a pod? A dialogue for food security impact”

Date:	Friday December 1, 2017
Location:	New Babylon Meeting Centre, second floor Anna van Buerenplein 29, 2595 DA The Hague
Organized by:	NWO-WOTRO Science for Global Development Food & Business Knowledge Platform (F&BKP)
In cooperation with:	Ministry of Foreign Affairs and Ministry of Agriculture, Nature and Food Quality

Words of welcome

Do existing food security policies hinder or stimulate the access of poor consumers to fish? Do institutional frameworks provide sufficient room for innovations to be demand driven, by which they have the potential to be scaled up and enhance food security? Or: (how) can food security interventions be formulated such that they actually enhance inclusiveness of business? These are just a few questions that will be addressed today that benefit from a dialogue and an improved link between research and policy to improved food security impact. Welcome to the conference “Research and Policy: two peas in a pod? A dialogue for food security impact”!

The aim of this conference is to improve the link between research and policy. In particular between the (interim) results of the research projects funded within the Food & Business Applied Research Fund (ARF) and the Global Challenges Programme (GCP), and with the Dutch policy in the field of food and nutrition security and private sector development. This policy was developed and implemented by the Ministry of Foreign Affairs and the Ministry of Economic Affairs. Discussions held today will focus on how to improve this link, but will similarly provide room for critical reflection on assumptions in relation to this very link. How can findings of research better inform policy development? How can policy representatives better formulate questions in need of knowledge?

This conference is a major step in a process that took off around six months ago where a great number of researchers, practitioners and policy representatives were engaged from the beginning. An inventory of research results amongst the ARF and GCP research consortia led to a set of eight themes that are the center focus of the conference. In a joint effort between ARF and GCP research consortia (which includes academics as well as practitioners and policy representatives), conference sessions were prepared to focus on those eight themes, which you will participate in today. This process has facilitated conversations that were not had before and that have provided new exchanges and insights.

We invite you today to engage in creating and expanding linkages between ARF and GCP research and policy, but also with other crucial partners in enhancing food security such as private actors and NGOs. We encourage you to further identify bottlenecks and needs for change, and similarly to propose joint ways forward. Please join us in exploring and stimulating enabling environments for initiatives and innovations to enhance food and nutrition security and critically reflect upon them. We are excited to welcome you today and look forward to critically constructive and fruitful dialogues as well as actionable approaches to take insights forward.

We would like to express our gratitude to the conference Advisory Group for their constructive engagement in the preparation of this dialogue, as well as the theme coordinators from research and policy.

Yours sincerely,

Guido Gryseels – Chair of the Food & Business Programme Committee
Adrie Papma - Chair of the Steering Committee of the Food & Business Knowledge Platform

Adrie Papma - Facilitator

Adrie Papma is Associate Director of Oxfam International. Since the early nineties she joined Oxfam Novib and fulfilled various functions, starting as an expert on food security and nutrition, worked in various international campaigns of Oxfam, such as Make Trade Fair, leading the alliance building. In 2002 she joined the Board of Directors of Oxfam Novib and was amongst others responsible for alliance building and for the relations with the private sector (agri-food business, financial sector). Today she is working with Oxfam International to give shape to the Oxfam of the future. Adrie has performed several governance roles in INTRAC, World Social Forum, Partos, EVS, IDH, AIV/COS, AgriProFocus, Begeleidingscommissie Campagne WUF Food for Thought - Thought for Food. She is the chair of the F&BKP Steering Committee.

Cees Leeuwis – Keynote speaker

Cees Leeuwis is professor of Knowledge, Technology and Innovation at Wageningen University, and coordinator of the Section Communication, Philosophy and Technology. He studies processes of socio-technical innovation and transformation in networks, collaboration between different disciplines, research for development policy, the functioning of innovation support systems and the role of innovation platforms, communication, extension and brokers therein. Eventually, these efforts are geared towards making processes of technical and social innovation more responsible, responsive and democratic. He has published widely about these themes in the context of societal domains such as sustainable agriculture, natural resources management, poverty related diseases and inclusive value chains.

Brave Ndisale – Keynote speaker

Brave Ndisale is the Strategic Programme Leader of the Hunger Eradication, Food Security and Nutrition Programme of the Food and Agriculture Organization of the UN (FAO). She also served the same institution as Director a.i. for Social Policies and Rural Institutions Division. Prior to joining FAO, she was Malawi's Ambassador to Belgium, France, the Netherlands, Luxembourg, Italy, Switzerland, The Principality of Monaco, and the Permanent Representative to the: European Union, World Trade Organization (WTO), United Nations Educational, Scientific and Cultural Organization (UNESCO), FAO, International Fund for Agricultural Development (IFAD) and World Food Programme (WFP). She previously served as a Research Economist in the Ministry of Agriculture in Malawi and held senior positions in international organizations, such as the African Union Commission, in a variety of areas including policy and planning. She serves as a member of Board of Trustees for the International Food Policy Research Institute (IFPRI). She holds a PhD in Agriculture and Applied Economics from the University of Minnesota.

Programme

08:30 – 09:30 *Registration*

09:30 – 09:40 **Opening**

09:40 – 10:00 **Welcome by Rob de Vos** (Ministry of Foreign Affairs)

10:00 – 10:05 **Introduction of Food & Business Research**
Video with Cora Govers (NWO-WOTRO) and Frans Verberne (Food & Business Knowledge Platform)

10:05 – 10:50 **Key-note session: Improving Research Impact for Policy and Practice**
- Cees Leeuwis (Wageningen UR, the Netherlands) - Reasoning from Impact to Research
- Brave Ndisale (FAO, Malawi)

10:50 – 11:15 *Coffee & tea break*

11:15 – 13:00 **Thematic sessions: round 1**
1. Innovations for food security
2. Nutrition and consumption
3. Inclusive business development for food security
4. Knowledge co-creation for food security

13:00 – 14:00 *Lunch*

14:00 – 15:45 **Thematic sessions: round 2**
5. Capture fisheries, aquaculture and food security
6. Urban food systems
7. Climate Smart Agriculture
8. Food security, conflict and resilience

15:45 – 16:10 *Coffee & tea break*

16:10 – 16:20 **From dialogue towards action**

16:20 – 16:55 **Open fishbowl discussion: Capturing insights and looking forward**
Starting panel: Cees Leeuwis (Wageningen UR), Brave Ndisale (FAO), Melle Leenstra (Ministry of Foreign Affairs), Patricia Wagenmakers (Ministry of Agriculture, Nature and Food Quality)

16:55 – 17:05 **Broker of the Year Award**

17:05 – 17:15 **Concluding remarks**

17:15 – 19:00 *Drinks*

Theme 1 – Innovations for food security

Conference "Research & Policy: two peas in a pod? A dialogue for food security impact"

Concept note drafted by: Worlali Senyo, Wussah Amos Olertey (Farmerline Ltd. Ghana), Ellen van Andel (TU Delft), Frank Anor (CGIT), Melle Leenstra (Ministry of Foreign Affairs), Frans Lips (Ministry of Agriculture, Nature and Food Quality).

Key statements

- Approaches for development of innovations that are not participatory, or take into consideration social differentiation and power relations, will fail to achieve uptake in the later stage.
- Innovations are the new holy grail in agro-development, yet reality shows many small-scale farmers lack the required entrepreneurial skills for uptake of innovation.
- Development and uptake of innovations are intrinsically connected: investment decisions that favour one or the other overlook realities of innovations in Low- and Middle-Income Countries (LMICs).

Rationale

The majority of smallholder farmers depends on rainfed agriculture to meet 80 percent of food demand worldwide. By 2050, the United Nations and Food and Agriculture Organization (FAO) project the global population will result in a doubling of demand for food. Feeding this expanded population nutritiously and sustainably in the face of climate change and vulnerabilities requires substantial improvements to the global and local food systems. These issues are critical because they are strongly connected to achieving at least nine of the UN Sustainable Development Goals (namely: SDGs 1, 2, 3, 8, 9, 12, 13, 15 and 17) to ensure an end to poverty, protect our planet, and guarantee prosperity for all, especially smallholder women and men. The problem of food security can be addressed through policies, market driven innovations, and multi-stakeholder approaches.

Without technology and innovation, the world will not be able to overcome these challenges. Current innovations around the integration of observation data from satellite imagery, drones, mobile phones, meteorological instruments, localized sensing such as "the Internet of things" (IoT) and citizen observatories are creating new opportunities for improved decision-making in planning, operation and monitoring of agricultural production in an environmentally sustainable manner. These innovations are much needed especially in developing regions. Such innovations can span soil, water, crops, livestock and atmosphere, supporting direct decision-making by governments, research, academia, private sector players and by farmers themselves.

Numerous Dutch funded Public-Private Partnerships (PPPs) projects support the development of innovations in programmes such as FDOV, SWFF, GRP, G4AW, 2Scale, Ghanaveg, or Hortimpact and ARF. Also other donors and charitable foundations are keen to fund innovations. There are various initiatives that support Information and Communication Technologies (ICT) for agricultural development, for example e-soko, I-cow, m-farm). However, these depend partially or entirely on charitable or public development funding. Many of these donor-funded innovation programmes assume leap-frogging, however, the uptake of technologies by farmers is not self-evident. Due to significant initial investments, it is debatable whether the technologies can be taken up by small-scale farmers.

Key lessons, good practices and experiences from ARF and GCP projects

A range of ARF and GCP research projects are working on approaches for development as well as uptake of innovations for food security and present the following issues and angles for debate with Dutch food security policy representatives and other stakeholders during the conference session. Some examples of ARF and GCP projects on innovation development are:

- ARF-1 project Water and weather monitoring services - cocoa farmers Ghana: Ensures accurate tropical weather alert to help farmers improve their farm practices. The project results demonstrate how applying new thinking to address challenges can present opportunities for stakeholders in the industry.
- ARF-1 project Rice-Greengram production Uganda: ICT has the potential to empower and disempower small-holder rural women farmers. The project results show the possible role of ICTs in building capacity, enhancing opportunities, widening scope of rural women's possibilities as well as

providing information, generating knowledge products and pathways that helps farmers to generate and improve on the incomes.
- ARF-2 project Apps for irrigation Bangladesh: This project shows that bundling of knowledge, skills and solutions (ICT-enabled) can significantly contribute farmer's livelihood as well as manage farms more efficiently. This project integrates smart solutions like ICT-based extension and practices to manage irrigation better.

Some examples of ARF and GCP projects on the process of uptake and up-scaling of innovations are:
- ARF-2 project Enhancing local parboiled rice value-chain competitiveness in Benin (PARCR): Many innovation extensions and upscaling fail due to approaches that are not participatory enough. In this project a co-creation approach with Innovations Platforms turned out to be an effective approach to develop and extent innovations.
- ARF-2 project Tomato production without pests and diseases Kenya: The major challenge to upscaling is the perceived high cost and technical difficulty in new technologies by smallholder farmers. This challenge can be overcome by most smallholder farmers transforming from subsistence production to agribusiness. With this transformation these farmers will be willing to embrace new technologies to increase their production.
- ARF-2 project Farmer led Irrigation Development, Mozambique: Smallholder led innovation processes in irrigation and agriculture are until now poorly understood even though their contribution to rural and economic development, food security and poverty alleviation in developing countries is substantial. In this project, Mozambicans farmers developed with little support an estimated 100.000 ha of irrigation compared to 20.000 ha by formal irrigation development projects.
- GCP-1 project Local pork production Brazil: This project develops alternative pig feed for (small-scale) farmers. However, in the Brazilian context it had been found that before this will be uptaken, big farmers need to embrace the innovation and this is a challenge.

Purpose of the session

The objective of this thematic session, "Innovations for food security", is to examine two critical questions related to promoting innovations for food and nutrition security: What types of policy or development interventions can effectively (i) foster relevant innovations in a manner that catalyzes, and is additional to, indigenous innovative capacity of farmers and agribusiness, and ii) ensure uptake of these innovations by policy, private sector and farmers, also referred to as the last-mile problem. Both issues are interrelated: choices made within the (technical) innovation development cycle, such as opportunity identification, technical design as well as selection of stakeholders (e.g. government officers) as enabler, are crucial for the potential for uptake of the innovation.

Outcomes of the session

- Increased understanding of what factors enable contributions of innovations to food security in LMICs, and how this could inform choices made in resource allocation within Dutch foreign and economic policy.
- Evidence-based and impact-driven proposals to better facilitate inclusive development and uptake of innovations in food systems and improve the livelihoods of larger scale as well as small-scale farmers and other low-income food system players.
- Insights on the possibilities and limitations of Dutch public and private sector involvement in the development and uptake of innovations for food and nutrition security.
- Policy brief elaborating on how to approach key issues on development and adoption of innovations to promote food security based on the learnings of ARF & GCP projects

Theme 2 - Nutrition and consumption: Exploring the potential of local foods to alleviate malnutrition

Conference “Research & Policy: two peas in a pod? A dialogue for food security impact”

Concept note drafted by: Anita Linnemann, Sijmen Schoustra, and the F&BKP Office.

Key statements

- To strengthen local and national food systems and advance nutrition in LMICs in a sustainable way, specific interventions to promote healthy diets need to be designed, which take into account the preferences and needs of local consumers in partner countries.
- The potential nutritional benefits and risks of promoting “local foods” within the diet of people at risk and of the general population need to be further explored and compared to the benefits and risks of other nutrition-specific or nutrition-sensitive interventions.
- In parallel, the potential of these various interventions for local and national value chain development may be explored.
- The effectiveness of nutrition-oriented interventions, their outreach, and their sustainability need to be key factors in the EKN project selection procedures.

Rationale

Malnutrition is still rampant in many parts of the world. The vast majority (88%) of countries studied by the Global Nutrition Report[1] faces a serious burden of two or three of forms of malnutrition, stunting, anemia, and overweight. The African region shows an increase in the number of stunted children since 1990 despite a decrease in the prevalence. In 2016, two of every five of the world’s stunted children and more than half of all wasted children lived in South Asia. “Urgent, integrated response is needed if the world is to meet any of the 2030 Sustainable Development Goals (SDG),” states the report. SDG2 specifically includes the ambition to improve nutrition, however, 12 of the 17 goals contain indicators that are highly relevant to nutrition[2]. The Dutch government supports nutrition-specific and nutrition-sensitive solutions to respond to this challenge. There are for example programmes to enhance the fortification of foods (e.g. iodized salt), provide micronutrient supplementation, and test the options for biofortification (e.g. maize with increased levels of vitamin A); while SAM treatment and kitchen gardens are supported too. Enhancing dietary diversity, strengthening the health sector’s role in nutrition as well as in WASH (Water, Sanitation, Hygiene), and fostering the agricultural sector’s role in nutrition, are also part of the policy agenda.

One specific opportunity to improve the quality of diets is to make better use of local and traditional foods. It seems this opportunity is underexploited by international institutions and bilateral donors, even if there have been endeavours in the past by for example the Dutch government to promote these. Local foods have several advantages, such as that they are culturally embedded and are often easily available for rural consumers as they are predominantly grown (or gathered) by local (small-scale) producers.

At the same time, these foods have not always been considered or visible in formal food markets or in national nutrition policies, often because of a lack of information. The nutritional value of local products is often not known, primarily because it concerns a large number of crops and animal food products commonly produced and processed using non-standardized and varying methods, resulting in large variations in nutritional content. Thus, it is not easy to classify and understand local foods, let alone including them in diet optimization models. When optimizing and formalizing local food products into the formal market, the aspect of optimization of nutritional potential should also be taken into account, amongst other factors.

The potential of local/traditional foods to improve diets has been highlighted by several authors, including various NWO-WOTRO/F&BKP Food & Business Research projects. They have argued that to improve nutrient intake, Food Based Recommendations modelling the optimal combination of foods to achieve the maximal nutritional intake utilizing locally available and culturally acceptable foods, are amongst the best and cost-effective options.

[1] https://www.globalnutritionreport.org/2017/11/03/press-release/
[2] http://scalingupnutrition.org/nutrition/nutrition-and-the-sustainable-development-goals/

Key lessons, good practices and experiences from ARF and GCP projects

A range of research projects are relevant for this discussion:

- GCP-1 project Zambian traditional fermented foods found that adding a traditional and locally available fermented milk product to the diet can increase the uptake of several micronutrients as well as the intake of protein to recommended levels.
- GCP-3 project Scaling-up nutrition-sensitive agricultural initiatives (in South East Asia) constructs a generic framework and guidelines for developing, replicating and scaling-up of effective nutrition-sensitive agriculture interventions based on a cross-country, multi-level analysis of the barriers and facilitators in existing cases.
- ARF-1 project Agroecological food resources for healthy infant nutrition in Benin uses locally produced crops to develop and promote a nutritionally approved, safe and affordable infant food. Three novel food formulas were developed.
- ARF-1 project Improved varieties of spider plant for Africa (Benin and Kenya) investigates the nutritional and market opportunities of spider plant varieties and found that spider plants can contribute to household diets and women livelihoods.
- ARF-1 project Affordable protein fortifies cereal products developed in Uganda investigates how enhanced cereal based flours with animal protein from cow milk can significantly contribute to the reduction of malnutrition. The project uses local food materials as sources fortificants.
- ARF-3 project Enhancing Kersting's groundnut production-marketability in Benin focuses on improving seeds and market linkages in Benin for groundnut, taking into account consumer preferences.
- ARF-3 project Valorisation of Moringa leaves to alleviate malnutrition in vulnerable groups in Benin seeks scientific evidence to enable scaling up the promotion of Moringa Oleifera as a valuable local food resource and income source, to improve maternal and early child nutrition and health.
- ARF-3 project Commercial Seed System for African Indigenous Vegetables (in Uganda) includes the opportunities to foster women entrepreneurship in indigenous vegetable seeds value chains.

Purpose of the session

Identify the key opportunities for Dutch policy and business to more effectively address nutritional challenges in partner countries and other LMICs. In this context, explore and assess the added value of actions to enhance the use of local foods as part of sustainable and healthy diets, and to strengthen the local and national value chains of those foods. Compare the effectiveness, outreach and sustainability of these actions to those of other nutrition-specific or nutrition-sensitive interventions that the Dutch government is now supporting.

Outcomes of the session

- More awareness among participants of the responsibility of agricultural value chain actors to deliver on nutritious food crops, and of the challenges to foster healthy consumption patterns among consumers.
- Assessment of the potential benefits of "local foods" within the diet of people at risk and the general population in LMICs. How do these compare to the potential benefits and risks of other nutrition-specific or nutrition-sensitive interventions that the Dutch government is now supporting?
- Formulation of a number of recommendations for Dutch or national policy on that basis, taking into account lessons from past experience with support to 'local foods'. Including specification what Dutch policy should do differently, to respond (better) to the preferences and needs of local consumers in partner countries; to current food system transitions?
- Identification of potential partners and partnerships to facilitate implementation of these recommendations.
- Identification of elements for a further research agenda.

Theme 3 – Inclusive business development for food security

Conference "Research & Policy: two peas in a pod? A dialogue for food security impact"

Concept note drafted by: Guus van Westen – Utrecht University.

Key statements

- Inclusive business is a donor-driven concept that lacks sustainable interest of the private sector: incentive schemes to enhance inclusive business development are not viable, as they limit potential for businesses to develop, and the focus on inclusiveness disappears with the end of public funding.
- Integration of small-scale operators in value chains cannot reach more than just a part of the target population, as it implies exposure to competition from elsewhere. Policy aimed at promoting "inclusive business" will inevitably exclude the weaker members of the target group.
- Responsible corporate (large-scale) operations deliver better livelihoods to local workers than a dogged pursuit of linking small-scale operators to commercial value chains. Inclusive development is better achieved by focusing on delivering adequate and sustainable livelihoods, irrespective of the business model used.

Rationale

Inclusive business models are presented as an effective way to avoid a widening rift between small-scale producers and mainstream food chains by means of linking small producers and commercial value chains. It is not just the challenges of sustainability, poverty and equity at the global level that make inclusive business models fashionable, but also the shift in development policy that favours a leading role for the private sector. If the private sector is to deliver equitable and sustainable development outcomes, then it must integrate societal objectives beyond the firm interest. Inclusiveness has become a popular catchphrase. However, in both academia as well as practice there is a wide diversity of perceptions and conceptualizations of what is meant with "inclusive business", leading to misunderstanding and confusion in debates and policy interventions. Successive definitions have put more emphasis on realizing inclusiveness by means of (1) functionally integrating the poor in corporate value chains, and (2) ensuring that part of the benefits accrue to these "beneficiaries". How this works in practice is an open question. For inclusive business models to succeed, effective partnerships between unequal actors in a chain or industry must be realized[1], and this is not easily accomplished.

While such business models are obviously more inclusive than centralized systems (- compare smallholder chains with plantations), this is not necessarily the whole story. Positive examples notwithstanding, business models with large numbers of small suppliers/vendors/etc. have very mixed performance records[2]. Transaction costs tend to be high, while inclusion in value chains of more than local reach incur considerable competitive pressures, either limiting inclusion to a selection of "fit players" or necessitating support from outside - thus challenging sustainability. In some cases, a business model that is not intrinsically inclusive – for instance, large-scale agribusiness using wage workers – may end up offering better livelihood opportunities than a contract farming system linking smallholders to agro-food corporations. There is every reason to be cautious with the use of large-scale centralized business models – especially when these entail the transfer of rights, such as ownership or use rights on natural resources such as land and water from poor populations to corporations, but the point here is that "inclusive" does not always translate neatly into successful pro-poor growth.

Key lessons, good practices and experiences from ARF and GCP projects

What can be done to make inclusive business models more effective? Research conducted within the framework of NWO-WOTRO's ARF and GCP programmes suggests a number of potential approaches:

- One is the pursuit of collective efficiency through more effective chain collaboration and perhaps a shortening of chains;
- Another is the pursuit of a vigorous innovation agenda, improving quality, reducing costs; in other words: upgrading (possibly involving upscaling as well).

[1] Chamberlain & Anseeuw 2017.
[2] Cf. Prowse 2012 on smallholder systems.

A range of projects work on Inclusive Business development and present the following issues and angles for debate with Dutch food security policy representatives:

- ARF-1 project Land, Inclusive Business & Food Security Mozambique: The researcher looks back at "the study of unfulfilled promises and neglect". Investors come and go, leaving communities with various promises of inclusion (as workers, outgrowers etc.) but never even achieved concrete contracts. So, not even the slightly "better-off" poor get any benefits from the investments studied. This at least partly results from the investors' incapacity to make their business genuinely successful in peripheral regions, and a lack of local consultation.
- ARF-2 project Cassava for food security in Uganda: The private sector in Uganda is weak, still developing capacity to support the different nodes of the value chains. Farmer cooperatives are being revived to provide the much needed alternative to innovation and technology uptake. This creates a policy dilemma in a fully liberalized economy whereby farmers lack entrepreneurial skills.
- GCP-2 project Follow the Food: Food systems are increasingly "global", linking various stakeholders over long distances. This may promote production, productivity, sustainability and food/nutrition security, but can also harm vulnerable groups depending on the local resources base. What are the possibilities and limitations of inclusive business models with respect to local food security? The results so far question the use of business models and value chain approaches to grasp "inclusiveness".
- GCP-2 project IBM intermediaries: Inclusive agribusiness among NL and LMIC enterprises can contribute to improved food security. Institutional and cultural voids cause barriers for these cross border collaborations. The research reveals the vital role of innovation intermediaries in facilitating successful collaborations that reach scale, by mapping key characteristics, approaches and business model innovations.
- GCP-2 project Women Food Entrepreneurs: For women food entrepreneurs (producers, processors and marketeers) in Kisumu (Kenia) and Ouagadougou (Burkina Faso) the social and economic transaction costs for upscaling their food business are too high. What role could local business and other stakeholders play to reduce these? Our research project points out that the food value chains of women food entrepreneurs are typically *very short* in Kenyan and Burkinabé urban markets; with few nodes on the chain and low value addition at each node (e.g. through processing or branding). How to create *shared value* in *short food value chains* in which women food entrepreneurs have a relatively high presence?

Purpose of the session

This session aims to link (interim) findings and approaches of ARF and GCP projects on the development of inclusive business (IB) with Dutch FNS policy representatives and other public and private actors working on FNS issues. This should lead to reflection on the assumptions underlying policies on the promotion of IB; assessment of the viability of IB models in the studies contexts, and identification of requirements for more informed development of Dutch FNS policy for enhancement of IB.

Outcomes of the session

- Increased mutual understanding between researchers and Dutch FNS policy makers; who is working on what, where and how in the field of Inclusive Business.
- Increased understanding of the potential and limitations of Inclusive Business models to promote food security, and how this could inform Dutch foreign and economic policy.
- Evidence-based and impact-driven proposals to better integrate Inclusive Business in food systems and improve the livelihoods of farmers and other low-income food system players
- Insights on the possibilities and limitations of Dutch public and private sector involvement in the development of Inclusive Business.

Theme 4 – Knowledge co-creation for food security

Conference "Research & Policy: two peas in a pod? A dialogue for food security impact"

Concept note drafted by: Mirjam A.F. Ros-Tonen and Edith van Ewijk[1]

Key statements

- Knowledge co-creation in multi-stakeholder processes for food security creates opportunities for evidence-based policymaking in the South, but for policymakers in the Netherlands research results usually come too late to be relevant.
- Knowledge co-creation is too time-consuming and complex to solve a wicked problem like food insecurity.
- Research driven by questions from policy or practice is societally more relevant, but compromises scientific freedom and rigour needed to create new knowledge or knowledge for transformational change.

Rationale

The above statements illustrate different opinions and dilemmas regarding knowledge co-creation – defined as joint learning and knowledge exchange processes through which farmers, value chain actors, practitioners, policymakers and researchers create and negotiate new knowledge. Dutch, EU and global policies promote knowledge co-creation in partnerships and platforms, acknowledging that research and sharing of knowledge and expertise are key to achieving global food security. This is reflected, first, in the November 2011 letter to Parliament by former Minister Ben Knapen, which outlines the policy regarding knowledge platforms, through which researchers from the Netherlands and developing countries would work together from the outset with companies, NGOs and government, with embassies bringing Northern and Southern parties together. Second, the Dutch Diamond Approach from 2012 encourages Public-Private Partnerships (PPPs) between the government, private sector, research institutions and civil society organizations to implement Dutch development policy. Third, the Dutch aid, trade and investment agenda (2013) acknowledges that the private sector and knowledge institutions play an increasingly important role in finding solutions for global problems such as food security and therefore promotes their collaboration with public bodies and civil society organizations. Fourth, European research policy advocates multi-stakeholder collaboration to address complex global research challenges such as food security, climate change and poverty alleviation, with significant private sector involvement. Finally, the Sustainable Development Goals, notably SDG 17, emphasizes "the importance of multi-stakeholder partnerships between governments, the private sector and civil society for mobilizing and sharing knowledge, expertise, technology and financial resources for achieving the SDGs". All these policies assume that collaborative partnerships can contribute to poverty alleviation and food security by pooling academic knowledge and NGO's knowledge of local circumstances with market-oriented financing and an enabling government. This would make knowledge more relevant for policy, entrepreneurs and farmers, and generate private funds for research, while a market-oriented approach would enhance efficiency.

These assumptions have permeated research funding through five knowledge platforms installed in 2012 to address the priority themes of the Ministry of Foreign Affairs for International Cooperation. One of these is the Food & Business Knowledge Platform which supports the Global Challenge Programme (GCP) and Applied Research Fund (ARF) projects financed by WOTRO Science for Global Development. This research is to be carried out by consortia consisting of academic and non-academic partners from the North and the South, assuming that "collaboration between stakeholders in and related to food value chains is essential for food security and encourages co-creation".

Knowledge co-creation in multi stakeholder platforms, however, does not occur automatically. Deeply rooted work practices and the way in which various stakeholders are rewarded and held accountable in their work can pose barriers to effective and efficient knowledge co-creation processes. Moreover, carrying out research through multi-stakeholder partnerships is relatively new both in the Netherlands and its partner countries in the Global South. This session aims to share best practices, challenges,

[1] Inputs from Yves Van Leynseele (UvA), Vanessa Nigten (F&BKP), Sonja Döpp (WOTRO-ARF), Marcel Vernooij (Ministry of Foreign Affairs), Patricia Wagenmakers (Ministry of Economic Affairs) and other members of the Advisory Board of the WOTRO-F&BKP Science-Policy Dialogue Conference are gratefully acknowledged.

experiences and perspectives regarding knowledge co-creation and how it can help increase synergies between research and policy.

Key lessons, good practices and experience from ARF and GCP projects

A survey among ARF and GCP project leaders (n=37; 25 ARF, 9 GCP, and 3 both GCP and ARF) revealed that most knowledge co-creation activities are labelled as "learning platform", "innovation platform", and "community of practice (CoP)". Specific knowledge co-creation approaches mentioned included "partner and stakeholders workshops", "farmer research groups", "validation workshops" and "stakeholder analysis".

Good practices

Respondents are generally positive about engagement of various stakeholders and access to different knowledge types through platforms. Although it is still early to identify changes, examples of changes already occurring were given, including farmer empowerment, improvement of sowing methods, establishment of a joint venture, changed perceptions among community members, and influencing and changing policies.

Key lessons

Regarding involving various actors in knowledge co-creation in multi-stakeholder platforms:
• Joint agenda setting, including farmers as well as the private sector as co-creators of knowledge, is key to effective and relevant knowledge co-creation. • Mismatches in knowledge, backgrounds and "languages" need to be identified and bridged, for which face-to-face interactions are essential. • The private sector can play a catalysing role in knowledge co-creation by bringing in expertise on quality standards, stimulating innovation, providing training in entrepreneurship and marketing, and knowledge of markets. • Innovations resulting from knowledge co-creation require prior thinking about ownership of new knowledge (patents and copyrights).
Regarding influencing policy making:
• Knowledge co-creation processes have impacted policies in various partner countries (e.g. plantation development policy in Ghana, sesame quality control policies in Uganda) by actively engaging policymakers in knowledge co-creation in multi-stakeholder platforms or engaging researchers in policymaking processes. • Challenges to research uptake by policymakers in both the Netherlands and partner countries are policy changes after elections and frequent personnel turnover.
Regarding the way of doing research:
• Knowledge exchange and co-creation in multi-stakeholder platforms enhances research-policy linkages and evidence-based policymaking by facilitating the sharing of researchers' expertise and insights in an early stage. • The time lag between knowledge needs of policymakers and practitioners and results of research produced by researchers can be bridged by regular communication and through accessible products like info sheets. • Engaging young researchers in the Global South increases their job opportunities in the food & business sector and is an added value of knowledge co-creation which is also in line with Dutch policies.

Purpose of the session

- To increase mutual understanding of different perspectives and roles regarding knowledge co-creation among policymakers, private sector, practitioners and researchers from both the Netherlands and partner countries.
- To share best practices, challenges and solutions from the ARF and GCP projects regarding strengthening policy relevance and use of research for greater food security through knowledge co-creation.
- To discuss if and how knowledge co-creation can make a difference for food security and policies.

Outcomes of the session

- Increased mutual understanding of different perspectives and roles regarding knowledge co-creation among policymakers, private sector, practitioners and researchers in both the Netherlands and partner countries.
- Increased insights into ways and conditions of enhancing policy relevance and use of (scientific) knowledge through co-creation. Recommendations on how synergy between research and policy can be increased for greater food security.

Theme 5 - Capture fisheries, aquaculture and food security

Conference "Research & Policy: two peas in a pod? A dialogue for food security impact"

Concept note drafted by: Frejus Thoto (ACED) and Joeri Scholtens (University of Amsterdam)

Key statements

- Fish is in many ways the orphan of the food security broad sector. Despite its significant contribution to Food and Nutrition Security (FNS) and livelihoods of millions, the sub-sector is not given the same priority as other sectors in the agricultural landscape. What are the implications of this omission, and how can it be resolved? This is valid from both donor and developing countries' perspectives.
- If the fishery sector is put back on the food security agenda, what should be the focus? Small-scale fishery or large-scale fishery? Capture or aquaculture?
- Shortage in capture fisheries has built the case for increased investments in aquaculture. Yet, improving the contribution of fish to the food security for the poor is not primarily a matter of increasing fish production. Other concerns such as access, inclusiveness of value chains, income distribution, post-harvest management need to be appropriately addressed.

Rationale

This session takes as point of departure the question of how to improve the contribution of capture fisheries (marine and inland) and aquaculture (marine and inland) to global and local food security. As such, it takes place in a policy context of the intersection of Sustainable Development Goal 2 and 14.
There is a growing recognition, both by the United Nation's High-Level Panel of Experts on fish and food security and a range of recent high impact article from the scientific community, that fish should be put higher on the agenda to curb malnutrition especially in developing countries. There are at least three arguments that militate for that quest. First, fish is a *quick*-win solution for nutrition as a small portion of fish is rich in essential nutrients such as vitamin A, calcium, iron and zinc and approximately three out of every seven people globally rely on seafood as a primary source of animal protein[1]. Second, the fishery sector provides, directly or indirectly, income for more than 660 million people in the world, the majority of them being from poor countries in Africa and Asia. Third, these two positive facts are under threat from a range of factors, including overfishing, pollution, marginalization of small-scale fishers and competing uses of coastal and marine space. Given the current stagnation of the capture fisheries in many parts of the world, and the difficulties encountered in achieving better governance, the question of under what conditions fish can be sustainably produced through capture and farming is a topic of much heated debate. The question here in relation to our topic is how sustainable fisheries and aquaculture management would look like if food security concerns were taken as point of departure. This has led to a number of vital debates with a bearing on policy, of which we have selected two:

1. Inclusive value chains and supporting small-scale famers - Food security is not only a matter of producing more (fish) food: it is eventually as much question of distribution and access and how fish moves through local and international value chains to reach consumers. Fish is globally the most traded food commodity but there are major challenges in ensuring that fish value chains benefit those who are most vulnerable, i.e. smallholders, women and low-income consumers. In particular the role of small-scale fisheries and aquaculture is widely acknowledged to be pertinent for ensuring a more equal sharing of the benefits from the sea's ecosystem services, both in terms of food and livelihoods. This poses the question how marginal small-scale fisheries/fish farmers can be supported and how their interests and benefits can be maintained and improved in the fishery value chains?

2. Aquaculture production systems - Capture fisheries have been globally stagnant and most of the fish production growth over the last few decades can be attributed to aquaculture. This does not mean that aquaculture is automatically the answer for all fish related food security concerns. While there are important exceptions, the significance of aquaculture for improving the food security for seafood reliant nutrition vulnerable nations has been questioned[2]. Apart from environmental problems, the growth of high value aquaculture species produces for middle- and high-income consumers[3], the nutritional value is often lower than that of relatively low-priced small pelagics[4], and many aquaculture practices are dependent on fishmeal inputs produced from low-priced fish[5]. The

[1] Kittinger et al. 2017; Thilsted et al. 2016; Beveridge et al. 2013
[2] Hall et al. 2012; Golden et al. 2017
[3] Beveridge et al. 2013 Golden 2017
[4] e.g. Beveridge et al. 2013; Thilsted et al. 2016
[5] e.g. Kittinger et al. 2017; Golden et al. 2017

question is therefore under what conditions can aquaculture make significant positive impact for the food security of the poor?

Key lessons, good practices and experiences from ARF and GCP projects

Please find additional information on the ARF and GCP projects in the Annex.

- ARF-2 Resilience inland fishers Benin examines regulations among fishermen to share common water resources and evaluates if customary rules can cope with new challenges. Results indicate 1/3 of fishermen are food insecurity and water resource management is not functioning.
- ARF-2 Technology innovations towards sustainability in Indonesia's tuna supply chains implements a technology platform on top of an existing paper-based traceability system in tuna fisheries. Fishers desire technology to predict issues at sea and ensure protection, while processors desired greater automation of logistics. Based on this, coordinated technological interventions are implemented.
- ARF-3 Fish feeds for catfish breeding Benin (ProfishBenin) aims at developing and promoting affordable, nutritive, and easy to use fish feeds based on locally available feed ingredients.
- GCP-1 Nutritious system pond farming in Viet Nam. At present, aquaculture feeding systems are not considering the contribution of the pond's food web to animal's diets. Using shrimp aquaculture as a model, the project designs a "nutritious-system" concept that increases the contribution of natural feed produced in ponds to total production to make aquaculture less reliant on fish-oil and fishmeal.
- GCP-2 Aquaponics Ethiopia: sustainable integrated fish vegetable production proves the technical functioning of aquaponics, demonstrates increased production of fish and vegetables and supports entrepreneurs to start micro-enterprises, selling their produce locally. Main challenges remaining are knowledge dissemination (aquaponics requires high knowledge input) and business development.
- GCP-2 Serious games for sustainable shrimp farming in Viet Nam. Shrimp aquaculture provides income to smallholders, but has environmental trade-offs. In Vietnam's Mekong Delta integrated mangrove-shrimp aquaculture is compulsory in the buffer zone, but adoption beyond this is limited due to short-term interests. The project develops an Agent Based Model (ABM) to support planning.
- GCP-2 Governing aquaculture in Southeast Asia (SUPERSEAS): Southeast Asia's aquaculture industry has strong links to the environment in which it's practiced. This has led to a range of production risks. To overcome these the project assessed the potential for market-led area-based management of aquaculture.
- GCP-3 Sustainable aquaculture to support mangrove forest restoration in Indonesia (PASMI) focuses on multi-trophic coastal aquaculture systems, which support the restoration of mangrove forests. In these systems, different organisms are produced in an integrated way, thereby supporting resilient livelihoods while also safeguarding the mangrove functions for coastal protection.
- GCP-3 Fish for food security in city regions of India and Ghana (FiSH4FOOD) aims to understand how low-price fish chains contribute to urban food security in India and Ghana and to identify policy and business interventions that have potential to improve them.

Purpose of the session

For the sector to continue fulfilling its role, there is a need to ensure effective support, rooted in the fishery/farmers communities' needs, from all stakeholders. These include the communities themselves, policymakers, researchers and private sector. This session aims at creating an effective knowledge sharing platform to discuss the three points presented above: sustainable fisheries management, aquaculture and distribution of benefits. The session aims to enhance uptake of research results by policymakers on fisheries and food security building on ARF and GCP projects. The ultimate objective is to identify key pathways that would improve the contribution of fisheries and aquaculture to FNS.

Outcomes of the session

- Increased mutual understanding between researchers and Dutch policy makers; who is working on what, where and how in the field of fisheries and food security.
- Increased understanding of the contributions of the fisheries and aquaculture sectors to food security, and how this could inform Dutch foreign and economic policy.
- Proposals how to better integrate the fishery sector in international food security agenda of the Dutch government.
- Insights on the possibilities and limitations of Dutch private sector involvement in tackling fish-food security solutions in the global south.

Theme 6 – Urban food systems

Conference "Research & Policy: two peas in a pod? A dialogue for food security impact"

Concept note drafted by: Nicky Pouw, Donald Houessou, Ben Ofori, Richard Yeboah, Ben Sonneveld, Rosanne Metaal & Monique Calon.

Key statements

- We need to ensure to build-in circular economy objectives into urban food systems.
- Urban food system need to become more socio-economically viable and sustainable.
- Current Dutch development cooperation is often focused on rural poor. Policy needs to focus on regional rural-urban interfaces.
- Contribution to FNS by urban agriculture is vital to poor urban dwellers, but limited in scale due to limited space in the city and the inefficiency of urban agriculture.

Rationale

In the midst of global urbanization, poverty and climate change there is an increasing urgency for making cities healthier and reliant on sustainable urban food systems. By the year 2030 an estimated 5 billion people will live in cities and towns, with especially African and Asian cities driving this trend.[1] This will lead to major social, economic and ecological transformations impacting upon urban resource use and distribution. The pursuit of healthier, more just and sustainable cities is supported by three (inter-related) contentions, with links to the UN Sustainable Development Goals. First, rapid urbanization puts urban fresh food supply chains and distribution systems under stress.[2] There is a need to re-think the social and business model from the perspective of small-scale food producers and marginalized consumers. (SDG 2 & 5). Their contribution and reliance to urban food and nutrition security is not clearly understood, and therefore is not systematically measured/mapped at the level of urban governance[3]. Second, lack of investments in sustainable soil and water management in urban and peri-urban locations have degraded natural resources, and the rural-urban linkages are not considered (SDG 15).[4] [5] [6] [7] Third, urban waste management policies have overlooked the potential of organic compost as a resource. Despite multiple urban pockets of food and nutrition insecurity affecting diverse vulnerable groups, a lot of fresh food goes to waste in cities without being re-used (SDG 12).[8] Where some urban food producers experiment with food waste management and organic compost, these experiments are rarely upscaled.

These developments show the need to take a more **integrated perspective of urban food systems** – seeing the interconnection with health and nutrition, social inclusion[7], sustainable resource management, economic viability and sustainability, and legal and political support as an overarching goal[3]. For urban food systems to continue to be able to feed the growing urban populations in the future in a healthy, just and sustainable manner, urban conditions and policies need to be reconfigured[9]. Moreover, at the pragmatic level we need to develop a better understanding of what works best for whom and under what conditions. The RUAF foundation[10] propose the following criteria to assess sustainable and resilient food system attributes (*Table 1*):

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[1] UNFPA (2016). *State of World Population 2016*, New York: United Nations Population Fund.

[2] Ericksen, P. J. (2008). Conceptualizing food systems for global environmental change research. *Global environmental change*, *18*(1), 234-245.

[3] Dubbeling, M., Carey, J. & Hochberg, K. (2016) The Role of the Private Sector in City Region Food Systems. RUAF Foundation, http://www.ruaf.org.

[4] Drechsel, P., Gyiele, L., Kunze, D., & Cofie, O. (2001). Population density, soil nutrient depletion, and economic growth in sub-Saharan Africa. *Ecological economics*, *38*(2), 251-258.

[5] Cofie, O. O., Veenhuizen, R. V. & Drechsel, P. (2003). Contribution of urban and peri-urban agriculture to food security in sub-Saharan Africa. Paper to be presented at the Africa session of 3rd WWF, Kyoto, 17th March 2003.

[6] Zezza, A., & Tasciotti, L. (2010). Urban agriculture, poverty, and food security: empirical evidence from a sample of developing countries. *Food policy*, *35*(4), 265-273.

[7] Ros-Tonen, M., Pouw, N., & Bavinck, M. (2015). Governing beyond cities: The urban-rural interface. In *Geographies of Urban Governance* (pp. 85-105). Springer International Publishing.

[8] Dubbeling, M., Zeeuw, H. D., & Veenhuizen, R. V. (2010). *Cities, poverty and food: multi-stakeholder policy and planning in urban agriculture*. Practical Action Publishing.

[9] Poulsen M. N., McNab P. R., Clayton M. L. and Neff R. A. (2015) A systematic review of urban agriculture and food security impacts in low-income countries. http://dx.doi.org/10.1016/j.foodpol.2015.07.002

[10] RUAF (2016) Vision for sustainable and resilient (city region) food systems. RUAF Foundation: www.ruaf.org.

Table 1 - Criteria of Sustainable and Resilient Food System Attributes

#	Criteria
1	Social sustainability and equity: improved health and well-being.
2	Economic sustainability: increased local economic growth and decent jobs; stronger local sourcing by processors, retailers, caterers etc.
3	Environmental sustainability: improved stewardship of environmental resources and promotion of agro-ecological approaches to production.
4	Urban-rural integration: support a localized food production and supply system and circular resource flows.
5	Increased resilience or reduced vulnerability: increasing the diversity of food supply sources and reducing vulnerability to stresses and shocks.
6	Food governance: improved governance for sustainable food systems.

Source: RUAF Foundation (2016)[10]

Key lessons, good practices and experiences from ARF and GCP projects

- GCP-2 project Women Food Entrepreneurs in city slums Kenya and Burkina found that for women food entrepreneurs (producers, processors and marketeers) in Kisumu (Kenia) and Ouagadougou (Burkina Faso) the social and economic transaction costs for upscaling their food business are too high. What role could local business and other stakeholders play to reduce these?
- GCP-2 project Follow the Food – Dutch agribusiness and local food security in Africa found that In spite of obvious connections, rural and urban issues continue to be viewed as belonging to separate domains. Specifically for food and nutrition security this is counterproductive. How to overcome this containerized thinking, in favour of an integrative approach to food, nutrition and business that links the urban and rural domains?
- GCP-3 project Allotment gardens and food security in Urban Africa experienced that development of peri-urban agriculture not only depends on a convincing storyline of benefits for food and nutrition security but also requires the right legal motives and political support at higher and local levels to enable decision makers to assign land to allotment gardens.
- ARF-1 project Improving agricultural productivity using organic waste in Ghana found that the utilization of organic waste for urban agricultural has great potential, however, to achieve this effective support systems and institutional arrangements are necessary to ensure effective Public Private Partnerships for driving waste separation and compost production initiatives.

Purpose of the session

The purpose of the session on Urban Food Systems is to bring together researchers, practitioners and policymakers on urban food systems from the ARF and GCP projects and Dutch policy to identify channels for developing and using evidence-based research in practice. Specifically, we aim to build on the specialized scientific and policy knowledge available to co-develop parameters and criteria of (i) circular economy to assess urban food systems in varied contexts (ii) social-economic sustainability, and (ii) potential use of Dutch knowledge internationally, and *vice versa*.

Outcomes of the session

- Increased understanding of the context-specific ways to achieve economic viability of urban food systems in sub-Saharan African cities, and cities in the Netherlands.
- Comparative insights and new ideas on how urban food systems can build-in circular economy objectives & become socially and economically sustainable.
- Increased linkages between evidence-based research outputs & policy affecting urban food systems.
- Policy brief highlighting the outcomes of the session.

Theme 7 – Climate Smart Agriculture in East Africa[1]

Conference "Research & Policy: two peas in a pod? A dialogue for food security impact"

Concept note drafted by: Dawit Solomon, Catherine Mungai, Maren Radeny - CCAFS East Africa.

Key statements

- Without adoption of Climate Smart Agricultural (CSA) technologies and innovations farming and pastoral communities in East Africa will not be able to deal with the effects of climate variabilities and change.
- Current and emerging policies need to include options to facilitate and accelerate uptake and scaling up strategies of CSA in East Africa, and to be informed by research to achieve this.
- Without innovative finance mechanisms that link and blend climate and agricultural finance and investments from public and private sectors, National Adaptation Plans (NAPs) and Nationally Appropriate Mitigation Actions (NAMAs) will not be effective.
- In a climate change affected context private sector engagement alone will not be sufficient to develop inclusive small and medium-sized enterprises (SMEs) in the agriculture, value chain and food sector.

Rationale

The Intergovernmental Panel on Climate Change (IPPC) categorizes East Africa as the most vulnerable continent to climate variability and change[2]. The many complex and compounded impacts of climate variability and change on agricultural production are contributing to food and nutrition insecurity, poverty, migration, conflicts and other destabilizing challenges in the region. Projections indicate that East Africa will experience an increase in average temperatures projected to rise between 4 to 6 °C by 2100, accompanied by more frequent heat waves and stress. Approximately 75.5 million people in the region are economically involved in agriculture, either in full-time employment or as a main livelihood activity. About 95 percent of the food in the region comes from rain-fed subsistence agriculture that is highly vulnerable to adverse weather conditions such as droughts, dry spells and variable rainfall[3]. Recognizing the vulnerability of East African agriculture to climate variabilities and change, and the sector's potential to contribute to GHG emissions, agriculture and other land-uses in the region offer the significant potential co-benefit to reduce emissions and support countries in the region to develop their economies along low emission development (LED) pathways through more efficient agricultural and food production systems. CSA[4] offers unique opportunities to meet the multiple objectives of improving food and nutrition security, enhance adaptation to climate change and reduce GHG emissions at local scales. Agriculture in the current context is broadly defined to include crops, livestock, fisheries and forests. CSA is thus an approach that helps to guide actions to transform and reorient agricultural systems to support development and food and nutrition security effectively and sustainably under a changing climate.

GCP-4 – Eight newly funded research projects on CSA about to start

The session will bring together eight projects that have recently been funded within the fourth GCP Call, a collaboration with CCAFS[5]. To strengthen the CCAFS efforts, and further promote scaling up of CSA,

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[1] A background document has been provided for further elaboration on the issues described; please consult for more information.
[2] IPCC, 2014. Summary for policy makers. In: Climate Change 2014: Mitigation of Climate Change. Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (Edenhofer, O., Pichs-Madruga, R., Sokona, Y., Farahani, E., Kadner, S., Seyboth, K., Adler, A., Baum, I., Brunner, S., Eickemeier, P., Kriemann, B., Sovolainen, J., Schläümer, S., von Stechow, C., Zwickel, T., and Minx, J.C. (eds.)). Cambridge University Press, Cambridge.
[3] FAO, 2016. Eastern Africa Climate-Smart Agriculture Scoping Study: Ethiopia, Kenya and Uganda. By Njeru, E., Grey. S. and Kilawe, E. Addis Ababa, Ethiopia.
[4] "*CSA is defined as agriculture that sustainably increases agricultural productivity and incomes, adapts and builds resilience to climate change, and reduces and/or removes GHG emissions where possible"* FAO. 2013, Climate-Smart Agriculture: Sourcebook. Rome, Italy: Food and Agriculture Organization of the United Nations.
[5] Since its inception in 2010, international and regional organizations and countries are actively implementing policies, strategies and programs to promote and upscale CSA. As part of this initiative, the CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS) have been working with policy makers and other stakeholders in East Africa (i.e., Ethiopia, Kenya, Tanzania and Uganda) to identify suitable policy and institutional frameworks that support uptake of CSA. This entails making available both technology and evidence from research to support policy development and implementation at different levels—local, national, regional and global—through continued engagement with policy makers in Ministries of Environment, Agriculture, Livestock and Fisheries, to ensure emerging policies and strategies on climate change, agriculture and food security are informed by scientific evidence (Dinesh D, Aggarwal P, Khatri-Chhetri A, Loboguerrero Rodriguez AM, Mungai C, Radeny M, Sebastian L, Zougmoré R. 2017. The rise in Climate-Smart Agriculture strategies, policies, partnerships and investments across the globe. Agriculture for Development 30:4-9).

CCAFS and GCP collaborated in this Call to identify approaches for scaling of CSA in East Africa. As part of this partnership, the following eight projects were recently funded. They will start their research activities early 2018 and will be presented during the session in the conference, which allows policy representatives to engage from the onset:

- Business models Ethiopian and Kenyan dairy chains: This research aims to describe business models of chain actors and supporters to identify opportunities for scaling up good climate smart practices. It is linked to the CCAFS "*Nationally Appropriate Mitigation Actions*" (NAMA) project in Kenya to reduce GHG emissions from dairy production.
- Understanding and scaling Organizations for Stallholder Resilience: This project seeks to understand when and how the organization of new business models linking farmers to markets leads to resilience of smallholders, in particular youth and women. Resilience will be assessed in terms of development of farmers' adaptive capacity and their engagement with other stakeholders in the system.
- Upscaling climate smart agriculture via micro finance: This project will provide practical and conceptual insight in the appropriate combinations of business training (through Farmer Field and Business Schools - FFBS) and financial services (through Village Savings and Loans Associations – VSLA) that support community-based adaptation (CBA) action plans.
- Inclusive Low-Emission Development (i-LED): East African dairy: This research analyses institutional conditions for scaling i-LED interventions that account for the diversity of practices, development pathways and interests in the Kenyan and Tanzanian dairy sectors.
- Scaling climate-smart nutrient management tools in Africa*:* This project aims to improve the delivery and uptake of nutrient management advisory tools that aim to increase African maize production while avoiding increases in greenhouse gas emissions.
- Citizen's Science for climate smart nutritious varieties: This project will bring "citizen science" into use in variety testing and registration by farmers in Ethiopia and Uganda, with a focus on selection of varieties adapted to climate stress and with high nutritional value.
- Promoting climate resilient maize varieties in Uganda: The uptake of certified maize seed by smallholder farmers is persistently low despite certified seeds having much higher yield potential and more tolerant to drought than the varieties traditionally grown by farmers.
- Climate-Smart Financial Diaries for Scaling in Kenya: This project will support upscaling of the combination of drought-resistant breeds of small-ruminants, horticulture, agroforestry as a promising strategy that is climate-resilient and climate smart in closing nutrient cycles.

Purpose of the session

This session aims to inform Dutch policy representatives that work on policy/interventions related to CSA on the approaches of the GCP-4 projects. It will highlight key issues and entry points for consideration with regard to policy and institutional requirements to enable inclusive and sustainable scaling of CSA for agricultural transformation in East Africa. The session will explore the proposed approaches of the GCP-4 projects and how these may be fed by, or feedback to, questions in development of policy on scaling of CSA. Additionally ongoing ARF research around CSA could feed the discussion.[6]

Outcomes of the session

- Increased mutual understanding between researchers and Dutch policy makers; who is working on what, where and how with regard to CSA in East Africa;
- Increased understanding of the contributions of CSA to food security in East Africa, and how this could inform Dutch foreign and economic policy;
- Evidence-based and impact-driven policy proposals to better integrate CSA in food systems and improve the livelihoods of farmers and other low-income food system players in East Africa;
- Insights on the possibilities and limitations of Dutch public and private sector involvement in tackling CSA solutions in East Africa;
- Policy recommendations (land tenure, trade regulations, price setting mechanisms, energy policy, governance issues etc.) on how to upscale CSA in East Africa and increase investments from public and private sector.

[6] Farmer-led agroforestry innovation research results in Ethiopia - Non-timber forest products in reforestation schemes and tree-crop farms in Ghana - Apps for irrigation Bangladesh - Resilience inland fishers Benin - Biochar-Urine Nutrient Cycling for Health Bangladesh

Theme 8 - Food Security, Conflict and Resilience

Conference "Research & Policy: two peas in a pod? A dialogue for food security impact"

Concept note drafted by: Maarten Voors (Wageningen University), Rojan Bolling (The Broker), Abdullahi Hashi (Ministry of Foreign Affairs), Sebastiaan Soeters (Utrecht University), Corinne Lamain (NWO)

Key statements

- How do we balance inclusiveness and productivity and employment objectives for food and nutrition security interventions in conflict-prone situations? Conflict sensitive designs are needed for interventions that are supported by development practitioners, governments and the private sector. What risks are acceptable?
- Without conflict-sensitive design interventions will lead to induced conflicts by not taking into account existing (invisible) conflict dynamics, which will have adverse effects on vulnerable communities.
- Governments have a responsibility in designing food security interventions in a conflict-sensitive manner and cannot leave this to the private sector, that is driven by other motives (i.e. profit).

Rationale

Populations facing high food insecurity and poverty are increasingly concentrated in conflict affected countries, in total affecting an estimated 1.5 billion people. There is a vicious link between food insecurity and conflict. Often food insecurity increases as a direct consequence of violence, as crops and assets are destroyed or stolen. Damage to infrastructure and increased insecurity undermine market activity driving up the price of food. In addition, as people (temporarily) migrate, fields are left untended and household resources are needed for emergency expenses (such as shelter, health, etc).[1] At the same time, food insecurity and poverty can trigger violent responses[2], especially under weak institutions, authoritarian regimes, the absence of social safety nets and poor economic performance in the rest of the economy.

The key policy question is how Food and Nutrition Security (FNS) interventions can contribute to transforming conflict and promoting stability. This includes a particular focus on conflict affected contexts, as the factors that caused conflict within and between groups are likely to remain key sources of tension. Research has shown that 60% of conflicts recur within ten years, and contexts suffering high food insecurity have a 40% higher risk of relapsing into violent conflict.[3] Understanding the key conflict dynamics is therefore essential when food security interventions are designed and supported in fragile contexts. We draw on lessons learned from ongoing NWO funded projects on interventions to increase food security and resilience in conflict affected countries and highlight their interaction with key drivers of conflict and stability, including potential risks and ways forward. We identify several debates relevant for policy that directly link to GCP and ARF projects.

Key lessons, good practices and experiences from ARF and GCP projects

1. ***Commercialization of agriculture vs resilience and inclusiveness***. Traditionally, interventions in the agricultural sector focused on direct support to smallholder farmers by NGOs or governments. Since 2008, there has been a surge in large scale commercial investments driven by private enterprises. Driven by global food shortages and rising fossil fuel prices investors have reconsidered Africa as the continent with apparently the largest reserves of under-utilized agricultural land. Do these investments help transform the productivity and contribute to development? In theory yes, but the approach has been controversial. Opponents refer to the rise in investments in agriculture as a "land grab", asserting that in particular land acquisitions damage the livelihood opportunities of the rural poor. There is an acute risk for conflict affected countries where often food insecurity is high and the potential for conflict relapse is high.

   This debate directly links to GCP-1 project Helping Poor Farmers Grow Money: Sustainable Cocoa Productivity and Socio-Economic Impacts of International Investments in Sierra Leone. In Sierra Leone, we examine livelihood impacts of a large-scale biofuel plantation. We report findings

[1] Chen, S., N. Loayza and M. Reynam-Querol, 2008. The aftermath of civil war. World Bank Economic Review 22: 63-85
[2] Miguel, E., S. Satyanath and E. Sergenti, 2004. Economic shocks and civil conflict: An instrumental variables approach. Journal of Political Economy 112: 725-753.; Dube, O. and Vargas, J. F. (2013). Commodity price shocks and civil conflict: Evidence from Colombia. The Review of Economic Studies, 80(4):1384–1421.; Nunn, N. and Qian, N. (2014). US food aid and civil conflict. The American Economic Review, 104(6):1630–1666.
[3] FAO (2016) Investing in resilience to sustain rural livelihoods amid conflict. Technical note; PRIO (2016) Conflict recurrence

consistent with a land access and labour supply shock, some people immediately lose out. In the short and long run we find a substantial drop in access to land and (agricultural) incomes, thereby reducing food security. For land owners and plantation workers this is compensated by surface rents and labour income, resulting in increased village inequality. This may increase conflict risk within communities. Without paying attention to how investments impact the resilience of communities these interventions risk doing more harm than good.

2. ***Climate Change Interventions***. There is a push to drive agricultural modernization processes through private sector investments in the Global South. In West African drylands, land concessions required for such agri-businesses are often negotiated through customary authorities, and inject large amounts of money into localized rural systems with low cash bases. Such transactions serve to increase area under crop cultivation on an inter-seasonal basis, as financial spill-overs enable farmers to purchase larger quantities of agricultural inputs and prepare larger tracts of land. Simultaneously, such direct and indirect cash flows also result in larger local herd sizes and an increase in the number of locally-owned cattle, as cash is exchanged for cattle, largely regarded as an interest-accruing, savings buffer. Larger herd sizes, in turn, draw in Fulani pastoralists in search of employment as contract herders for local cattle owners. The simultaneous increase in land under cultivation and increase in the number of cattle increases pressure on natural resources, and increases the risk of conflict between farmers and Fulani pastoralists. Taking Integrated Water and Agricultural Development (IWAD), a private sector, large-scale irrigation initiative in northern Ghana as a case study, the pitch identifies an inevitable pathway from large-scale land acquisitions for agriculture in West-African drylands, to an increase in conflict (and/or the risk thereof) between sedentary and Fulani pastoralists.
   This debate directly links to NWO funded project on climate adaptation strategies and conflict in Burkina Faso, Ghana and Kenya.

3. ***Building resilience; working in a post-conflict setting.*** Working in a post-conflict setting implies working in areas with reduced economic and agricultural development and according issues with food security. The ARF-2 Cassava Applied Research for food security in Northern Uganda deals with such issues and is in its 2nd year of implementation. It has registered positive impact and key learnings. The co-creation approach applied to generate, and share knowledge inspires confidence, active participation, and mutual respect among farmers; organizing and building capacity of farmers in leadership and conflict management enhances social cohesion and reduces violence. The participatory approaches which engage farmers in all activities of the project facilitate faster learning, self-esteem, and guaranteed sustainability. Farming as a business increases penetration and consumption along the value chain however with underdeveloped/ absence of the private sector especially markets, production and sustainability is affected. Effective implementation of relevant standards and policies is critical to farmers penetrating modern value chain markets

Purpose of the session

The session aims to facilitate learning and continued exchange between researchers and policy on key issues around the types of interventions that are needed to decrease food insecurity in conflict affected countries, and how in turn these interventions should be designed in a conflict-sensitive manner. It directly relates to policy priorities captured in SDG 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture, SDG 12: Ensure sustainable consumption and production patterns, and SDG 16: Promote peaceful and inclusive societies for sustainable development.

Outcomes of the session

- Increased attention amongst researchers as well as policymakers working on FNS for the risks and opportunities related to conflict dynamics and how enhance conflict-sensitiveness of interventions
- Increased coordination and exchange of knowledge on conflict dynamics and how to integrate this into activities between practitioners, researchers and policy makers working in the fields of FNS; who is working on what, where and how and what linkages can be made.
- Outline of an international learning agenda for prioritizing future research and interventions to include a focus on conflict dynamics and conflict-sensitiveness (i.e. what interventions? what are outcomes of interest?)
- Increased understanding of how Dutch FNS programmes can promote food security, stability and resilience in conflict affected contexts.

Agrofood Broker of the Year 2017 Award

This year the Food & Business Knowledge Platform (F&BKP) is organizing for the first time the Agrofood Broker of the Year Award. The prize will be awarded to a professional in the field of Food and Nutrition Security (FNS), who has undertaken significant brokering activities in 2016/2017. The jury, consisting of members of the F&BKP network, selected three finalist from the 17 candidates nominated by the public. During three weeks in November, the public was invited to vote for their favourite finalist through an online poll. More than 2,000 votes were received and the winner will be announced during the conference. Apart from winning the award and being honoured for his/her work, the winner will receive a small financial contribution to conduct a knowledge activity with the F&BKP. Please find below a short introduction of the three final candidates:

Addis Teshome

"*Addis has been extremely instrumental in building the 2SCALE portfolio of agribusiness PPPs in Ethiopia, by bringing key actors together to discuss how to move the development of critical value chains forward.*"

Addis Teshome joined IFDC in 2013 as the National Cluster Advisor for the 2SCALE project in Ethiopia. He feels that knowledge brokering helps in securing continuity of development progress by reducing the occurrences for reinvention the wheel and duplicated efforts.

Momo Kochen

"*Momo developed a Tuna Think Tank, which brought together private, government and NGOs sectors to co-create and pitch innovative ideas for fisheries sustainability. This was ground breaking in terms of brokering linkages between groups of people that are not always willing or able to collaborate.*"

Momo Kochen set up the NGO MDPI and is the Director of Programs and Science. For her knowledge brokering is the approach which allows the story of the small scale fisher to reach the international market while also allowing them to understand how the market works and how to use it for their advantage.

Norbert van der Straaten

"Norbert contributes to linking Dutch horticultural input suppliers to East-African farmers through Holland Greentech,. By being an extremely enthusiastic and optimistic personality he convinces both suppliers and farmers to work on the next step of Horticulture in East-Africa."

In 2012 Norbert van der Straaten founded VDS ACAMPO with a local office in Rwanda called Holland Greentech. He increased knowledge at distributor level and farmers level through development of local personnel and farmers via training in a commercial, sustainable, business model as an input and service distributor.

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