Brussels Policy Briefing no. 34

Farmer-driven research to improve food and nutrition security

14 November 2013, Jacques Delors Building, rue Belliard 99, 1040 Brussels, Room JDE 52
http://brusselsbriefings.net

Organised by CTA, the EC/DECVO, the ACP Secretariat and Concord in partnership with INSARD (Including Smallholders in Agricultural Research for Development)

1. Context

The World Development Report (World Bank 2008) underscores the importance of growth in agriculture as a critical catalyst for economic growth and poverty reduction. The report points out that GDP growth from agriculture is shown to raise incomes of the poor 2-4 times more than GDP growth from non-agriculture. Sustainable agriculture plays a key role in tackling food insecurity especially in rural areas. According to the UNDP (2012b) increases in agricultural productivity and better nutrition are important for food security and human development. They argue that increased food production will increase food security by raising food availability and lowering food prices, thereby improving access to food. Agricultural production needs to increase to address this unequal access to food and resources, and to meet the needs of a growing world population. It may need to increase by an estimated 70 per cent globally and by 100 per cent in developing countries by 2050 in order to keep pace with population growth and shifting diets.
The challenge for agriculture is three-fold: to increase agricultural production, especially of nutrient-rich foods, to do so in ways which reduce inequality, and to reverse and prevent resource degradation. Science and Technology (S&T) can play a vital role in meeting these challenges — for example, by developing innovations that smallholders with limited resources can afford and use.

Advances in agricultural S&T have contributed to remarkable increases in food production since the mid-twentieth century. Global agriculture has grown 2.5–3 times over the last 50 years.[1] This has let food production keep pace with human population growth so that, overall, there are enough calories produced per capita. However, progress toward reducing hunger is variable across the world.

The case of research in Africa
The livelihood of over 60% of Africans is derived from agriculture but productivity remains low on the continent whilst all other continents have experienced significant increases. Formal agricultural research in Africa has not been very successful in improving the livelihood of resource-poor farmers. A possible cause of the low impact of research on productivity in Africa could be the way research has been designed and undertaken on the continent.[2]
So many reasons have been given for the stagnation of agricultural development in sub-Saharan Africa. In the first place, small farmers who constitute the bulk of the farming labor lack enough access to improved technologies and thus, have low human capacity for innovation to address ecological, market, institutional and policy challenges. There are also poor infrastructural facilities leading to high transaction costs and low competitiveness of products. Farm subsidies that are provided to farmers in industrialized countries also help in creating unfavorable external markets for African farmers. This, coupled with poverty-induced ineffective internal demand for products has put the farmers at the wrong side of the poverty belt. In addition to these, service provisions at all stages of the commodity chain also suffer debilitating institutional weaknesses. Finally, countries in sub-Saharan Africa have very few policies and regulatory mechanisms that support the participation of local communities and the private sector in decisions on agricultural matters. These technological and institutional

[1] FAO. *The State of the World's Land and Water Resources For Food and Agriculture: managing systems at risk*. (FAO, Rome and Earthscan, London. 2011)
[2] Towards Enhancing Innovation Systems Performance in Smallholder African Agriculture. Proceedings of the first CoS-SIS International Conference, Elmina, Ghana 22 – 26, June 2009. Editors: Arnold van Huis and Anthony Youdeowei

weaknesses hinder the chances of countries in sub- Saharan Africa to enter the path of rapid economic development required to bring the farming populace out of poverty.[3]

For a very long time, agricultural research has largely been thought of as the domain of scientific experts, with farmers at the receiving end of the research outputs. If a variety or a policy fails, farmers are often blamed for their "ignorance and inability" to farm correctly. The question is rarely asked: Is there something wrong with the research itself?[4] For more than 20 years, agricultural research by national systems and international organisations has produced new varieties of cereals like sorghum and millet, and groundnuts, based on selections made in the research station. But very few varieties have been adopted by the peasants, who continue to favour their traditional varieties. This constant failure has driven scientists to involve farmers more in the research process. However, this participation is still rather superficial because the research does not take the farmers' needs and conditions as its starting point. The farmers involved in the assessment caravan made the following observations and recommendations, which were then fed into the citizens' juries: Imbert

2. From traditional research to innovation systems

Traditionally, in Sub-Saharan Africa, agricultural research for development takes place in a linear version starting with the researcher who delivers the outputs or technologies that are supposed to be picked by the extension services who in turn expect farmers to adopt. In this process, the farmer sells products to the marketers who pass the products to the consumers.[5]
Agricultural research for development (ARD) is important for long-term food and nutrition security but only if it responds to the needs of smallholders and vulnerable, food-insecure people. Despite considerable public funding for international research over several decades in Africa, the formal ARD sector is often not producing research outcomes that bring the intended benefits to their target groups.

Edquist[6] defines innovation system as an interaction of different factors (economic, social, political, organizational, institutional, and other factors) that influence the development, diffusion, and use of innovations. Formal ARD can inspire and be inspired by local innovation processes. There is a growing recognition that innovation is not a linear process from formal science through extension workers to farmer adopters but rather a social process involving a multitude of different actors, and that innovation processes can be enhanced by creating more possibilities for actors to interact. Incorporating smallholders into ARD will help to better serve their needs and to discover and spread innovations that farmers have co-developed. However, donor support for farmer-driven ARD is very limited and scattered, with few opportunities for mutual learning. Some CSOs are collaborating in formal ARD in different parts of Africa, but they have not joined up their efforts to influence the wider research agenda. Many NGOs, policymakers and donor organisations concerned with rural development in Africa are not sufficiently aware of the contribution that ARD – if driven by smallholder farmers' interests – could play in agricultural and rural development.

Innovation systems approach looks at the value chain and employs an inclusive multi-stakeholder partnership approach to diagnose problems and design solutions that convert technologies and institutional changes to innovations. It brings researchers into partnerships with extension, agents, farmers, input dealers, policy makers, private sector and end users to catalyze the innovation process. It shortens the traditional lag between the development of technologies and their adoption thereby improving the chances of increasing development impacts. Furthermore, it also holds promises for addressing emerging issues like desertification, land degradation, climate change, biodiversity degradation among others.

3. Supporting farmer-centred innovation

[3] Why is the innovation systems approach important for African agriculture? *A. A Adekunle Director NSF4, Partnerships and Strategic Alliances,Forum for Agricultural Research in Africa, FARA, 2009*
[4] Michel Imbert - http://www.excludedvoices.org/about
[5] Why is the innovation systems approach important for African agriculture? *A. A Adekunle Director NSF4, Partnerships and Strategic Alliances,Forum for Agricultural Research in Africa, FARA, 2009*
[6] Edquist, C. (2001), The systems of innovation approach and innovation policy: an account of the state of the art

Some projects such as Convergence of Science (CoS 1) have analyzed participatory innovation processes to find more efficient and effective modes of agricultural research and technology development. The main conclusions were that it is not difficult to find technical or biological solutions to farmers' problems, however, a deficient interface of institutions and technology constrains adoption and/or adaption of these technologies thereby limiting the impact of research on especially smallholder farmers. What is needed are innovations that combine technical, institutional and organizational aspects that have been co-developed in a coherent manner to address constraints holistically. This will typically involve: (i) Combining natural and social sciences, (ii) clear policy support, and (iii) engaging with all relevant institutions. To successfully develop such innovations, it is necessary to operate above conducting research at farm level and build networks amongst all relevant institutions and stakeholders.

There is a need to move from an exclusive focus on farmers, farms and technologies to broader innovation systems – markets, institutions, politics and policies really matter, too. This requires new skills, new partnerships and new institutional configurations – largely absent in most agricultural research and development systems. Agricultural education systems and most curricula do not address the challenges of today. Methodologies that recast the way we do research, appraisal or monitoring
There is a need to overhaul incentive and reward systems to put farmers first and promote 'participatory innovation systems. 'The need to put 'a politics of demand' at the centre of a new set of accountability mechanisms for research and development. This requires building capacity and voice for farmer organisations so they can exert pressure and demand for appropriate research and other services. But it also means having more responsive delivery organisations.

There are few efforts made to include women in discussions or research projects, even though they are involved in all aspects of food production—cultivation, selection and conservation of seeds—and have a deeper understanding of culinary and nutritional quality than men.

To have a positive impact on smallholders, formal research needs to involve them at all stages – in determining needs, identifying problems and opportunities, designing and testing new possibilities, sharing results, and assessing the way the research is done and the results shared. Extension services, or rural advisory services, are vital knowledge sharing institutions, crucial to achieving the social, economic and environmental elements of sustainable development. Extension services can help improve livelihoods by providing vital information, technologies and knowledge to farmers. For example, it provides access via smartphone to market data such as weather projections and livestock prices, offers knowledge centres with information on new crop varieties, and index-based insurance through private sector engagement with local communities.

4. Objectives of the Briefing

The main objectives of the Brussels Development Briefing on "Farmer-driven research to improve food and nutrition security" are: (i) to heighten awareness of the significance of farmer-driven ARD; and (ii) to enhance information exchange and networking. This briefing will address issues related to the way in which ARD can respond better to the needs of smallholders by giving smallholders a bigger say in all research stages. In particular, the briefing will: (i) highlight the key opportunities and challenges in making ARD more responsive to smallholders' needs; (ii) provide space for sharing experiences with ARD driven by smallholder farmers; and (iii) facilitate networking among development partners.

Target group

Policymakers and representatives of EU Member States, civil society groups, research networks and development practitioners, and international organisations.

Brussels Policy Briefing no. 34

Farmer-driven research to improve food and nutrition security

14 November 2013, Jacques Delors Building, rue Belliard 99, 1040 Brussels, Room JDE 52
http://brusselsbriefings.net

Organised by CTA, the EC/DECVO, the ACP Secretariat and Concord in partnership with INSARD (Including Smallholders in Agricultural Research for Development)

8h30-9h00 Registration
9h00-9h15
Introductory remarks: *DG DEVCO / DG Research, EC; ACP Secretariat; CTA, INSARD*

Panel 1: Approaches and instruments for ARD to be more responsive to smallholders' needs
This panel will provide an overview of the key concepts, challenges and opportunities for agricultural research and development (ARD) to respond to smallholders' needs. It will discuss what is needed to support participatory processes and enhance the capacities of farmers to innovate and develop appropriate systems of resource management to achieve food security, sustain their livelihoods and safeguard the environment using indigenous knowledge and creativity. It highlights the need to move from an exclusive focus on farms and technologies to broader aspects of innovation systems – to include also markets, institutions, politics and policy matters. This requires new skills, new partnerships and new institutional configurations in ARD systems.

Chair: Ambassador ACP
Panellists:
- Promoting participatory innovation systems for smallholder development
  Prof. Neils Röling, Emeritus Professor, of Innovation and Communication Studies, University of Wageningen
- Knowledge transfer is a two-way street
  Dyborn Chibonga, Chief Executive Officer, NASFAM
- Farmer-to-farmer services to strengthen institutional development processes
  Cees van Rij, Agriterra on behalf of AgriCord
- Local innovation support funds: experiences and lessons
  Ann Waters-Bayer, PROLINNOVA, Netherlands

Panel 2: Lessons and successes in farmer-led agricultural research
This panel will present concrete examples of farmer-driven ARD successes from the field, highlighting the lessons learned and good practices of partnership between smallholders and other actors (research, advisory services, private sector etc) in ARD.

Chair: Ambassador ACP
Panellists:
- Lessons from joint learning about innovation systems in African agriculture
  Anne Floquet, JOLISAA, Benin
- Promoting local innovation and participatory ARD: the role of women
  Chris Macoloo, World Neighbours Regional Associate President for Africa, Kenya
- Quncho: the first popular tef variety in Ethiopia
  Kebebew Assefa, Debre Zeit Agricultural Research Center, Ethiopia
- Participatory technology development in support of artisanal palm oil production in Ghana
  Charity Osei-Amponsah, Researcher, Oil Palm Domain, CoS-SIS Programme, Ghana
- Women and young farmers as innovators in community-driven agro-ecological ARD
  Bern Guri, CIKOD, Ghana

Concluding remarks

13h00 **Lunch**