Introduction

Agricultural research centers, such as the ones of the Global Agricultural Research Partnership of the CGIAR have the mandate to generate new and better technologies, practices, institutions and policies for the rural poor. Several studies (e.g. IAASTD, 2006) indicated that research needs to be more focused on farmers' needs and incorporate multiple perspectives during innovation development. In 2006, the CGIAR embarked on a major reform process in this sense focused on farmers' needs and development outcomes. In 2013 (BMZ) commissioned a study to investigate the innovations coming from International Agricultural Research Centers (IARC) comprising the CGIAR group, the World Vegetable Center (AVRDC) and the International Centre of Insect Physiology and Ecology (ICIPE). Innovations from this group are treated as ‘supply’ and compared with needs of farmers defined as ‘demand’ for innovations. Special attention was given to technologies that address food security and consider climate change adaptation and gender equity in Africa. The study was implemented by the “Innovation Transfer into Agriculture – Adaptation to Climate Change project (ITAACC)” of GIZ.

Materials and methods

Separate questionnaire were designed for farmer organisations, intermediaries and IARC. Criteria to assess the demand and supply match were grouped into 120 hypothesis that were investigated via a set of 211 research questions. The three groups interviewed are given in the next chart.

Results

<table>
<thead>
<tr>
<th>Theme</th>
<th>Hypothesis</th>
<th>Findings</th>
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</thead>
<tbody>
<tr>
<td>Needs for innovations</td>
<td>N01. IARCs are addressing key needs of farmers</td>
<td>• Better resourced farmers have a broader choice of innovations  • Low input systems are not well covered by research</td>
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<td>N02. Innovations are affordable for farmers</td>
<td>• Only 1/3 of innovations are highly affordable  • Many innovations require subsidies</td>
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<tr>
<td>N03. Farmers and scientists share similar views on key criteria for design/ adoption of innovations</td>
<td>• Research place too much attention on yield while farmers require market solutions</td>
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<td>N04. Gender equity is an important criteria for actors in the innovation system</td>
<td>• IARCs and intermediaries recognize that their innovations should, where relevant, promote gender equity, though a number of them are not gender specific.  • The importance of women in agricultural value chains is confirmed.</td>
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<td>N05. Farmers are the major stakeholder in the design and implementation of IARCs research</td>
<td>• The level of farmer control in the innovation development process is still limited.  • Full control (11%), some control (62%). Fully researcher controlled (24%).</td>
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<td>N06. The ways information on innovations is shared matches the requirements of farmers</td>
<td>• Information are shared in various ways. Face to face extension methods are demanded by farmers and range from 25 to 86%.</td>
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<td>N07. Farmers rate advisory services they receive as adequate</td>
<td>• Modern mobile phone applications still only play a minor role (7-21%).</td>
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<td>N08. Effective linkages exist between different actors in the innovation system</td>
<td>• Good linkages between actors are missing. Only 25% of respondents rated other actors as “good partners”. Considerable more efforts to improve trust, understanding and true partnerships in innovation diffusion would be needed.</td>
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<tr>
<td>N09. IARCs innovations have been up-scaled adequately</td>
<td>• Diffusion of innovations is inadequate. Only 28% of innovations were diffused to more than 20,000 farmers. On a high number of innovations (32%) no diffusion information is available as yet.</td>
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<td>N10. Climate change is having an impact on smallholder farming systems and actors are successfully adapting the production systems to the changes</td>
<td>• A huge number of farmers are affected by drought and erratic rainfall (63%). Climatic effects lead to yield losses (84%) and shorter growing periods (44%).</td>
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</table>

Conclusions

• Good innovations should be scaled up by interested actors.
• More research on the needs of resource poor farmers is required.

Acknowledgments

The study was financed by BMZ and implemented by the GFA Consulting Group on behalf of the CGIAR project “Innovation Transfer into Agriculture – Adaptation to Climate Change project (ITAACC)”.

References

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IPPC (2014) Climate change 2013. The physical science base. 5th Assessment report.

Case Seeds for needs East Africa

By Biotronery International

Key farmer problem addressed

Access to seed  Drought resistance  Good yield with low inputs  Crops: barley, durum wheat sorghum, cowpea, pigeon pea and common beans

Description of the innovation

Crowd sourcing involves thousands of farmers in seed testing. Old varieties of gene banks are taken back to farmers' fields and compared with modern varieties. Farmers test several varieties and retain the best mix of varieties. The concept is based on seed sharing. Thus, farmers do not depend on a formal seed sector to multiply seed.

Detailed results on all innovations and the full report are available here: http://www.iicpe.org/itaacc/index.php/2013-12-03-07-06-24/2013-12-03-07-07-26/final-gfa-itaacc-workshop

Intern. Research addresses farmers' needs only partly

Assessment of the demand supply match for agricultural innovations in Africa

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