

# Intern. Research addresses farmers' needs only partly

## Assessment of the demand supply match for agricultural innovations in Africa

Bachmann<sup>a</sup>, Lorenz, Lennart Woltering<sup>b</sup>, Brigid Letty<sup>c</sup>, Thomas Apina<sup>d</sup>, Si Benasser Alaoui<sup>e</sup> and Jean Nyemba<sup>f</sup>

<sup>a</sup> Lorenz Bachmann, Pace-Consultants, Breiteweg 1, 35415 Pohlheim, Mail: L.Bachmann@gmx.de  
<sup>b</sup> Lennart Woltering, GFA Consulting Group GmbH, Eulenkrugstrasse 82, D22359 Hamburg, Lennart.Woltering@gfa-group.de  
<sup>c</sup> Brigid Letty, Institute of Natural Resources (NRI), Pietermaritzburg, South Africa, Mail: BLetty@inr.org.za  
<sup>d</sup> Thomas Apina, Sustainnet, P.o Box 52201-00100 Nairobi, Mail: tom.apina@sustainnetea.org  
<sup>e</sup> Si Benasser Alaoui, Institute of Agronomy and Veterinary Medicine Hassan II, Rabat, b.alaoui@iav.ac.ma  
<sup>f</sup> Jean Nyemba, GFA Consulting Group POB. 5381 Nlongkak, Yaoundé, Cameroon, Mail: jnyemba@gmail.com

### 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. IAAKSTD, 2008) indicated that research needs to be more focused on farmers' needs and incorporate multiple perspectives during innovation development. In 2008, the CGIAR embarked on a major reform process in this sense focused on farmers' needs and development outcomes.

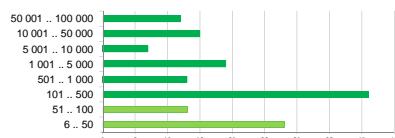


In 2013 (BMZ) commissioned a study to investigate the innovations coming from International Agricultural Research Centers (IARC) comprising the CGIAR group, the World Vegetable Center (AVRDC) and the International Centre of Insect Physiology and Ecology (icipe). Innovations from this group are treated 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.

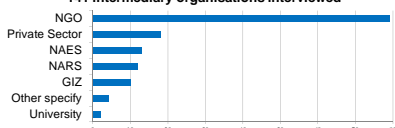
### Materials and methods

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 charts.

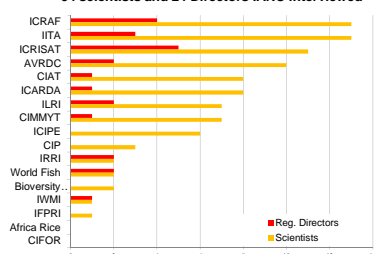
Member size of 152 FOs interviewed



141 intermediary organisations interviewed



94 scientists and 24 Directors IARC interviewed



### Results

Theme	Hypothesis	Findings
Needs for innovations	H01. IARCs are addressing key needs of farmers	<ul style="list-style-type: none"> <li>Better resourced farmers have a broader choice of innovations</li> <li>Low input systems are not well covered by research</li> </ul>
	H02. Innovations are affordable for farmers	<ul style="list-style-type: none"> <li>Only 1/3 of innovations are highly affordable</li> <li>Many innovations require subsidies</li> </ul>
Adoption of innovations	H03. Farmers and scientists share similar views on key criteria for design/adoption of innovations	<ul style="list-style-type: none"> <li>Research place too much attention on yield while farmers require market solutions</li> </ul>
	H04. Gender equity is an important criteria for actors in the innovation system	<ul style="list-style-type: none"> <li>IARCs and intermediaries recognize that their innovations should, where relevant, promote gender equity, though a number of them are not gender specific.</li> <li>The importance of women in agricultural value chains is confirmed.</li> </ul>
	H05. Farmers are the major stakeholder in the design and implementation of IARCs' research	<ul style="list-style-type: none"> <li>The level of farmer control in the innovation development process is still limited:</li> <li>Full control (11%), some control (62%). Fully researcher controlled (24%)</li> </ul>
Information exchange	H06. The ways information on innovations is shared matches the requirements of farmers	<ul style="list-style-type: none"> <li>Information are shared in various ways. Face to face extension methods are demanded by farmers and range from 25 to 86%.</li> <li>Modern mobile phone applications still only play a minor role (7-21%)</li> </ul>
	H07. Farmers rate advisory services they receive as adequate	<ul style="list-style-type: none"> <li>Farmers rated extension service as not adequate (NARS 42%; NAES 52%). Service delivery is rated erratic and the supply of innovations (knowledge, materials, seeds, etc) is very limited in both quantity and regional distribution.</li> </ul>
Extension	H08. Effective linkages exist between different actors in the innovation system	<ul style="list-style-type: none"> <li>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.</li> </ul>
	H09. IARCS innovations have been up-scaled adequately	<ul style="list-style-type: none"> <li>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.</li> </ul>
Climate change	H10. Climate change is having an impact on smallholder farming systems and actors are successfully adapting the production systems to the changes	<ul style="list-style-type: none"> <li>A huge number of farmers are affected by drought and erratic rainfall (69%). Climatic effects lead to yield losses (84%) and shorter growing periods (44%).</li> <li>Farmers experiment with a range of climate change coping strategies. Only 10% of farmers do not use any.</li> </ul>

Out of a total of 94 innovations offered by IARC a selection of 8 innovations was classified as very good matches. An example of a very good match is given below.

### Conclusions

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

Case Seeds for needs East Africa	Key farmer problem addressed	Description of the innovation
<p>By Bioversity International</p>	<ul style="list-style-type: none"> <li>Access to seed</li> <li>Drought resistance</li> <li>Good yield with low inputs</li> <li>Crops: barley, durum wheat sorghum, cowpea, pigeon pea and common beans.</li> </ul>	<p>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.</p>

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

### References

CGIAR (2011) A strategy and results framework for the CGIAR

DIE (2010) Resilient adaptation to climate change in African Agriculture. Chinwe Ifejika Speranza. Deutsches Institut für Entwicklungspolitik.

GIZ and CGIAR (2014) Feldafang Principles for Enhancing Agricultural Innovation Systems. Editorial committee; Ann Waters-Bayer,

Michel Bernhardt, Piers Bocoock, Patrick Dugan, Joerg Lohmann, Sidi Sanyang April 2014

IAASTD (2008). Agriculture at a cross roads. International Assessment of Agricultural Knowledge, Science and Technology for Development. Synthesis Report.

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

### Acknowledgments

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

Contact: Jörg Lohmann, GIZ, Postfach 5180, 65726 Eschborn, Mail: joerg.lohmann@giz.de

