“The Global Food & Product Chain-Dynamics, Innovations, Conflicts, Strategies”
Impact Orientation of Agricultural Research in Eastern and Central Africa

Michael Waithaka\textsuperscript{a}, Henning Baur\textsuperscript{b}
\textsuperscript{a} Association for Strengthening Agricultural Research in East and Central Africa (ASARECA), Entebbe, Uganda
\textsuperscript{b} German Agency for Technical Cooperation (GTZ), Advisory Service on Agricultural Research for Development (BEAF), Germany

Abstract
The development and management of food chains is a priority in many developing countries. Its driving forces are urbanization, growing market shares of supermarkets and the demand on agricultural research to contribute more to creating wealth among the rural poor. Those who want to develop or optimize food chains depend on knowledge and services from agricultural research such as market information or technology and management options that are required to meet international grades and standards. Serving their needs requires a renewed culture of impact orientation. In January 2005, twenty senior researchers from ten national agricultural research institutes (NARIs) in Eastern and Central Africa met, to deliberate on how research institutes could increase the probability of achieving development impact with their research. The development of food chains, value addition and competitiveness of agricultural production are priorities in the region that call for new partnerships and alliances since other actors also influence knowledge and innovation. They require approaches that combine science with the development and adaptation of technology and link up to comprehensive commercial strategies. The participants asked: “How would one recognize an agricultural research institute that is impact-oriented? What would it ideally look like?” They came up with a range of characteristics and found that impact orientation rests on four key pillars:

Pillar 1: Client Orientation and Policy Dialogue (social demand).
Pillar 3: Management of Research Resources.
Pillar 4: Management of Linkages and Partnerships with Stakeholders.

NARIs in the region demonstrate different levels of impact orientation. While some are well ahead in one area, they are also deficient in others. The paper presents a summary of the strengths, weaknesses, opportunities and threats to impact orientation in the 10 member countries of the Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA). Opportunities for sharing of experiences and forging of networks to tackle common interests are explored.

Keywords: Impact orientation, research management

Contact Address: Henning Baur, German Agency for Technical Cooperation (GTZ), Advisory Service on Agricultural Research for Development (BEAF), Tulpenfeld 4, 53113 Bonn, Germany, e-mail: henning.baur@beaf.de
Introduction
The development and management of food chains is a priority in many developing countries. Its driving forces are urbanization, growing market shares of supermarkets and the demand on agricultural research to contribute more to creating wealth among the rural poor. Supermarkets are adopting innovations that are reducing reliance on traditional wholesale markets and brokers to specialised and dedicated wholesalers in new food chains who in turn contract smallholder farmers. To comply with these demands smallholder farmers invest in technology and organize themselves in associations to aggregate produce to meet volume requirements. To develop or optimize food chains, stakeholders are turning to agricultural research to provide knowledge and services in market information, technology and management options that are required to meet international grades and standards.

Such demands are adding to an already complex research agenda where research institutes are increasingly being required to demonstrate their contribution (impact) to development goals in general and on poverty, hunger and malnutrition in particular (ASARECA, 2005). To demonstrate impact of agricultural research as a precondition for mobilizing additional investments, research institutes are becoming more impact orientated.

The aspiration to become impact-oriented is challenging because the causal link between research activities and development impact is not straightforward. The path from the laboratory to the improved livelihood of farm families or urban consumers is very often long and winding. Development impact is subject to and conditioned by many forces, both external and internal to the research institute. And while a research institute can not influence many of these forces, it can influence some of them, if it has a strong impact orientation.

Pillars of impact orientation
In January 2005, 20 senior researchers from ten national agricultural research institutes (NARIs) in Eastern and Central Africa met, to deliberate on how agricultural research institutes can increase the probability of achieving development impact with their research. They demonstrated strengths to impact orientation are: greater involvement of farmers in the research process; being responsive to market and client demands; new initiatives towards impact orientation; existence of planning, monitoring, and evaluation frameworks (Waithaka et al., 2005). Major weaknesses are in: poor institutionalization of impact assessments, planning, monitoring and evaluation; low skills and capacity to deal with impact assessments; and poor linkages between researchers and partners especially the private sector. That some NARIs are advanced in areas that others are deficient in opens a great opportunity for sharing of experiences and forging of networks to tackle common interests.

It is becoming clear that the development of food chains, value addition and competitiveness of agricultural production needs new partnerships and alliances with all actors who also influence knowledge and innovation. These require approaches that combine science with the development and adaptation of technology and link up to comprehensive commercial strategies making research more responsive to impact at developmental level. The participants asked: “How would one recognize an agricultural research institute that is impact-oriented? What would it ideally look like?” They came up with a range of characteristics and found that impact orientation rests on four key pillars:

1. Pillar 1: Client Orientation and Policy Dialogue (social demand)
2. Pillar 2: Planning, Monitoring and Evaluation, and Impact Assessment
3. Pillar 3: Management of Research Resources
4. Pillar 4: Management of Linkages and Partnerships with Stakeholders
Pillar 1: Client Orientation and Policy Dialogue (social demand)

Client orientation is important because policy makers, governments and donors who fund agricultural research are increasingly asking for development impact. They want to know how much agricultural research has contributed to raise people’s well being or the nation’s competitiveness or conservation of the country’s natural resources. To do that successfully, researchers envision how farmers will improve their well being as a result of applying research results or using research products and services e.g., by identifying impact pathways or by outcome mapping.

Impact pathways describe the assumed line of causality between research investments and developmental impacts (Hartwick et al., 2003). Their explicit formulation is important so as to capture all intermediate steps and actors whose interventions help to transform research outputs into outcomes and impacts. On the other hand, outcome mapping can be used to characterize and assess the contributions research programs make to the achievement of development goals in terms of behavioural changes of important development partners (http://www.idrc.ca/evaluation).

Client-oriented researchers also observe the economic and political environment in which the research institution operates and understand the processes of agricultural innovation and economic development. These processes are driven by market forces, policies, and institutional change. Research institutes position themselves within this context by the choices they make after collecting and interpreting information from the environment. They can influence their environment by presenting their findings and arguments, raising awareness for new problems and opportunities, and seeking the support of other interested parties.

Pillar 2: Planning, Monitoring and Evaluation, Impact Assessment

Planning, monitoring and evaluation (PM&E), as well as impact assessment (IA) are essential activities to manage the research process. In a rapidly changing technology, policy and economic environment, planning helps research institutes to anticipate research demands of stakeholders in the long and short term and to develop the necessary structure, resources and procedures to achieve them. Monitoring and evaluation occur once the research process is in progress and help keep track of achievements and to draw lessons from experiences learnt. Impact assessment is carried out ex-ante when planning for research projects to assess potential benefits, for on-going work or ex-post after the completion of research projects to determine outcomes.

PM&E and IA are important because they help to analyse and reflect periodically on whether the research institute is doing the right things and whether it is doing these things right also. They are also the primary activities for making sense of new and/or unexpected trends, and for reacting to changes in society and in the market. PM&E needs to be done at different levels of the organisation and in different forms according to specific requirements, i.e., participatory PM&E to respond to stakeholder needs. Such results help to improve research strategies and programs if they successfully articulate the specific concerns and aspirations of the stakeholders.

Pillar 3: Management of Research Resources

Resources at the disposal of research institutes are funds which are sourced primarily from own governments or donors, human resources, capital equipment, and assets such as land and buildings. The most important resource is committed research staff that is capable of producing results and of judging
the significance of their activities to clients and national development goals. This requires that research management pursues a comprehensive human resource strategy that is responsive to the changing demands for research, is able to equip staff with necessary skills, motivate and retain them in key areas.

Research management must also raise and allocate financial resources in such a way as to comply with requirements emanating from research plans. In the face of declining research funding, research managers need to identify and adjust to alternative funding mechanisms such as competitive grants and partnering with the private sector. Further, good research management depends on some kind of information management system and communicates effectively with stakeholders. This system should also reinforce internal self monitoring and evaluation and give constant feedback to management. Research management should use the feedback to modify on-going activities, plan for future activities and create incentives and reward systems that reinforce innovative activities that contribute to impact orientation.

Pillar 4: Management of Linkages and Partnerships with Stakeholders
Successful technology development and dissemination require collaboration with a wide range of people and organisations in the food chain such as: users of technology such as farmers and their representatives, producer associations, other researchers, seed and other input companies, traders, export promotion agencies and certification experts. This is important because at the present time, there is little evidence that knowledge discovery and research skills would be the most limiting factors for poverty alleviation and agricultural wealth creation in Sub-Sahara Africa (Chema et al., 2003; ASARECA 2005). However, access to knowledge and technology, their adjustment to local conditions as well as economically feasible implementation certainly are bottlenecks. Seen from this perspective, the adoption of a more comprehensive innovation approach appears to be more promising than a conventional scientific research to extension to farmer approach – at least in the short and medium term.

Such an approach includes wealth creation as a priority, helps us to better understand and analyse the various actors and networks in an innovation process that are jointly responsible for its ultimate outcome and impact while retaining a focus on the role of agricultural science and technology as a driving force in progress (ASARECA, 2005). It combines science with the development and/or adaptation of technology and is linked to comprehensive commercial strategies.

Conclusions
It is unlikely that research institutes can achieve impact at the development level if they are not impact oriented. This requires good understanding of their clients and the environment they operate under, and strong involvement in policy dialogue to bring out meaningful changes. Successful agricultural innovation requires that research institutions position themselves to be able to respond to their client’s needs by putting in place strategic, medium and short term plans with monitoring and evaluation efforts to facilitate organisational learning and to ensure that activities are on the desired path. Research management should support this process by ensuring that resources are put where they promise best returns and are also used to motivate researchers to work in those areas. Finally, impact orientated research institutes appreciate the existence of diverse actors in complex innovation systems who also influence knowledge and innovation. Recognition that research is only one contributor to agricultural development leads to the formation of new partnerships and alliances along the food chain.
References


