WILL A TIME OF PLENTY FOR AGRICULTURAL RESEARCH HELP TO FEED THE WORLD?

Worries about food security and climate change and the rediscovery of the poverty-reducing potential of agricultural development has prompted a new rush to invest in agricultural research. In this month’s LINK LOOK Andy Hall and Jeroen Dijkman argue that much more than research is required and that what is now needed is a prominent development investor that will champion the idea of research as an integrated part of a more broadly-conceived capacity for change.

HAPPY DAYS ARE HERE AGAIN

In recent months both the UK’s Department for International Development (DFID) and the World Bank have renewed their pledge to increase spending on agriculture. Already DFID has announced a doubling of funding for agricultural research to £80 million a year from 2010.

The World Bank’s Group Agriculture Action Plan 2010-2012 raises agriculture spending from around $4 billion to $8 billion a year, and since agricultural research constitutes approximately 7% of the overall budget this means $560 million a year for research.

The Bill and Melinda Gates Foundation currently spends about $120 million on agricultural research, of which around $80 million goes to the Consultative Group on International Agricultural Research (CGIAR). On December 8, during a CGIAR business meeting in Washington, D.C., Bill Gates announced his intention to formally join the CGIAR; one can only presume that this will increase the flow of funding. Indeed, having once again redeemed itself in the eye of international development sponsors by announcing an ambitious plan for reform, the CGIAR seems likely to be at the receiving end of much of this new funding.

While the United Nations Food and Agriculture Organization (FAO)’s October 2009 high-level meeting and November 2009 World Summit on Food Security were less successful than initially hoped in terms of increasing investment in agriculture, in the international agricultural research community, at least, things haven’t been this good for a long time. Will these days of plenty for research, however, be enough to make a difference in farmers’ fields?

FOOD SECURITY, CLIMATE CHANGE AND INNOVATION

Two major concerns for agricultural development are the threat of food insecurity in the poorest countries and the effects of climate change on these agriculture-dependent countries. What connects these is the (re)discovery that agricultural development is key to poverty reduction.

Visit the LINKLook blog at www.innovationstudies.org to join in the ongoing debate.

LINK is a specialist network of regional innovation policy studies hubs established by the United Nations University-MERIT (UNU-MERIT) and the Food and Agriculture Organization of the United Nations (FAO) to strengthen the interface between rural innovation studies, policy and practice and to promote North-South and South-South learning on rural innovation.
agriculture needs to be upgrad- ed to feed more people and drive economic change, and if new approaches are going to be needed to cope with and adapt to climate change, it is almost a truism to say that there is a need for significant and sustained innovation in national and global food and agricultural systems.

And this innovation is not just technological in nature. The *Economist* recently argued (typi- cally) for better global food markets as a neces- sary complement to improved productivity if food security is to be tackled. But innovation is also going to be needed in terms of changes and adaptations in knowledge architectures, specifically the role and position of research and allied functions in the wider set of activi- ties that bring about agricultural change. In other words, upgrading food productivity requires technical, but also institutional and policy upgrading. Similarly, adapting to cli- mate change needs farm-level technical adaptation, but it also requires institutional and policy adaptation.

DFID’s Director of Research, Dr Chris Whitty, spoke to similar concerns at the October 2009 CABI Global Summit on Food Security in a Climate of Change:

“Incremental changes in technology sel- dom get distributed — only when a tech- nology is much better than what farmers have now is it likely to be taken up. There have been some major advances in the last few years, but also some significant setbacks. Combining new technologies with getting exiting technologies deployed is critical if we are to meet the challenges which are clearly coming.”

This statement hints at what is already widely recognised by innovation scholars, planners, and practitioners alike: The power of research is best exploited by combining it with other ideas, activities and developments.

**BEYOND THE RESEARCH-DRIVEN NARRATIVE OF THE GREEN REVOLUTION**

While the Green Revolution is a rather old example of an apparently successful agricultural development, it is illustrative of many of the tensions within the current debate about the role and deployment of agricultural science. The headline story was that in the 1960s and ‘70s food production in Asia, par- ticularly India, was dramatically increased by the development and introduction of high-yielding varieties of wheat, maize and rice, combined with a package of irrigation, pesti- cides and nitrogen fertilisers. This compelling technology narrative of the Green Revolution is almost certainly the reason why most investments and interventions to promote global food security even today give empha- sis to a research-driven approach to agri- cultural innovation. It is not without reason that the Gates Foundation named its flagship agri- cultural research programme in Africa (with the Rockefeller Foundation) the Alliance for a
with the private sector. The market has not been able to provide strong enough incentives for linkage formation and this is a role that public policy needs to play.

- Research is usually poorly-embedded in these networks and this undermines its ability to contribute effectively to the innovation process.

**MILLIONS FED, BUT BILLIONS SPENT**

A recent analysis by the International Food Policy Research Institute, IFPRI (part of the CGIAR), of the circumstances under which agricultural research makes a difference, tacitly makes some broadly similar conclusions about the supporting (rather than leading) role of research in agricultural innovation. In addition to sustained investments in agricultural research IFPRI argues for:

- Complementary investments in irrigation schemes, rural road networks, rural education, market infrastructure, and regulatory systems.
- Policies to encourage farmers, entrepreneurs, and companies to invest in agriculture.
- Cooperation, collaboration, and partnerships among diverse actors, including research institutes, community-based organisations, private companies, government agencies, and international bodies.
- Localised experiments that allow participants to learn from their mistakes, adapt to changes in the landscape, evolve as the playing field becomes more complex, and pursue incremental, step-by-step approaches to scaling up.

The new headline story seems to be that while agricultural research remains a necessity, on its own it is not sufficient to tackle food security or the challenge of climate change. Instead, a more broad-based, capacity-strengthening effort is required, with an emphasis no longer only on the science suppliers, but on the totality of actors, policies, institutions and infrastructure involved in innovation.

**CHALLENGES OF INVESTING IN INNOVATION**

Shifting to an emphasis on nurturing a more broad-based capacity to innovate presents a number of challenges for the international development community. The long tradition of investing in agricultural research as the main form of support means that the development partners of the international community interested in agriculture tend to be organisations chiefly concerned with agricultural research — agriculture ministries, agricultural research councils, national agricultural research organisations, and the international research centres of the CGIAR. These are all well-defined and trust-ed organisational set-ups that have a track record of utilising large development investments, often with longstanding relationships with the development community. This is administratively attractive to many large development investors with significant funds to disburse.

This stands in contrast to the demands of supporting innovation capacity. There is no ministry of agricultural innovation, agricultural innovation council or organisation. Instead, the innovation capacity perspective advocates loose and changeable networks of different organisations working together on an evolving set of issues. Where should investments in these be channelled other than into public research and extension organisations? How can partnerships and consortia arrangements be financed, since these are often transient and rarely legal entities?

There certainly are things that can be invested in (see the September 2009 *LINK LOOK*, “Rethinking Investment in Agricultural Innovation”) and this includes things like sector coordinating bodies, farmers’ associations and other areas of institutional development that nurture networking and social capital formation. This is, however, a fragmented type of investment that has high administrative costs that are ill-suited to aid wholesalers.

There have been large-scale investments in agricultural innovation capacity by the international development community, but these have tended to firmly lie with the agricultural research administration. For example, the World Bank supported the $220-million National Agricultural Innovation Programme (NAIP) of the Indian Council for Agricultural Research (ICAR), which pioneered in India the idea of thematic consortia spanning the public, private and civil society sectors. It would be interesting to see an agricultural innovation programme placed with the rural development administration or the environmental administration in either the public or the civil society sectors.

This is not to say that international organisations don’t recognise that there is a need to invest in something in addition to research. The answer to what that new type of investment might be is, however, still something of an open question. For example, DFID has invested £40 million into its Research Into Use (RIU) programme as a successor to its previous investment of £200 million into agricultural research, which, largely, didn’t get put into use. The programme has set up a series of into use experiments. These are trying to put research products into use by commercialisation, social marketing and by various forms of partnership. Other RIU projects in Africa are experimenting with ways of strengthening innovation capacity by connecting up different pieces of the innovation systems in which they are working. The programme struggled initially to work out how to explore the research into use question. It is now starting to build evidence that
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suggests that rather than simply promoting research products what is more valuable is linking the research process to activities led by entrepreneurs and other users of new ideas.

CHAMPIONING A NEW APPROACH

Over time the question of what constitutes agricultural research has broadened considerably both in terms of the scope of activities (now emphasising both piloting ideas in the field as well as laboratory-based discovery) and the scope of partnerships involved. But while the contemporary views outlined above point to the need to view research as a complementary tool to development activities, development practice still maintains firm administrative and operational distinctions between the two.

So, can a new approach to food security — one that focuses on embedding research in general development and strengthening the capacity to innovate — really take root? Or will the new money for agricultural research simply reinforce the disconnect between agricultural science, innovation and development?

A prominent development investor, willing to champion a new approach at a time when money is flowing back into agriculture, could make a huge difference. Priorities for such a champion include:

1. **Experiment** with new forms of development assistance that use an innovation capacity-based approach and which merge research-like and development-like activities. It is still unclear how to operationalise this, so a champion needs to lead by example, demonstrating a willingness to risk the new approach.
2. **Influence** the investment decisions and programme portfolios of other donors (including private foundations) and development agencies. The pro-research lobby is very strong, but a prominent champion could successfully argue for a more balanced approach.
3. **Share** ideas and experiences on enabling food security innovation by promoting global networking. The most useful way to use agricultural research for innovation can only be learnt through experience and by continuously updating new approaches and ways of working. Sharing global experiences could provide organisations and policymakers with the inspiration and confidence to expand their repertoire of research and innovation approaches.

There are signs that some development investors can see that the problems of food security and coping with climate change require more than just research. If one of the bigger ones stands firmly behind this idea, agricultural research might finally deliver its true promise.

REFERENCES

1. See [http://www.research4development.info/projectsAndProgrammes.asp?OutputD=176823](http://www.research4development.info/projectsAndProgrammes.asp?OutputD=176823) for more on DFID’s research strategy on agriculture.
2. Visit [http://go.worldbank.org/1R129PSU00](http://go.worldbank.org/1R129PSU00) to download the Action Plan.
8. See [www.researchintouse.com](http://www.researchintouse.com)

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LINK look

**LINK South Asia coordinator Rasheed Sulaiman V. and ILRI scientist Ranjitha Puskur** presented experiences and lessons from the joint LINK-ILRI Fodder Innovation Project (FIP) during an IFAD-Fodder Adoption Project (FAP) coordination meeting organised in Vietnam on November 17–19, 2009. The FIP is being implemented in India and Nigeria. More details are available at [www.fodderinnovation.org](http://www.fodderinnovation.org).

ILRI, in collaboration with the International Centre for Tropical Agriculture (CIAT) and the International Center for Agricultural Research in the Dry Areas (ICARDA), is implementing the IFAD-funded project “Enhancing livelihoods of Poor Livestock Keepers through Increased Use of Fodder” and organised the coordination meeting to share experiences.

**IAALD FEATURES FODDER**

In a recent interview with the International Association of Agriculture Information Specialists (IAALD), Ranjitha Puskur of the International Livestock Research Institute (ILRI) shared some lessons emerging from the LINK-ILRI Fodder Innovation Project in India and Nigeria. According to Ranjitha, the project, which is funded by the UK’s Department for International Development (DFID), aims to “form and facilitate a network of different actors in a chain or continuum of knowledge production and its use, mobilising all their various resources and capacities to address a problem”. However, as she emphasises, “getting a network of actors isn’t an easy process; it takes time.” Different organisations with different interests and motives have to be brought around the table to contribute and benefit. “It needs great facilitation skills and negotiating skills, which are not very often core competencies of researchers like us.”


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