Learning INnovation Knowledge

Policy-relevant Resources for Rural Innovation

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RETHINKING INVESTMENT IN AGRICULTURAL INNOVATION

The balance of debates about innovation systems ideas in agricultural and rural development seems to have shifted from conceptualisation and historical analysis to planning and practice. National and international development agencies are now grappling with the need to rethink their investments in line with this new perspective. In this month's LINK LOOK ***Andy Hall****,* ***Jeroen Dijkman*** *and* ***Rasheed Sulaiman V.*** *suggest 10 priority topics where rethinking is needed and where there seems to be enough experience to provide advice.*

INNOVATION SYSTEMS (RE)THINKING

The more we understand about agricultural innovation the more we see an investment paradox. The clear message from many studies is that agricultural research and extension activities only make up a relatively small proportion of the innovation pie. Yet, most public investments aimed at stimulating agricultural innovation are made in agricultural research and extension. The rest of the innovation pie is entrepreneurial activity, partnerships, product design, new marketing strategies, communication, market and policy-derived opportunities, local knowledge, cultural norms and preferences, and infrastructure. In fact, a whole ragbag of skills, ways-of-doing-things, processes and resources, which recent analyses discuss in terms of an 'innovation system'.

The innovation systems idea is nothing more than a way of highlighting the point that the location of innovative activity is diffused throughout the whole economy, rather than being the preserve of research organisations. The configuration, then, of this ragbag-like capacity to innovate is both highly dependent on the patterns of resources and priorities of a particular country or context, but at the same time — at least in successful cases — is flexible enough to reconfigure as opportunities and challenges arise.

For example, when avian influenza was first confirmed in Thailand in 2004, it almost wiped out the country's poultry exports overnight. However, because of a strong adaptive capacity in the well-networked food industry, the sector was able to recover quickly by shifting from frozen poultry products to cooked poultry products. Thailand is now one of the largest exporters of pre-cooked poultry-based ready meals.

MANUALISING INNOVATION SYSTEMS FOR INVESTMENT PLANNING?

So while investments in agricultural development need to broaden considerably from the current emphasis on research and extension, where else could investments focus — given the ragbag and irregular nature of innovation capacity? This question is all the more difficult because while development agencies are comfortable with best practice guidelines and models that can be applied universally, in contrast, systems perspectives emphasise broad principles, which need to be translated into practice in specific settings.

■ **Continued on Page 2**

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

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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.

Pro-Poor Livestock Policy Initiative
A Living from Livestock

ONE YEAR ON: DFID RESEARCH STRATEGY

One year ago UK's Department for International Development (DFID) launched its first £1 billion research strategy for 2008-13. DFID has published an update of its achievements since implementation of that strategy, available online at **http://www.research4development.info/ResearchStrategyAnniversary.asp**.

The list of achievements range from the behind-the-scenes variety (internal restructuring, new research teams, scoping studies to investigate what new programmes DFID needed to commission, etc.) to the milestones that DFID describes as explicit positive outcomes (a new malaria cure, new animal vaccines and diagnostic products, etc.). The strategy pledged to increase spending spending to £1 billion over five years across six thematic areas: Growth, Governance in Fragile States, Health, Agriculture, Climate Change and Forward-looking Research. It committed to restructuring its Research and Policy Teams around the research themes to ensure research and policy inform each other. It also placed greater emphasis on communicating research evidence and getting research into use.

2ND WORLD BANK STI FORUM IN DECEMBER

The World Bank its organising a second STI (Science Technology and Innovation) Global Forum on December 10-11 in Washington, DC.

The objectives of the Global Forum are to review case-studies of science, technology and innovation partnership initiatives and to see what good-practice lessons of experience can be gleaned from this review.

For more details visit **http://go.worldbank.org/CXSNB6F0I0**.

■ **Continued from Page 1**

For example, many people think, mistakenly, that the innovation concept suggests that private sector actors are central to innovation and must be included in projects. Actually what it says is that organisations appropriate to a particular innovation activity need to be centrally involved. If it is value chain development, then, of course, the private sector is required. But if it is natural resource management innovation, it will be rural communities that will be the central players. In other words, such principles need to be used to select horses for courses.

Another challenge is that agricultural investment planners are more comfortable with policy targets — for example, proportion of GDP invested in research. Often these targets are used as a way of making comparisons with a competitor or a model country. Innovation systems thinking highlights, for example, the fact that the value of R&D activity is highly dependent on the ragbag of other innovation activities mentioned above. It also illustrates that capacity is dependent on how well R&D is embedded — not just how much of it there is — which, in turn, is highly dependent on the context of a particular country or sector. So, these sorts of comparisons and policy targets become less important and are superseded by the need to develop the underlying capacity to innovate in this total system sense.

SO MUCH FOR THE THEORY! WHAT DO WE DO ON MONDAY MORNING?

National and international development agencies still need to be provided with advice and policy-making resources. For example, the World Bank is currently in the planning phase of developing an agricultural innovation systems investment resource book. DFID has been seeking advice on how to use these ideas in parts of its research strategy — for example, its Research Into Use programme has been an explicit attempt to experiment with these ideas in the field of agricultural innovation. Sri Lanka and a number of other emerging economies have shifted to planning a national innovation system, but still need to fill in the blanks about what this means in practice.

These organisations, however, have a low tolerance for concepts and a high need for practical advice. But how should this advice be provided, bearing in mind the emphasis the innovation systems point of view gives to principles rather than blueprint models? We suggest two main thrusts for advice that should be applied to specific topics. The two thrusts are as follows:

- **Rethinking as a core motif:** An innovation capacity development approach does not mean throwing away our old policy tools (such as research investment). But it does mean rethinking how these are used, sequenced, clustered, embedded, what additions might be necessary and how the role of certain policy tools might need to migrate to perform new functions. Rethinking is a powerful motif as it also draws attention to the need to invest in changing perceptions about what it is that is to be achieved as well how it can be achieved. For example, it asks: Why are we really doing research? What really is the role of agricultural extension in innovation? What contribution could benchmarking make to the strengthening of innovation capacity? What is the best way to achieve new goals?

- **Inspire with indicative practices:** There is an increasingly large repertoire of experiences emerging that is relevant to the rethinking agenda. Some of these are explicit attempts to use innovation systems ideas in agricultural and rural development. Some are initiatives that are using such ideas implicitly. Yet other experiences come from other rethinking-type experiences; for example, the mainstreaming of major cross-cutting issues such as climate change and disease control. Drawing together lessons from this experience is important not just for the purpose of deriving new models, but to present a range of indicative practices — things that worked in specific contexts — to inspire planners and guide investment.

What new domains of advice might help guide investments?

1. Assessing innovation capacity

A key strength of the innovation systems idea is that it is an analytical tool that can help reveal the nature of innovation capacities and weaknesses in them. There is some experience in the use of diagnostic approaches based on this perspective that can be used as indicative practices (see World bank 2006, also details of our Fodder Innovation Project at **www.fodderinnovation.org**).

The key **RETHINKING** message is that diagnostic approaches need to shift from snap-shots of current conditions to an understanding of historical origins of current innovation trajectories. In this analysis institutional and policy dimensions assume greater diagnostic importance than technological constrains and needs.

2. Accommodating multiple visions of future innovation challenges and capacities

The innovation perspective makes explicit the idea that there are multiple, competing and converging, agendas in agriculture (food/ fuel; poverty reduction/ economic development; sustainability/ competitiveness) — the so-called multi-functionality of agriculture. It also recognises that future social, economic and environmental conditions are unpredictable and becoming more so; witness the emergence of swine flu, the world financial crisis, or the food price crisis of 2008. Well-developed tools for visioning now exist.

The key **RETHINKING** message is that traditional priority-setting mechanisms become less relevant. But the message is also that tools to vision multiple futures, such as scenario planning and foresight, are changing from planning exercises to capacity building exercises because conducting these exercises brings together different stakeholders around emerging innovation themes, which helps build networks that will underpin new and existing innovation capacities.

■ **Continued on Page 3**

Participants Prof. Kshanika Hirimburegama and Dr. Seetha Wickremasinghe of Sri Lanka and Dr. Deva Bhakta Shakya of Nepal at the CPR-CRISP-LINK organised workshop on benchmarking rural innovation capacity in New Delhi on August 19-20.

LINK WORKSHOP ON BENCHMARKING RURAL INNOVATION CAPACITY

If innovation activity remains largely invisible in the economy, how would you go about benchmarking it? How can policy take note of innovation (mainly invisible, but even visible) and how can it support it? Why are we even benchmarking in the first place, and when we do so, who should lead such an exercise?

These were just some of the key questions emerging from discussions on benchmarking rural innovation capacity during a workshop organised by LINK together with the Centre for Research on Innovation and Science Policy (CRISP) and the Centre for Policy Research (CPR) in New Delhi on August 19-20. The event was sponsored by Canada's International Developmental Research Center (IDRC) and UNU-MERIT.

The workshop was designed as a policy dialogue on implications for capacity benchmarking if South Asian countries wanted to move from science and technology policy to innovation policy with the specific goals of rural development.

LATEST AT LINK

Drawing on case studies from six South Asian countries — where policy has largely ignored/ been oblivious to the kind of innovation activity taking place, or has provided insufficient support in some cases — participants at the workshop found common ground in the idea that innovation capacity needed to be benchmarked to help guide and monitor the impact of policy and institutional changes. However, given the wide-ranging views on the very purpose of benchmarking — from measuring innovation activity, learning lessons about innovation (for both policy and practice) and generating dialogue and building links between actors involved in innovation (including policymakers) — there was also consensus among participants that the workshop was just a start into what we at LINK hope will be an ongoing dialogue. The workshop brought together senior officials within S&T organisations engaged in science, technology and innovation planning, and academics/ researchers/ practitioners involved in rural innovation in South Asian countries as well as Peru and the United Kingdom.

[You can also read and respond to Andy Hall's blog on the workshop, "To Measure or to Learn? Why are we afraid of Benchmarking for Learning?", at www.innovationstudies.org.]

■ **Continued from Page 2**

3. Human resource development and policy mainstreaming.
The innovation systems approach doesn't advocate changing all scientists, entrepreneurs and planners into innovation specialists. But it does point to the need for professional activity to use systems' thinking to help better connect individual action and intervention with large-scale goals and longer-term trajectories. Obviously this systems' view is particularly important for policymakers and planners as they set the framework conditions for all innovation activity. Experiences from mainstreaming other cross-cutting issues should have valuable lessons from introducing innovation systems thinking.

The key **RETHINKING** message is that human resource development for innovation needs to shift from training scientists to retooling policymakers and others to use their core professional skills with a systems perspective.

4. Intermediation or Innovation organisers
The innovation systems perspective highlights the critical importance of intermediation and facilitation, i.e., a role of acting as a go-between to help connect different players needed for the process of innovation. This is increasingly referred to as innovation brokering and there is much relevant experience from organisations that have implicitly been playing this role that could inform indicative practice.

The key **RETHINKING** message is that this intermediary role needs to expand from mediation between researchers and farmers to a much wider set of intermediary roles at all levels: sector coordinators, linking farmers to markets, industry associations, policy advocacy organisations, etc. Similarly, while it is a public policy responsibility to ensure that intermediation takes place, it's a role that can be played by public and private sectors and NGOs depending on the historical and institutional context and the type of intermediation to be undertaken.

5. Technology development, transfer and advisory services
The innovation systems perspective recognises research-derived ideas and technology as a critical component of the innovation process. Its critique of research is that the tradition of separateness undermines its relevance to different social and economic endeavours. There is now a very large body of experience where public and private research, extension and advisory services have been rethought or remodelled in ways that have allowed them to become more effective, embedded elements of innovation capacity — public-private sector partnerships, client-orientated breeding, private advisory services in high value horticulture are just some examples. The caveat here is that one would need to be very wary of being "sold" success stories from organisations where success is seen as a route to funding.

The key **RETHINKING** message here is the need to shift from a focus on high-yielding technologies to an emphasis on high-yielding processes of using research for innovation.

6. Balancing social and market development in a sustainable way
One view of innovation systems is that it is a

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way of thinking about the capacity a society needs in order to deliver different services — some social, some economic and some environmental. There is now a range of experiences to learn from, where social and market-driven agendas have been blended, such as Bottom-of-the-Pyramid innovation (Prahalad, 2004), and cases where market and environmental approaches have been blended, such as in organic agriculture, ethno-medicine and eco-tourism.

The key **RETHINKING** message is the need to recognise that social development and environmental sustainability are not necessarily antagonistic to economic competitiveness, but rather are an essential element of it in the new global economy. Rethinking needs to focus on identifying and strengthening innovation capacities that can deliver such win-win scenarios.

7. Incentives and financing innovation
The innovation systems perspective recognises incentives and, particularly, financing as a key element of the capacity to innovate. Innovation prizes, matching grants, competitive grants and challenge funds have lessons, but have had mixed success. The SPARKS programme in China seems to an example of where incentives were used to unleash genuinely creative behaviour.

The key message for the **RETHINKING** agenda is that incentives should be aimed at encouraging creativity and risk-taking rather than encouraging a proscribed set of behaviours; for example, public-private sector partnerships or North-South collaborations, both useful but not universally so. The other RETHINKING agenda is the need to recognise that creative behaviour may well be beneath the policy radar and, as such, may be responding to incentives invisible to conventional policy and market thinking.

8. Enabling investments
The enabling environment for innovation includes policy, regulatory frameworks as well as infrastructure.

The key **RETHINKING** message is about developing coherence between different enabling investments rather than design features of specific tools.

9. Benchmarking, learning and evaluation
Systems of innovation, as mentioned above, present particular challenges for benchmarking. Outside of agriculture there is now quite a rich experience of understanding innovation practice and performance in different ways; for example, innovation surveys in the industrial sector and participatory evaluation and "monitoring without indicators" in the rural development sector. However, this is a highly-contested topic in both the evaluation and innovation studies professions. Tension between accountability, league table positioning and learning agendas need to be recognised in drawing lessons.

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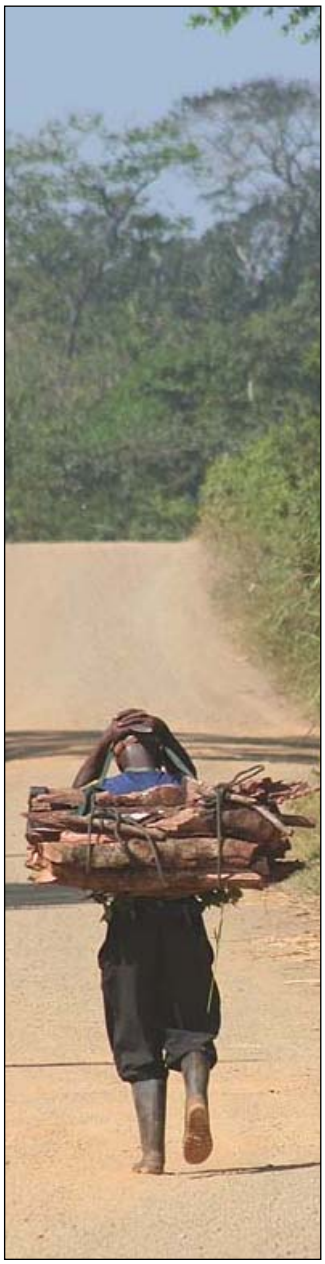

The key **RETHINKING** message is that it is best to first identify what role benchmarking can most usefully play in a particular innovation scenario and be open to experimentation to ensure that the most appropriate mix of accountability, measurement and learning agendas are fulfilled.

10. Putting it all together: Building integrated support programmes
A key challenge for investment planning is how to package all the elements of rethinking innovation capacity support — human resource development and new ways of work, intermediation, research, policy and infrastructure development, etc., — into an integrated investment project. Experience of this sort that could yield indicative practices is probably to be found in the project portfolio of development banks and other international and national agencies. Mission mode programme in India might be an example.

The key **RETHINKING** message is the need to shift from discrete, problem-based interventions, or individual tools, such as research and old sector divisions such as agriculture or forestry, to a support programme with a wider scope that clusters together different forms of support around emerging themes in the rural economy.

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