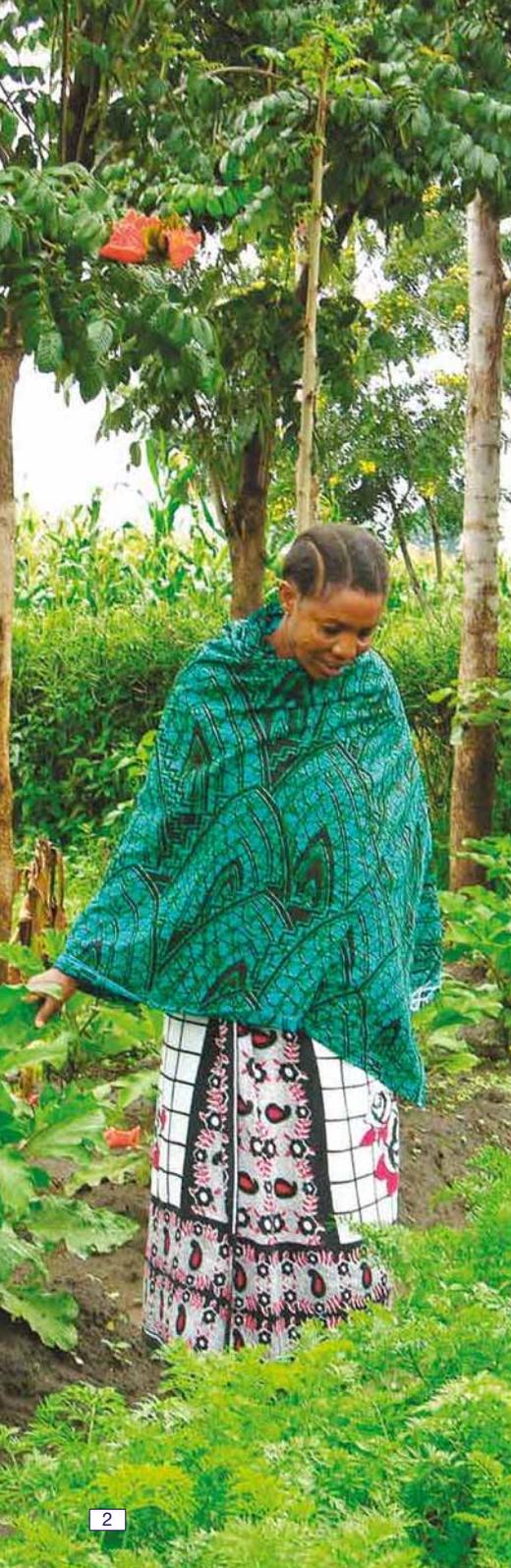




Agricultural Extension, Advisory Services and Innovation





General concepts

'Agricultural extension' describes the services that provide rural people with the access to knowledge and information they need to increase productivity and sustainability of their production systems and improve their quality of life and livelihoods. It includes, but is not limited to, the transfer of knowledge generated by agricultural research. It has helped countries move towards meeting food needs, conserving natural resources and developing human and social capital.

Different players see extension as having different objectives, ranging from overtly political rural campaigning, through commercial promotion of specific commodity production, to the social aims of promoting and implementing poverty-reducing programmes.

Not surprisingly, this lack of clear purpose, along with other factors (see below), has been seen as contributing to very variable results in terms of adoption of recommended practices, increased productivity or impact on rural poverty. Many are questioning whether national extension services in their traditional form are appropriate and sustainable given the high costs of maintaining these services and the general decline in funding for them.

Other factors with a detrimental effect on the performance of extension services include:

- Top-down blanket recommendations, as opposed to more narrowly targeted recommendations or 'baskets of options'
- Lack of flexibility and failure to cater for local requirements
- Technologies that are not suitable for the resource-poor

- Failure to link recommendations to market realities
- Weak communication and linkage among farmers and public and private sector extension service providers.

The meaning of the term 'extension' has changed over time (Swanson, 2008) and is moving away from the dominant emphasis on technology transfer (reflected, for example, in the training and visit approach) towards a much broader concept that includes developing the skills and management capacities of farming families (through the farmer field school approach, for example) and the learning capacity of both farmers and extension organisations.

Extension has been recently defined as “systems that facilitate the access of farmers, their organizations and other market actors to knowledge, information and technologies; facilitate their interaction with partners in research, education, agri-business, and other relevant institutions; and assist them to develop their own technical, organizational and management skills and practices”. (Christoplos, 2010).

Some would give greater and more explicit emphasis to the importance of a multidirectional flow of information that potentially influences research programmes and agendas (for example, from farmers to extension agencies and researchers), as opposed to the unidirectional flow embodied in traditional research and extension systems. This kind of process may be better describes as ‘innovation’ rather than ‘extension’. Experience suggests that actors in agricultural innovation systems must be in closer contact with their clients if systems are to be demand-led and that poor farmers must be better represented and more actively involved if their needs are to be met.

In recent years more attention has been paid to the capacity of extension organisations, particularly those in the public sector, regarding, for instance, their incentive systems, learning capacity, range of expertise (including marketing and farmer facilitation) and relationships with other related stakeholders, such as research organisations, non-government organisations (NGOs) and agricultural service providers in the private sector.

Agricultural and social scientists from the Natural Resources Institute (NRI) have been in the forefront of recent work and debate on improving the efficacy of agricultural advisory services and innovation processes. They have contributed to the consensus that has recently emerged on a need for multi-faceted and multi-institutional agricultural extension and innovation systems that provide varied information services to rural peoples and share information among and between a range of stakeholders, including farmers themselves.



Recent examples of NRI work

Africa: Strengthening Capacity for Agricultural Research and Development in Africa

NRI is providing technical support to the Forum for Agricultural Research in Africa in a continent-wide initiative to strengthen the management and quality of demanded agricultural research. The project is supporting bespoke capacity strengthening activities in response to the priority needs of specific national agricultural research institutes, universities and colleges (called 'focal institutions') in ten countries in sub-Saharan Africa. The project is strengthening partnerships between focal institutions, extension services, farmers' organisations and other actors to support local and national innovation processes. In Lesotho, for example, farmer participatory research is supporting income generation for rural households through improved methods of poultry production. This has involved

extensive collaboration between farmers, local governments, extension services, researchers and the private sector.

Malawi and Tanzania: Climate Change Adaptation in Africa – Strengthening Local Agricultural Innovation Systems

In many sub-Saharan African countries, poverty and food insecurity are linked to low agricultural productivity, which may worsen as a result of climate change. A key challenge is to understand the context and strategies of farmers and other stakeholders in agriculture for adapting to climate change, including increasingly variable climatic conditions. Diverse farming environments and livelihoods suggest a need for localised innovation to enhance and sustain productivity.

In order to strengthen farmers' and other stakeholders' capacities to adapt, it is important to improve two-way communication and engagement among these stakeholders and to increase their access to information.



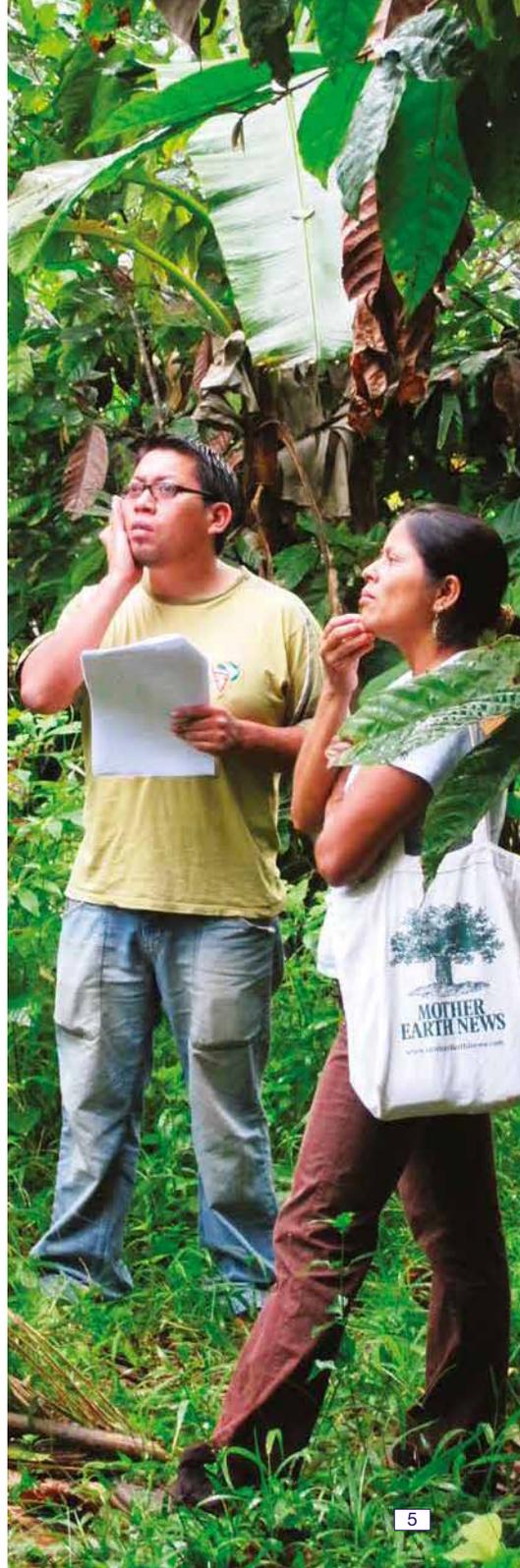
NRI is collaborating on a four-year project funded by DFID and IDRC to strengthen the capacity of individuals, organisations and systems within the agricultural innovation systems in specific locations of Tanzania and Malawi, helping them to adapt to the challenges and opportunities arising from climate change and variable climate conditions. A learning alliance approach guides our action research with farming communities together with local, district, national and regional stakeholders.

The project aims to:

- Strengthen farmers' capacity to access and use quality information, training and products in order to adapt to climate change and variable climatic conditions
- Strengthen the capacity of stakeholders in the private and public sector to make agricultural innovation systems work more efficiently, equitably and responsively to climate change and variable climate conditions
- Learn and share lessons for scaling up successful strategies for capacity strengthening (individuals, organisations and systems) within agricultural innovations systems to adapt to climate change and variable climate conditions.

International: Evaluating Extension Initiatives

Understanding the methods, processes and conditions for successful operation of rural advisory services. In 2010 NRI completed a meta-evaluation of extension evaluation case studies and a review of literature on evaluation methods relevant to extension, for the Global Forum for Rural Advisory Services (GFRAS). These have contributed to a Guide to Extension Evaluation prepared by GFRAS.



India and Nepal: Use and Institutionalisation of Participatory Crop Improvement Processes by Research and Extension Agencies

Client-oriented participatory crop improvement (PCI) processes have greater potential than conventional approaches to increase dramatically the capacity of agricultural research and extension agencies and services to meet the needs of resource-poor farmers.

PCI processes have been shown to identify and develop improved crop varieties that poor farmers like and whose use spreads rapidly. Two national impact assessment studies, funded by DFID's 'Research into Use' programme and completed in 2009, researched the extent to which PCI processes have been used and institutionalised in India and Nepal and the factors that helped or hindered institutionalisation. Participatory varietal selection was found to be widely used and reasonably well institutionalised among government extension agencies and NGOs in Nepal and parts of India.

India: Using Modern ICTs to Access and Exchange Technical Information on Agriculture

The Internet can be a valuable source of information for farmers in developing countries. An EU-funded, NRI-led project, 'TeleSupport-India', focused on facilitating the exchange of information and knowledge between farmers, community groups, research institutes and intermediary organisations (such as NGOs and government extension agencies) in two districts of Kerala and West Bengal.

Fixed and mobile telecentres (the latter using laptops) were set up in several villages. These were made available to

farmers (including women) and managed by trained operators employed by partner NGOs. Agricultural information needs assessments were carried out and the results made available to information providers. TeleSupport provided information about good practices (GPs), especially GPs relating to priority needs. This was done via the Internet in a clear and concise form, in both English and local languages, that could be easily understood by non-specialists; written text was supplemented by visual media. Web-based technology was used to store information in a database and to allow stakeholders to communicate with each other through an electronic discussion forum.

The project developed two-way communication between users and suppliers of information by strengthening linkages between different stakeholders and supporting direct interaction through a question-and-answer service. The database was decentralised, encouraging local ownership and enabling member organisations to input and update information, including feedback from farmers on their use of GPs.

Kenya and Tanzania: Developing Crop Protection Research Promotional Strategies

People in less-favoured areas depend on agriculture for their livelihoods but have very poor access to agricultural services, including advice and training on new products and technologies. The reasons for this include poorly developed systems for access of local-level service providers to new knowledge and products, failure of the private sector to deliver services, under-resourced public extension services, weak infrastructure, and limited technical capacity among certain service providers



(such as some NGOs and community-based organisations). Strategies and tools for improving local access to high-quality agricultural knowledge are a prerequisite for improving livelihoods and reducing vulnerability.

These problems were addressed through three main outputs. The first was a range of approaches and methodologies for developing strategies for getting research into use in the less-favoured areas. Communication and promotional strategies that widened access by all stakeholders to new products and knowledge were embedded within existing institutional frameworks, policies and initiatives.

To enhance sustainable capacity development at the local/meso level, key actors were facilitated to develop a strategy that widened access to new knowledge and products within a specified mandate area. This strategy included improving the system for identifying demand for new knowledge;

characterising current knowledge access mechanisms and preferences (as well as barriers to knowledge access); and cost-effective options for developing and delivering new agricultural knowledge.

The second output was a range of locally developed information and training materials with a focus on locally validated crop protection and post-harvest technologies for semi-arid areas. The third output was capacity building of the main stakeholders in relation to the other two outputs. An action research process enabled key actors to apply their knowledge and experience, and to 'own' the strategies that were developed. Strengthened local capacity enabled much larger numbers of agricultural service providers and farmers to access new knowledge through trusted sources and more sustainable processes. For further information, see www.research4development.info/SearchResearchDatabase.asp?ProjectID=3709.

NRI expertise

Here are some summary profiles of NRI staff with experience in agricultural extension/innovation. NRI can also draw on a wide group of associates, many of whom have expertise in extension as well as operating strong alliances and partnerships with other UK and international centres of excellence. Staff skills range from social anthropology, through farming systems, to agricultural sciences.

Adrienne Martin

E-mail: a.m.martin@gre.ac.uk

Social and institutional development specialist. Over 30 years' research and consultancy relating to poverty, livelihoods and natural resources. Skills in project management; leading multidisciplinary teams; monitoring, evaluation and impact assessment; agricultural policy and service institutions; participatory research methodologies; gender and value chains; indigenous knowledge; social impacts of industry codes of practice. Long-term experience in Sudan and Syria; short-term missions in 30 other countries in Africa, Latin America and Asia. Good Arabic and French.

Uli Kleih

E-mail: u.k.kleih@gre.ac.uk

Economist. Over 20 years of experience in project management, commodity trade and food standards, agricultural marketing analyses, rural non-farm livelihoods, rural transport, market information services, participatory approaches, combinations of qualitative and quantitative survey methods, training, and collection and analysis of farm-level data, as well as food security with a commodity focus on fish, roots and tubers, horticulture, cereals and livestock. Extension-related work includes approaches to farmer organisation, market information needs and dissemination. Country experience in Uganda, Kenya, Tanzania, South Africa, Malawi, Zimbabwe, Mali, Côte d'Ivoire, Ghana, Nigeria, Bangladesh, Nepal, India, Vietnam, Yemen, Indonesia, Haiti and

Peru, and long-term experience in Chad. Fluent German, English and French.

Barry Pound

E-mail: b.pound@gre.ac.uk

Livelihoods and farming systems specialist with over 30 years' experience. Started as an agronomist and has steadily widened his experience through farming systems approaches to sustainable livelihood development and agricultural innovation systems. Much of his work has been at the research/extension interface working with governments, the private sector, NGOs and community-based organisations. Specialities are sustainable livelihoods, farming systems and innovation in information flows between research and extension. Current and recent work includes a Fairtrade impact assessment, pluralistic extension delivery, and rural-livelihoods assessment in Afghanistan. Brings experience from Latin America, Asia, the Middle East and Eastern Europe to bear on new initiatives in sub-Saharan Africa. Worked extensively over the last ten years in East Africa (Uganda, Kenya, Ethiopia and Tanzania) and South Africa.

Richard Lamboll

E-mail: r.i.lamboll@gre.ac.uk

Socio-economist. Over 20 years' experience in research, consultancy and facilitation and training relating to agriculture and natural resource management. Expertise includes livelihoods analysis; stakeholder and institutional analyses; enhancing stakeholder communication, learning and

engagement; on-farm research; formal survey and participatory approaches. Long-term experience in Tanzania, the Caribbean and the Pacific; short-term experience in Ghana, Kenya, Malawi, Nigeria, Sierra Leone, Swaziland, Uganda and Nepal. Current focus on capacity strengthening of agricultural innovation systems, climate change responses, agro/wild biodiversity management, and governance and service delivery in agriculture. Fair Swahili and fluent Bislama.

Tim Chancellor

E-mail: t.c.b.chancellor@gre.ac.uk

Specialist in crop pest management and in capacity strengthening of agricultural research and training organisations. Over 20 years' experience of research, consultancy and training in pest and disease management, research management, institutional capacity strengthening, public-private partnerships, and climate change in relation to pests and diseases. Commodity experience includes rice, banana, groundnut and vegetables. Long-term assignments in Ghana, Indonesia and the Philippines; short-term missions in a wide range of other countries in sub-Saharan Africa, Asia and Latin America.

Rory Hillocks

E-mail: r.j.hillocks@gre.ac.uk

Specialist in integrated crop management and agricultural research for development. Over 30 years experience in applied research, primarily in collaboration with African NARS: adoption pathways for research outputs, making farming more profitable for smallholders, market-led R & D strategies, farmer-participatory research, capacity-building for effective agricultural research and building partnerships between research and wider AR4D stakeholders.

Country experience - 10 years based in Tanzania and Zimbabwe and collaborative projects in many countries of SSA. Commodity experience includes cotton, coffee, sesame, cassava and legume crops.

Lora Forsythe

E-mail: l.forsythe@gre.ac.uk

Gender, learning and impact specialist, with expertise in gender and diversity, institutional development and livelihoods. Research focus on value-chain development of staple crops and impact on rural livelihoods and food security. Experience in micro-finance, market value chains, social exclusion, gender and agriculture higher education, community natural resource management. Skills in policy analysis, project management, participatory methodologies, social auditing, gender analysis, qualitative and quantitative surveys, monitoring and evaluation, and impact assessments.

Helena Posthumus

E-mail: h.posthumus@gre.ac.uk

Socio-economist with over 10 years research experience in natural resource management and rural development. For her PhD research, Dr Posthumus analysed the impact of two different extension programmes on soil conservation in the Peruvian Andes. She is involved in the M&E of various projects on capacity strengthening and innovation platforms within agricultural innovation systems. Other projects Dr Posthumus is involved in include: development and strengthening of market value chains, Fairtrade impact assessment, conservation agriculture, ecosystem services, and other topics.



References

Christoplos, I. (2010) *Mobilising the Potential of Rural and Agricultural Extension*. Neuchatel Group.

Swanson, B.E. (2008) *Global Review of Good Agricultural Extension and Advisory Services Practices*. Rome: FAO.

Selected publications

Conroy, C. (2009) 'Use and institutionalisation of process innovations: Participatory crop improvement processes in India and Nepal'. Paper presented at Innovation Asia Pacific Symposium, Kathmandu, Nepal, 4–7 May 2009. www.innovation-asia-pacific.net/media/20. **Conroy - use and inst. of process innovations - for web.pdf**.

Conroy, C. (2008) 'The nature of agricultural innovation', in S. Snapp and B. Pound (eds.), *Agricultural Systems: Agroecology and Rural Innovation for Development*, pp. 309–323. San Diego, California: Elsevier.

Conroy, C. (2008) 'Livestock, livelihoods and innovation', in S. Snapp and B. Pound (eds.), *Agricultural Systems: Agroecology and Rural Innovation for Development*, pp. 253–279. San Diego, California: Elsevier.

Conroy, C. (2006) 'Telecentre initiatives in rural India: Failed fad or the way forward?', *TeleSupport Project Working Paper 4*, December 2006. Chatham, Kent: Natural Resources Institute.

Forsythe, L., Mangheni, M. and Martin, A. (2010) 'Attracting women into agricultural education: Constraints and best practice'. SCARDA Briefing Papers.

Katunzi, A., Kavoi, J., Lamboll, R., Ogecha, J., Riches, C. and Sutherland, A. (2005) 'Developing crop protection research promotional strategies for semi-arid East Africa'. *AgREN Newsletter 51*, January 2005, pp. 1–2. www.odi.org.uk/agren/newsletters.html.

Martin, A. (2009) 'So what difference does it make? Assessing the outcomes and impacts of farmer participatory research', in I. Scoones and J. Thompson (eds.), *Farmer First Revisited; Innovation for Agricultural Research and Development*, pp. 276–281. Practical Action Publishing.

Leakey, R., Kranjac-Berisavljevic, G., Caron, P., Craufurd, P., Martin, A., McDonald, A., Abedini, W., Affif, S., Bakurin, N., Bass, S., Hilbeck, A., Jansen, T., Lhaloui, S., Lock, K., Newman, J., Rpinavesi, O. and Sengooba,

T. (2009) 'Impacts of AKST on development and sustainability goals', Chapter 3 in Beverly D. McIntyre *et al.* (eds.), *International Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTD) Global Report*, pp. 145–253. Washington, DC: Island Press.

Posthumus H, C Gardebroek, R Ruben. 2010. From participation to adoption: comparing the effectiveness of soil conservation programs in the Peruvian Andes. *Land Economics* 86(4): 645–667
Posthumus H. 2005. Adoption of terraces in the Peruvian Andes. *Tropical Resource Management Papers* no. 72, Wageningen. ISBN 90-6754-957-6.

Posthumus H, LK Deeks, I Fenn, RJ Rickson. 2011. Soil conservation in England: linking soil management with policies and stakeholders. *Land Degradation and Development* 22: 97-110

Pound, B. (2008) 'Livelihoods and Rural Innovation', in S. Snapp and B. Pound (eds.), *Agricultural Systems: Agroecology and Rural Innovation for Development*, pp. 27–52. San Diego, California: Elsevier.

Pound, B., Kasindei Massawe and Fazluddin Fazi (2007) 'Innovation partnerships for effective adaptive research and technology uptake'. Paper presented at Enhancing Agricultural Innovation (international workshop organised by ARD World Bank), Washington DC, 22–23 March 2007.

Pound, B., Conroy, C., and Martin, A. (2008) *Evaluation Knowledge Baseline on: The Transformation of Formal Agricultural Research into Innovation that Benefits the Poor in Sub-Saharan Africa and Asia: Issues, Current Practices, Limiting/Supporting Factors, Knowledge Gaps and Implications for RIU*. Chatham, Kent: Natural Resources Institute.





UNIVERSITY
of
GREENWICH

Natural Resources Institute

University of Greenwich
Medway Campus
Central Avenue
Chatham Maritime
Kent ME4 4TB

Tel: +44 (0)1634 880088

E-mail: nri@gre.ac.uk

Website: nri.org

<http://cava.nri.org>



FS 54723
ISO 9001

This document is available in other formats on request

University of Greenwich, a charity and company limited by guarantee, registered in England (reg. no. 986729).
Registered office: Old Royal Naval College, Park Row, Greenwich, London SE10 9LS

Every effort has been made to ensure that this document is as accurate as possible. However, the university reserves the right to discontinue any class or programme, to alter any programme or to amend without notice any other information detailed here.