Node: Suite Summary[1, 2]

India: Pro-poor rural services for improved livelihoods

Context

In India, the Green Revolution (GR) started in the late 1960s in the north-western areas of the Indo-Gangetic Plains. In these areas, irrigation is almost a pre-requisite for agriculture in both summer (*kharif*) and winter (*rabi*) seasons due to the arid or semi-arid climate and a well-developed, efficiently functioning, large-scale surface irrigation had been in place since the mid 19th century. The GR brought modern varieties of rice and wheat that were responsive to fertiliser inputs, increasing the profitability of the irrigated agricultural system. These GR technologies also made supplementary irrigation from groundwater profitable.

In the eastern areas of the Indo-Gangetic Plains (including eastern Uttar Pradesh, north Bihar, Bengal and Orissa), adoption of GR technologies has been much slower; explanations for this vary, but include:

- In most years, rainfall is sufficient for a kharif crop so GR technologies offer lower returns to irrigation and private water markets to exploit groundwater have not developed.
- Lack of roads and communications, poverty and poor local governance.
- Issues of agrarian structure: small and fragmented holdings with a prevalence of share-cropping, exploitive traders, poor development of credit markets and persistence of usurious money lending.
- Weaknesses in the approaches used for agricultural research and for agricultural and rural development.

From the 1970s until the 1990s, the official agricultural research community and the non-governmental organization (NGO) community pursued strategies for research and agricultural development in the eastern Indo-Gangetic Plains based on modernisation and top-down approaches typical of the GR. These included Farming Systems Research, Training and Visit extension and Command Area Development Agencies but technology adoption remained low. This was attributed to the weaknesses in agricultural research and development (fourth bullet above) resulting in a poor fit between the technologies and the target populations and in inappropriate communication approaches. Accordingly, new approaches were tried, including Farmer Field Schools, the Institute Village Linkage Programme, micro-finance and rural livelihoods initiatives. None have proved replicable at the level needed to achieve wide scale development impact.

More recently, the trend towards involving the private sector and development NGOs in official development interventions have encouraged further institutional innovations in pursuit of the objectives of pro-poor development and growth.

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[1] This document summarises NRSP's work in one of its uptake promotion node: suites. For further details and links to project and project documents see http://www.nrsp.org.uk/6.aspx

[2] This document presents research funded by the UK Department for International Development (DFID) for the benefit of developing countries. The views expressed are not necessarily those of DFID.

This Node: Suite seeks to bring these trends or strands of development practice together through the framework of rural livelihoods. The premise is that, while environmental, socio-economic and institutional factors present multiple interlocking obstacles to development, recent technological and institutional innovations can be harnessed to improve productivity and well-being in the eastern Indo-Gangetic Plains.

Research Topics

- How can land and water productivity be improved in eastern areas of the Indo-Gangetic Plains?
- Is it possible to develop and test research innovations at a 'development' scale?
- Can new institutional arrangements and partnership approaches be devised for delivering interdisciplinary research?

Projects

Consultations during 1997 (NRSP workshops R7000 and R7001 [see below for project links]) with an international group of researchers and stakeholders that included representatives from the Indian Council for Agricultural Research (ICAR) and regional research organisations, framed the challenges facing high potential systems. These discussions highlighted the 'gap' between current and potential production levels for specific locations. In 1998, NRSP then supported an ICAR national workshop on 'Long-term soil fertility management through integrated plant nutrient supply', held in Bhopal. This workshop identified the poor adoption of research products and technologies by intended users as an important factor in the failure to achieve expected production levels. Further, it drew attention to the need for biophysical, social and institutional options for enhanced nutrient management.

Project R7458 confirmed the findings of the Bhopal workshop, highlighting that the development interventions to date had focused on technical solutions and that greater emphasis was needed on institutional interventions. Research in Bangladesh for R7600 identified issues of communication, and service delivery more widely, as important factors that affected uptake of technologies.

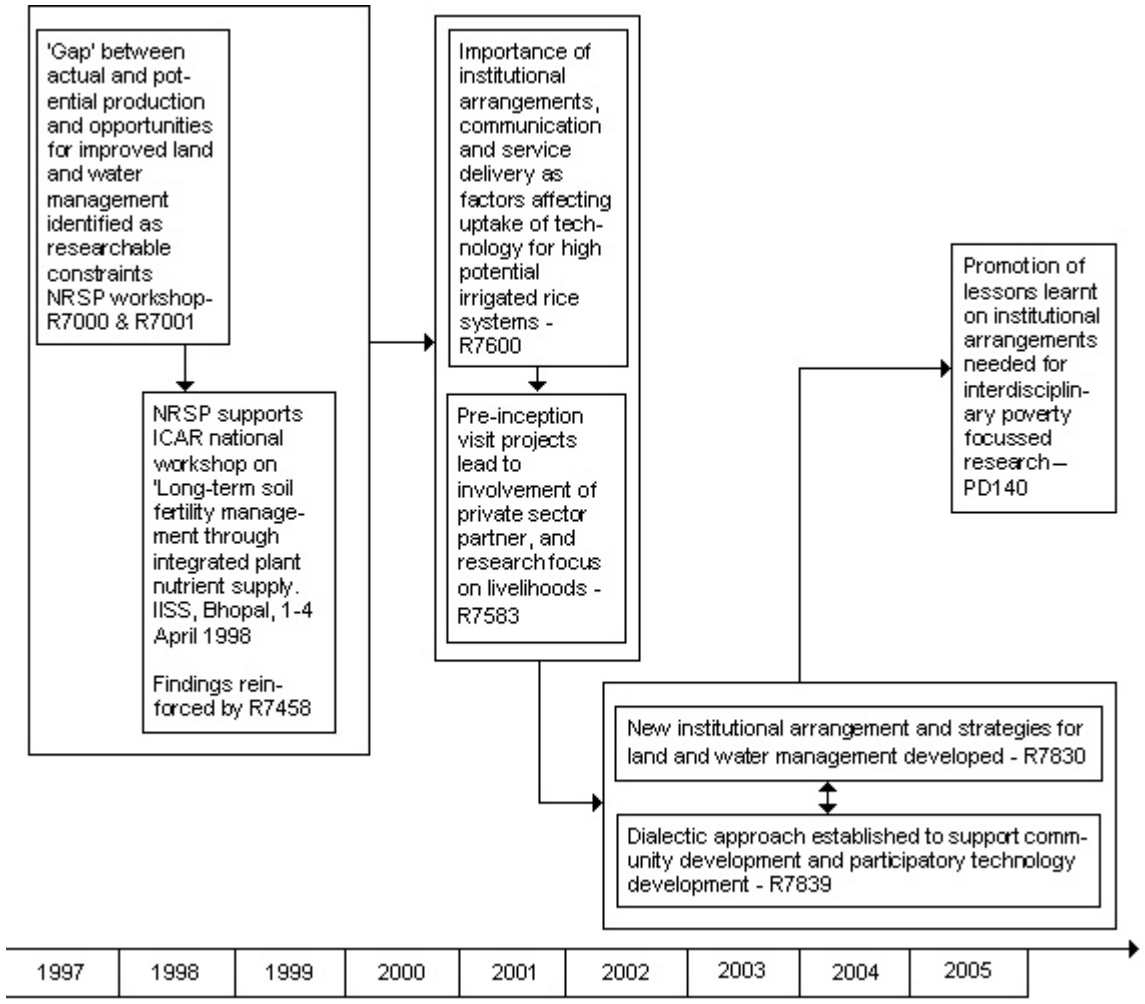
Recognising that how research and other services are delivered affects uptake of productivity innovations, ICAR's Natural Resources Management Directorate worked with NRSP to develop a research effort that would operate beyond the production-based research norm (R7583). The research was intended to generate new knowledge of effective strategies for rural services delivery and for local arrangements to improve livelihoods through agricultural activities.

Two sister projects were developed, R7830 in Bihar and R7839 in eastern Uttar Pradesh. R7830 explored the opportunities for enhancing productivity through integrated management of land and water resources. R7839 sought to develop sustainable and scaleable institutional arrangements at the community level that would facilitate livelihood improvement for the poor. Together, the projects tested an institutional approach - the dialectic approach - to enhance social capital in the community and to build individual financial and human capital through self help groups (SHGs) supported and advised by rural development services, in order to stimulate demand by the target group for agricultural services. The approach complemented a participatory technology development (PTD) process in which scientists, as

service providers, delivered relevant information, using appropriate communication methods, in response to demand from the SHGs. Scientists then provided consultancy-style inputs, if required, in response to further demand.

Findings and lessons learnt on institutional innovation for interdisciplinary research were promoted to practitioners, policy makers and donors through a workshop and through specialised communication products (PD140).

Project links within India Suite 2: 1997 - 2005



Outputs

Findings

R7000 & R7001, the ICAR national workshop and R7458 led to recognition of the gap between current and potential crop production levels, due to low technology uptake. The need for social and particularly institutional, as well as bio-physical, interventions for enhancing productivity was identified. R7600 and R7583 confirmed these findings and highlighted the importance of appropriate rural service delivery mechanisms and appropriate communication.

The dialectic approach developed by R7839 proved to be an innovative low cost means to motivate the community (particularly the poor and women) and to facilitate effective SHGs to form, evaluate and pursue new livelihood opportunities including the use of micro-credit. Through this process and the complementary participatory technology development (PTD) process, individuals explored a wide range of agriculturally based livelihood strategies, including investing in high value vegetable production, livestock (cattle and chickens) and aquaculture. SHGs took information and support from multiple sources, in addition to the research team. New service providers emerged within the communities, in response to the SHGs' demands, providing micro-finance, agricultural inputs and information.

As confidence grew within the community, projects R7830 and R7839 found that enabling the landless and socially disadvantaged to engage with exisiting institutions, such as Water Users Associations (WUAs), led to the emergence of new arrangements for land and water management. The formation of outlet management groups within WUAs was an innovation that enabled improved water management and improved relationships with main canal managers. Other water management innovations, driven by the potential returns to irrigation, included groundwater pumping, installing outlet gates and modifying field bunds to retain more rain water.

The dialectic approach to community development has proved effective in terms of stimulating viable SHGs and PTD outcomes. Its low implementation costs can be financed through micro-finance margins or using the grants that typically available from micro-finance institutions. The PTD process with scientists as service providers proved less resource intensive than conventional participatory research methods This suggests the project approach can be widely replicated, and that scientists can support PTD at a development scale.

Research messages

- Using a 'dialectic approach', practical demonstrations and low levels of facilitation can stimulate householders' investment in testing alternative, productive natural resource-based livelihood enterprise, without a subsidy.
- Local individuals can emerge as rural service providers once demand for quality inputs and appropriate information is articulated and recognised.
- Scientists need to reposition themselves as active participants in participatory technology development in order to support exploration and experimentation by large numbers of individuals and groups. One important role is as providers of information through bespoke communication products on demand-based issues.
- The institutional arrangements and partnership approaches developed in this Node: suite have been effective in delivering appropriate and relevant livelihoods research and hold potential to improve productivity and well-being in areas such as the eastern Indo-Gangetic Plains.

Key research products

- Gaunt, J.L., White, S.K., Best, J.R., Sutherland, A.J., Norrish, P., Robinson, E.J.Z., Hossain, Z. and Palmer-Jones, R.J. 2003. The researcher-farmer interface in the rice-wheat systems: Moving from agricultural productivity to livelihoods. In Ladha, J.K., Hill, J.E., Duxbury, J.M., Gupta, R.K. and Buresh, R.J. (eds). Improving the

productivity and sustainability of rice-wheat systems: Issues and impacts. ASA special publication No 65, Madison, Wisconsin, USA. pp 211-231.

- Anon. 2004. Realising potential: Livelihoods, poverty and governance. Proceedings of policy consultation workshop. 3-4 August 2004, New Delhi, India. 39pp.
- Gaunt, J.L. and Sikka, A.K. 2005. Realising potential: Livelihoods, poverty and governance. Scientific report. Annex A to the FTRs of R7830 and R7839. Rothamsted, UK: Rothamsted Research and Patna, India: ICAR Research Complex for Eastern Region. 85pp.
- Gaunt, J.L. 2005 An account of the dialectic approach developed by DFID NRSP project R7839. Annex Bi of the FTR of projects R7830 and R7839. Rothamsted, UK: Rothamsted Research. 33 pp.
- A new method for participatory technology development (R7839 / 7830 Annex B viii)
- Douthwaite, B., Sikka, A., Sulaiman, R., Best, J. and Gaunt, J. 2006. Learning with innovation histories. LEISA magazine, March 2006: 42-43.
- GYA and ICAR-RCER. 2006. Partnering for impact: Learning from institutional change in Indian agricultural R&D. Harpenden, UK: GY Associates Ltd and New Delhi, India: ICAR- Research Complex for the Eastern Region, India. 36pp.
- GY Associates and ICAR. 2006. Encouraging effective R&D partnerships: Lessons learned from the Indian experience. Harpenden, UK: GY Associates and New Delhi, India: ICAR. 4pp.

Impacts

Projects R7830 and R7839 directly reached over 5,000 people. Demonstration of the benefits from earlier rice crop establishment due to irrigation led to improved water use and increased groundwater exploitation in the project area. As the projects progressed, new land and water management arrangements emerged, with non-landowning groups engaging with landowning members of the Water Users Association (WUA). The WUA reorganised to manage local water distribution more effectively and dialogue was initiated with state officials to discuss problems with main canal management.

Relationships between scientists and community members changed, with villagers challenging scientists to provide relevant information and support. New linkages between SHGs, service providers and other information sources were established to meet the interests to groups.

The poor and socially disadvantaged explored new livelihood opportunities. Although it is too soon to assess project impact on livelihoods, SHG members reported direct benefits.

Research uptake occurred in both the private sector and the public sector:

Private sector uptake:

- CIRRUS Pvt. Ltd a partner in R7839 drew on lessons learnt in developing the dialectic approach when establishing commercial ventures in five states of India. This was expected to reach a further five other states by mid 2007
- The Centre for Promotion of Sustainable Livelihoods (CPSL), an NGO based in Patna, Bihar, is using and promoting the dialectic approach as a key part of its community development and micro-finance activities.

Donor and Government uptake:

- ICAR recognized that this Node: suite research had tested a new adaptive research model. It supported a lesson-learning workshop to ensure that experience from R7830, R7839 and other institutional innovation projects fed into ICAR publications and into the design of its programmes.
- A DFID Rural Livelihoods Project in Madhya Pradesh incorporated ideas and concepts from R7839 into its draft guidelines.
- The DFID Poorest Areas Civil Society Programme (PACS) in India has drawn on the lessons learnt and is promoting the dialectic approach to 17 NGOs in over seven districts in Bihar.

Further work

The research in this Node: suite initiated activities with potentially significant beneficial livelihood impacts. An ex-post analysis in the project area should be considered to assess impact and institutional sustainability of the project outcomes.

At the time of writing (January 2006) it is understood that the agenda for institutional change within ICAR is to be supported by the World Bank through the National Agricultural Innovation Project (NAIP). This will be a valuable opportunity to promote the lessons learnt from using innovative institutional arrangements and partnerships to deliver pro-poor research.