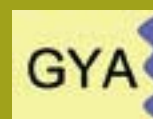


Partnering for Impact:

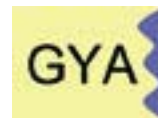
*Learning from Institutional Change
in Indian Agricultural R&D*





Partnering for Impact:

*Learning from Institutional Change
in Indian Agricultural R&D*



About this report

This project was co-sponsored by the UK Department for International Development, Natural Resources Systems Programme and the Indian Council of Agricultural Research, Natural Resource Management Division.



© 2006 GY Associates and Indian Council of Agricultural Research.

The publisher encourages fair use of this material, provided proper citation is made.

This document is an output from a project funded by the UK Department for International Development (DFID) for the benefit of developing countries. The views expressed are not necessarily those of DFID.

Correct citation:

GYA and ICAR–RCER (2006) *Partnering for Impact: Learning from Institutional Change in Indian Agricultural R&D*.

GY Associates Ltd, UK and Indian Council of Agricultural Research – Research Complex for the Eastern Region, India.

Contents

Acronyms	v
Preface	vii
Acknowledgements	i
Introduction	5
Why form R&D partnerships?	7
Analysing partnerships	11
Good partnering principles, guidelines and practices	18
Conclusion	19
References	20
For additional information	22
Annex <i>Learning from Institutional Change: an innovative workshop approach</i>	23
Workshop participants	



Acronyms

AKRSP	Aga Khan Rural Support Project (India)
CGIAR	Consultative Group on International Agricultural Research
CIAT	International Center for Tropical Agriculture (Centro Internacional de Agricultura Tropical)
CIMMYT	International Maize and Wheat Improvement Center (Centro Internacional de Mejoramiento de Maíz y Trigo)
CRIDA	Central Research Institute for Dryland Agriculture (India)
DFID–NRSP	UK Department for International Development–Natural Resources Systems Programme
ICAR	Indian Council of Agricultural Research
ICAR–NRM	ICAR–Natural Resource Management Division
ICRISAT	International Crops Research Institute for the Semi-Arid Tropics
ICT	information and communications technology
ILAC	Institutional Learning and Change Initiative (CGIAR)
IRRI	International Rice Research Institute
MVF	M.Venkataramjiya Foundation (India)
NAIP	National Agricultural Innovation Project (India)
NCAP	National Centre for Agricultural Economics and Planning (India)
NGO	non-governmental organisation
NRM	natural resource management
NRSA	National Remote Sensing Agency (India)
R&D	research and development
RCER	Research Complex for the Eastern Region (ICAR)
RWC	Rice–Wheat Consortium for the Indo-Gangetic Plains (CGIAR)

Preface

Researchers in agriculture and natural resource management are being challenged by policy makers and donors to generate new, more effective strategies for delivering rural services and for implementing local arrangements that lead to improvement of livelihoods for the rural poor.

Meeting this challenge requires scientists to engage in new types of research partnerships and to explore new research management strategies. These new partnerships are typically interdisciplinary in nature and involve partners from diverse fields and organisational settings. They often cross organisational, cultural and national boundaries. The management strategies employed in such initiatives are crucial to their success. Recognising the need to break down traditional barriers and engender innovation, the Indian Council of Agricultural Research (ICAR) is implementing a new National Agricultural Innovation Project (ICAR–NAIP) beginning in 2006.

ICAR's Natural Resource Management Division (ICAR–NRM), in partnership with the UK Department for International Development, Natural Resources Systems Programme (DFID–NRSP), have previously funded pilot research projects that tested new institutional approaches.

During a 2004 workshop¹ that examined the findings of one of these pilot projects, participants identified an opportunity to vali-

date the utility of the partnership approach more widely by comparing experiences and lessons learned across innovative projects and programmes in India.

In late 2005, ICAR–NRM and DFID–NRSP agreed to cosponsor a four-day workshop in New Delhi, *Learning from Institutional Change*, to be funded by DFID–NRSP. This involved the analysis and synthesis of case study projects selected as examples of innovative, interdisciplinary, multi-partner research by a group of research and development practitioners. The workshop asked a deceptively simple question: *What rules, habits and conventions have to be changed to enable effective and efficient partnerships?*

The overwhelming view of workshop participants was that partnerships of the sort described offer an effective alternative to traditional ways of working. A key finding of the workshop is that a 'one size fits all' model cannot be defined to guide the formation of an effective partnership. This has important implications for the management of research partnerships, calling for decentralisation of management functions and for appropriate framework approaches for the evaluation of delivery by partnerships.

This finding also affected how we documented the results of the workshop. Rather than seeking to specify or develop a particular format for the establishment of



¹ *Realising Potential: Livelihoods, Poverty and Governance*, 2–3 August 2004, New Delhi

partnerships, or present the case studies drawn on by the workshop as templates or examples to be followed, we set out guiding principles and lessons learned.

Our intention is that these materials, as well as the tools and additional information to which they direct readers will be of value

to groups as they work to form partnerships and develop new approaches to meet their research and development challenges.

John Gaunt

GY Associates, Harpenden, UK

March 2006

Acknowledgements

Funding for this project and workshop was provided by the UK Department for International Development, Natural Resources Systems Programme (DFID–NRSP) through project PDI40. The project and workshop were co-sponsored by the Indian Council of Agricultural Research, Natural Resource Management Division (ICAR–NRM). **John Gaunt** (GY Associates Ltd, Harpenden, UK), **Alok K. Sikka** (ICAR Research Complex for the Eastern Region (RCER), Patna, Bihar) and **Rasheed V. Sulaiman** (National Centre for Agricultural Economics and Policy Research (NCAP), New Delhi) were partners in implementing the project. Invaluable support in the design of the workshop approach and in facilitation

was provided by **John Best** (International and Rural Development Department, The University of Reading, Reading, UK), **Boru Douthwaite** (International Center for Tropical Agriculture (CIAT), Cali, Colombia) and **Tiff Harris** (Green Ink, Kenya). We gratefully recognise the support provided by the Institutional Learning and Change (ILAC) initiative of the Consultative Group on International Agricultural Research (CGIAR) for supporting the contributions of Boru Douthwaite.

The contributions of participants in each phase of the workshop (see Annex) are gratefully recognised. This resource document draws directly on the materials prepared by participants during the workshop.





Introduction

India's agricultural research and development landscape is changing rapidly, giving rise to a number of new challenges. Several factors are driving agricultural change in the country, including rising incomes, changing relative prices between cereals and high-value agricultural products, increasing urbanisation, improved infrastructure and more open trade policies. These changes have helped boost demand for higher-value crop and livestock products. In order to meet this growing demand, agricultural productivity in India must continue to rise, and producers will need to diversify away from basic cereals and into higher-value products, including cash crops, livestock, and fisheries.

Providing access to new technologies and agricultural production strategies offers fresh opportunities to researchers and farmers alike, but capitalising on these opportunities is often hampered by a sometimes bewildering array of intellectual property issues and other institutional considerations. Globalisation requires continuous innovation at all levels of the research and development process in order to remain competitive, in both local and in international markets. This pressure to innovate must be balanced against the growing need to pursue social welfare goals, such as targeted poverty reduction, as well as general economic growth. The demand for accountability in the expenditure of public funds has never been

greater; nor has the need for evidence of impact. A multitude of local, national and international non-profit civil society organisations – with a diverse range of interests, resources and skills – are now involved in agricultural research and rural development. The same can be said about a growing cadre of for-profit private-sector institutions. In short, new opportunities are accompanied by new challenges, and in order to meet those challenges India must adopt innovative approaches to agricultural R&D that bring a broader array of skills and experience to bear.

New forms of partnership – especially between public and private entities – are increasingly seen by policy makers, donors and senior research managers as an effective way to ensure wider participation and the consideration of different views. Characterised by diverse interests, experiences and capabilities, such novel arrangements are seen as particularly important in responding to the complex challenges that face agricultural researchers and natural resource management (NRM) specialists in India.

This enlightened view is reflected in a new initiative by the Indian Council of Agricultural Research (ICAR) known as the

New forms of partnership – especially between public and private entities – are increasingly seen as an effective way to ensure wider participation and the consideration of diverse interests.

National Agricultural Innovation Project (NAIP), which is being implemented in 2006 with support from the World Bank. NAIP is designed to encourage the trend towards innovative public-private partnerships by providing start-up funding, information, and consultation services to interested parties. ICAR views the partnership approach as important for achieving:

- Demand-driven, decentralised public agricultural research and extension systems;
- Greater public-private collaboration; and
- Closer linkages with various domestic and international sources of technologies and knowledge.

The purpose of this resource document is to help those involved in agricultural R&D and interested in setting up

a partnership to better understand what they are getting into, how to better assess the potential benefits associated with such relationships, and what it will take to make the approach work. This document draws on the theory and documented experiences found in the global partnership literature, and will guide readers in their search for additional information. But

most importantly, it draws on the key lessons learned that are distilled from case studies of how real-world NRM research and development partnerships work in India.

A four-day workshop (*Learning from Institutional Change*) was held in New Delhi in late 2005 and involved focused analysis and synthesis of four projects that had been identified as good examples of innovative, interdisciplinary, multi-partner research projects in progress in India (see Box 1). The workshop sought to clarify what a research partnership actually is in practice, elaborate a set of good partnering principles based on the experiences of the case study participants, clarify the benefits of the partnership mode of operation, and identify the key factors that enable, as well as inhibit, the development and implementation of effective R&D partnerships (see Annex).

The workshop used a modified innovation history method to guide discussions (Douthwaite et al., 2006). This method enables stakeholders in an innovative process to record and reflect on the reality of that process. The act of preparing the history stimulates discussion, thinking and learning among participants, and also informs more widely through information outputs that share the findings. The method represents a relatively quick and economic way of articulating and spreading the lessons from innovative experiences.

The purpose of this resource document is to help those who wish to embrace a partnership strategy to better understand what they are getting into, how to assess the true nature of such relationships, and what it will take to make the approach work.

Box 1. Multi-partner agricultural research and development in India

Partnerships are increasingly recognised by policy makers, donors and senior research managers as a viable strategy for achieving agricultural research and development. Government policy makers in India responsible for overseeing agricultural R&D, and the donors that fund such work, wish to learn from the partnership experiences of others. The main advantage of the partnership approach is clear: the pooling of diverse experiences, capabilities and interests enables a synergistic response to the complex challenges that face agricultural researchers and NRM specialists. This is certainly borne out by the experience of four different R&D partnerships that have been operating during recent years in India.

These alliances served as the key case studies in a workshop focussed on *Learning from Institutional Change*, co-sponsored by ICAR–NRM and DFID–NRSP and held in New Delhi in late 2005. The basic principles or characteristics that contributed to the success of each of these partnerships are essentially the same from one to the next (see pages 7–18). Yet each coalition is distinctive, representing a diversity of goals, objectives, values and organisational cultures. Operationally, however, one thing they have in common is that those who manage them explicitly recognise their internal diversity as a source of strength, and have found ways to capitalise on it.

What follows here are a few highlights of each case study. Much more detailed information can be obtained from the websites referenced below.

Case Study 1:

Integrated management of land and water resources for enhancing productivity and Improved livelihoods through improved crop and soil management (two merged projects)

Lead Partners: ICAR Research Complex for Eastern Region, Patna; Rothamsted Research, UK; Cirrus Management Services, Ltd., Bangalore

Interventions: Effective delivery of rural services, and development of local institutional arrangements (self-help groups and micro-finance) that enable rural men and women, specifically the poor, to improve their livelihoods through better land and water management

Location: Patna, Bihar and Maharajgang, Eastern Uttar Pradesh

Key features: ICAR researchers and international scientists worked in full partnership with a private-sector company specialising in community development. The project gave the community development specialists the space to develop their own innovative methods for meeting goals, rather than being treated as sub-contractors that had to work in ways prescribed by ICAR or international partners. Work was carried out on a development scale.

More info: www.nrsp.org.uk

Projects R7830, R7839 and PD140 <http://www.icar.org.in/>

Case Study 2:

Improved livelihoods in watersheds through a consortium approach

Partners: International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), Patancheru; District Water Management Agency; Central Research Institute for Dryland

Agriculture (CRIDA), Hyderabad; M Venkatamgiya Foundation (MVF), Secunderabad; National Remote Sensing Agency (NRSA), Hyderabad; and farmers in Kothapally through the watershed association, watershed committees, user groups and self-help groups

Interventions: The project took a holistic systems approach to sustaining/increasing agricultural productivity. Interventions included various *in situ* and *ex situ* soil and water conservation activities, as well as the introduction of high-value crops (e.g., medicinal and aromatic plants), drought-tolerant crops and varieties, and efficient nutrient and pest management options.

Location: Andhra Pradesh

Key features: This novel consortium approach required ICRIAT to decentralise the administrative functions needed to support multi-stakeholder projects in different, widely spread locations. It made use of information and communications technology (ICT) to empower local communities, was strongly oriented towards participatory planning and implementation, explicitly emphasised 'mainstreaming' women in development activities, encouraged the development of micro-enterprises to improve livelihoods, and worked closely with policy makers to enhance the scaling up of impact.

More info: <http://www.icrisat.org/gt-aes/Watersheds/ADBwsheds/wshedshome.htm>
<http://www.icrisat.org>
<http://www.combatlanddegradation.org>

Case Study 3:

The Rice–Wheat Consortium

Partners: The International Maize and Wheat Improvement Center (CIMMYT), the International Rice Research Institute (IRRI) and ICRIAT; ICAR; private-sector input and service providers, agricultural machinery manufacturers, and non-governmental organisations (NGOs)

Interventions: Research on rice–wheat systems; participatory needs assessment; participatory validation and refinement of technologies; technology dissemination

Location: Indo-Gangetic Plains, including Bangladesh, Nepal and Pakistan

Key features: An assessment of achievements on the Indo-Gangetic Plains was used to formulate a consortium research and technology development strategy that included the private sector, international exposure and learning lessons from others. Partnering arrangements have evolved since the beginning of the programme. Initially, efforts focused on working with lead farmers at the field level and equipment manufacturers. The consortium increasingly works more with community-level institutions, in addition to its long-standing relationships with lead farmers.

More info: <http://www.rwc.cgiar.org>

Case Study 4:

Community development in Gujarat

Partners: Aga Khan Rural Support Project (AKRSP); Community Group (GVM) Bank; Farmers Federation; Milk Union; state departments dealing with agriculture, soil and water conservation, irrigation and forestry

Interventions: Joint forest management; soil and water conservation and agroforestry; establishment of self-help groups; biogas; irrigation schemes; input supply and output marketing; dairy and micro-enterprise development

Location: Gujarat

Key features: This is a long-term partnership (dating back to 1993) with Rukhal Village. The community was initially poorly organised and dependent on the AKRSP, but over time the partnership evolved such that the role of AKRSP gradually became one of facilitation, rather than direct implementation.

More info: <http://www.akdn.org>

Why form R&D partnerships?

Sustainable agricultural development and natural resource management can only be achieved by addressing – often almost simultaneously – the many interrelated issues that affect the ultimate outcomes of the research and development (R&D) process. The partnership approach offers a way to do this by bringing many different skill sets to bear – again almost simultaneously – in a coordinated effort to overcome what heretofore have appeared to be insurmountable obstacles to improving the lives and livelihoods of the rural poor in India and elsewhere.

The case studies used in the New Delhi workshop highlight some of the key benefits of the partnership approach, including: enhanced synergy and creativity; greater sustainability over time; increased empowerment and capacity building among partners; improved cost-effectiveness; wider sharing of information and more rapid scaling up of useful interventions; and positive changes in organisational behaviour and processes, including greater transparency and a more participatory approach to planning, priority setting and decision making in general. The case studies demonstrated that the partnership approach is desirable because it is a more effective and efficient way to implement agricultural R&D. Partnerships offer opportunities to leverage resources in ways that are not readily available to organisations

working in isolation. And partnerships tend to beget additional partnerships – as experience is gained, the ability of organisations to enter into or encourage the creation of new partnerships grows.

The term partnership is widely – and loosely – used, so much so that the notion of research and development partnerships “...is in danger of remaining a ‘feel good’ panacea for governance without a pragmatic grasp of what it is and how it differs from business as usual” (Brinkerhoff, 2002). Thus it is useful to define what an ideal partnership might look like as a point of departure for understanding what partnerships look like in real life.

“Partnership is a dynamic relationship among diverse actors, based on mutually agreed objectives, pursued through a shared understanding of the most rational division of labour based on the respective comparative advantages of each partner. Partnership encompasses mutual influence, with a careful balance between synergy and respective autonomy, which incorporates mutual respect, equal participation in decision making, mutual accountability and transparency.” (Brinkerhoff, 2002)

In practice, partnerships rarely, if ever, attain this ideal state. Partnerships can and should take many different forms – there is

Partnerships offer opportunities to leverage resources in ways that are not readily available to organisations working in isolation.



no 'one size fits all' when it comes to this form of collaboration and practitioners should be aware of and experiment with a variety of arrangements.

It is important to have a clear understanding of what a partnership is – and why you are trying to establish one – because the ground rules by which they operate differ

significantly from those that characterise other kinds of inter-organisational relationships. Understanding these differences can help to avoid unreasonable expectations, friction and frustration, all of which can give rise to significant conflict in the relationship.

Analysing partnerships

If an organisation is contemplating one or more new R&D partnerships, it is important to carefully assess the potential advantages and disadvantages of such relationships **before** moving forward. Similarly, if an organisation has already adopted the partnership mode of operation, it is useful to periodically reflect on the nature of the relationships in which it is engaged. While there can be very high payoffs associated with this approach to agricultural R&D, it also has implications for institutional (and individual) behaviour – how planning is done, how decisions are taken, how resources are allocated, and how the work of the respective partners is carried out.

All too often, partnerships are pursued without considering the behavioural changes that will be necessary for the relationship to function effectively. A clear-headed assessment of the implications of entering into a partnership – or keeping one going – may well lead potential partners to conclude that

other options might be more appropriate. Fortunately, there is a useful framework that can be used to more clearly assess such relationships and the potential they hold.

The actor network matrix (Douthwaite and Ashby, 2005)

Assessing the utility and probable success of a given partnership involves the explicit consideration of the different roles and relationships of the actors involved. An actor in this context can be a group or organisation that exerts influence on or within the partnership. The matrix describes the relationships among various partners – potential new partners and/or existing ones – and can help decision makers determine whether to form a partnership or maintain an existing one. A generic actor network matrix is shown in Figure 1.

The process for developing the actor network matrix is relatively straightforward. Begin by identifying and listing the various

	Actor A	Actor B	Actor C
Actor A		Relation of A → B	Relation of A → C
Actor B	Relation of B → A		Relation of B → C
Actor C	Relation of C → A	Relation of C → B	

Figure 1. Format of an actor network matrix



actors involved. Actors in this sense can be donors, government agencies, NGOs, private companies, community organisations and so on. Then try to describe or characterise the relationship(s) between the different actors. The process of describing these relationships will help reveal which ones are crucial to the success of the partnership, those that are problematic (difficult, sensitive, or even perhaps unnecessary), and those that are needed but missing from the mix. It will also help reveal the factors that drive or hamper the formation and maintenance of the partnership. What is important here, however, is not so much the precision with which the assessment is done, but rather the act itself, including documenting the process and its outcomes.

Mutuality and organisational identity

In order to construct the actor network matrix and describe the different relationships it contains, consider two major dimensions of inter-organisational relationships: 'mutuality' and 'organisation identity'. Weighing one dimension relative to the other helps to clarify the extent to which a given alliance operates like a partnership (Brinkerhoff, 2002).

Mutuality refers to the level of interdependence among partners; for an alliance between organisations to comprise a true partnership there must be a high degree of mutuality among the participants. Gauging mutuality requires explicit consideration

of the rights and responsibilities of each partner relative to others involved in the partnership (Kellner and Thackray, 1999). In pursuing those rights and fulfilling their responsibilities, each partner can and should try to maximise the benefits of the relationship for their own organisation, but must do so in the context of agreed joint objectives. This means there must be a mutual commitment to the shared goals and objectives of the partnership. And that implies that the goals and objectives of the partnership are consistent with each partner organisation's mission, organisational values, and operating principles.

A high degree of mutuality means that partners have essentially the same opportunity to influence decision making, to contribute equally to shaping the goals and objectives of the partnership, as well as the procedures followed to achieve desired outcomes. If that equality is altogether lacking or missing to a significant degree, then one or more partners will, by definition, dominate the relationship, and coordination and accountability in the partnership will be more hierarchical than horizontal (horizontal relationships are characteristic of the partnership mode of operation).

Moreover, when assessing the degree of mutuality – especially in the context of public–private sector partnerships – it is important to evaluate the extent to which each partner benefits from the relationship. Partnerships that generate benefits for all

those involved tend to be more enduring and effective (Austin, 2000; Kanter, 1994).

A second major dimension of partnerships that should be explicitly considered (and weighed relative to mutuality) is the extent to which partners are willing and able to subsume the identity of their own organisations to that of the partnership. Stated differently, actors should "...assess their relative tolerance for mutuality and their willingness to invest in protecting the organisational identity of their potential partners" (Brinkerhoff, 2002).

Two important aspects of organisational identity impinge on the effectiveness of a partnership. The first, which is particularly important for mission-driven non-profit organisations, is the extent to which an organisation's own mission, core values, and constituencies line up with those of the partnership. It is not uncommon for partnerships to fail because one or more of the partners is either unwilling or unable to subsume its own goals, values and activities – in short its identity – to a shared vision that may depart to a greater or lesser degree from that normally embraced by the organisation.

The degree to which an organisation seeks to maintain its fundamental character, especially its comparative advantage(s), comprises a second important aspect of organisational identity. Partnerships are usually formed with the relative comparative advantages of the different partners

in mind – what each partner brings to the relationship and how the relative strengths of each can contribute to the success of the partnership.

While each potential partner has its own unique strengths, some useful generalisations can be made about comparative advantages. For example, government partners can provide the legal and institutional frameworks within which partnerships flourish (or flounder). They can legitimise and enable – or not – the efforts of any given partnership. Non-profits can make appealing partners because they are able to fulfil important community liaison roles, and by their nature tend to be more supple and quick to respond to changing circumstances on the ground. Community-based organisations can engender local participation and a sense of ownership in the R&D process on the part of its ultimate beneficiaries. For-profit private-sector organisations can bring financial resources and technical expertise to bear, and stand to gain as 'good corporate citizens' and, eventually, from the development process itself. And international donors and development organisations can play important facilitating roles, in addition to providing financial and technical support (Brinkerhoff, 2002).

Both of these facets of organisational identity – compatibility of missions and maintenance of comparative advantages – bear on the ultimate effectiveness of a partnership, and in order to sustain the commitment





of those involved there must be room in a partnership for organisations to maintain their individual identities (Huxham, 1993; Frumkin and Andre-Clark, 2000).

In considering whether to participate in a partnership – or to maintain an existing one – decision makers need to evaluate mutuality relative to organisational identity (see Figure 2). True partnerships maximise both mutuality and organisational identity. The extent to which partners maintain their organisational identity relative to the level of mutuality they are able to attain helps to define whether a given relationship is really a partnership or something else.

The labels in the four quadrants are indicative of different types of inter-organisational relationships. The challenge is to gauge the extent to which there is mutuality among participating organisations and the

extent to which each organisation strives to maintain its own identity. Only those relationships characterised by a high degree of mutuality and high organisational identity (quadrant 1) should be classified as true partnerships. A relationship tends towards the contractual (quadrant 2) when one organisation seeks to fulfil predetermined objectives by bringing in another organisation. When one organisation calls all the shots and the other organisations have very little independent identity, the latter can be seen as an extension of the former (quadrant 3). And finally, it is not unusual to encounter situations in which organisations share a high degree of mutuality but one decides it is in its interests to follow the lead of a more dominant organisation. By entering into the relationship, the less dominant organisation can easily compromise its identity.

		Mutuality	
		Low	High
Organisational Identity	High	(2) Contracting	(1) Partnering
	Low	(3) Extension	(4) Co-option and gradual absorption

Figure 2. Assessing the nature of organisational relationships

Good partnering principles, guidelines and practices

The principles that underpin research and development partnerships are essentially the same from one to the next. Yet no two partnerships are the same. The diversity of goals, objectives, values and organisational cultures that typify such relationships must be explicitly recognised by those who manage each alliance, and become a genuine source of strength and inspiration for everyone involved. This was certainly true for the case study partnerships highlighted in Box 1.

True partnerships are born of a desire to work with others to achieve mutually beneficial outcomes. They also arise from a shared understanding that in research, and especially in development, more can be achieved working jointly than can be accomplished operating separately or in isolation. This is a fundamental principle – a driving force actually – behind the formation and maintenance of R&D partnerships.

In addition to this bedrock principle, durable and effective partnerships involving diverse public- and private-sector organisations have a number of other traits in common. For one thing, true partners recognise and embrace each other's relative strengths – and strive to earn one another's trust – as they join forces to achieve common goals. They develop a shared vision that is used to forge a collective understanding of those goals. And they strive for equity in the relationship. A true partnership will ultimately benefit all those involved. If not, the relationship will not long endure.

Strong partnerships are characterised by a clear understanding on the part of each member of their relative roles and responsibilities. This builds respect for each other's strengths and provides all collaborators with an important sense of belonging and of adding value to the relationship. In addition, such a shared understanding of roles and responsibilities serves as an effective arbitrator of the disagreements that almost inevitably arise as complex public–private partnerships are implemented.

A number of practical lessons and good partnering principles have been distilled from the Indian experience with agricultural R&D partnerships (see Box 2).

Time is of the essence – A common experience from the case studies is that significantly **more** time is needed to establish a working R&D partnership than is required to establish conventional research projects. Time is required in order to define a shared vision, to get full buy-in into shared goals and objectives, to build trust and understanding among participants, and to reach the point where the partnership is actually delivering on its promise. Organisations entering into new partnerships (and those who fund them) often expect things to come together much more quickly than is possible on the ground. All participants – active members of

True partnerships are born of a desire to work with others to achieve mutually beneficial outcomes.

Box 2. Synthesis of key lessons and good partnering principles identified during the New Delhi workshop – *Learning from Institutional Change*

Lesson	Principle
<p>Time: Establishing and building research partnerships takes considerably longer than establishing conventional research projects. Time is required to obtain full buy-in to shared goals and objectives, to build trust and understanding among partners, and to reach the point where the partnership is actually delivering on its promises.</p>	<p>Allow one to two years before most partnerships begin to deliver results and achieve impact.</p> <p>Where partnerships already exist it may be more efficient and effective to invest in these, to seek to leverage previous investments rather than to form new partnerships</p>
<p>Flexibility: Successful partnerships are dynamic relationships characterised by open-ended planning and the ability to respond to changing needs through flexible financial management.</p>	<p>Mechanisms for management must enable flexibility allowing new partners to join over time and others to leave once it is clear that their role has changed or been fulfilled.</p>
<p>Dynamic leadership: Successful partnerships are characterised by vibrant leadership and usually embrace the principle of subsidiarity and decentralised decision making.</p>	<p>Delegate responsibility to those leading a partnership and use broad accountability frameworks to ensure and monitor delivery.</p>
<p>Complementarity and comparative advantage: The strongest partnerships are those that explicitly recognise and build on the relative strengths of partners, properly acknowledging (both formally and informally) the contributions of each. The capacity of partner organisations and needs of a partnership evolve and change over time.</p>	<p>Partnerships require on-going internal mechanisms to allow the partnership to respond more effectively to changing needs and opportunities. Responsibility and authority for implementing this continuing activity should be vested with project leaders and seen as complimentary to formal mid-term and end-of-project monitoring and evaluation activities.</p>
<p>Livelihood approaches: Partnership approaches that enable researchers to understand true community-level development priorities are more effective.</p>	<p>Innovative ways of empowering local communities should be formally encouraged, such as using non-deterministic community development approaches supported by links to micro-finance initiatives, rather than directed participatory approaches to achieve adoption of specified technologies.</p>
<p>Public–private partnerships: Private organisations, whether non-profit or for-profit, tend to be more nimble and adaptive. Workshop participants saw these differences as a source of strength.</p>	<p>There is a need to sanction – in fact, actively promote – a much higher degree of interdependence, interaction and influence between and among diverse partners.</p>
<p>Transparency: Successful partnerships are characterised by transparency in planning, decision making and financial management. Achieving true transparency is not easy. It requires a shared understanding and acceptance that transparency benefits everyone, and was seen by workshop participants as being closely linked to efforts aimed at building trust, dynamic leadership, and flexibility.</p>	<p>The policies, rules and regulations that govern partnerships need to be designed in ways that ensure transparency. Appropriate incentives (and disincentives) aimed at promoting transparency must be put in place.</p>

the alliance as well as their financial backers – need to understand and incorporate into partnership development processes the reality that **at least** one to two years, and often more, will be needed for most new partnerships to begin to deliver results and start to achieve impact. Given this lag time, it may be more efficient (assuming you can do so) to invest in and build on existing relationships than to establish entirely new ventures.

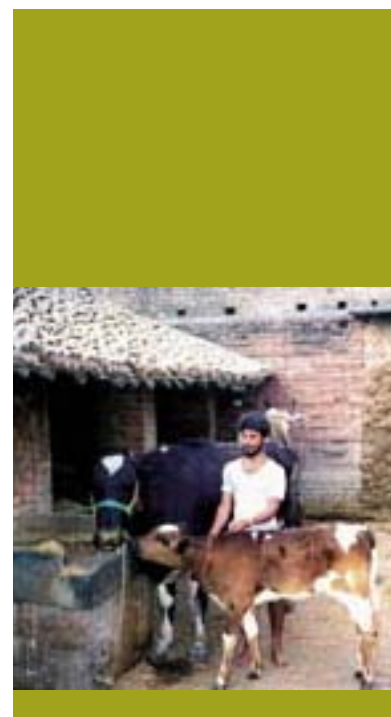
Be flexible – Partnerships are usually conceived with clearly defined processes and outputs in mind. But the reality is that successful partnerships allow themselves to revisit and question their overall goals and objectives, as well as the processes by which those are meant to be achieved. Success is highly correlated with flexibility in financial management, planning, and responsiveness to changing needs. Systematic, periodic reflection is a hallmark of a flexible partnership and should be considered one of the ground rules of the relationship.

Learn from experience – Just as it is important to periodically reflect on partnership goals and objectives, and the processes being used to achieve them, it is important to dedicate resources to documenting and learning from the process of partnership formation. This is critical if individuals and organisations are to adapt in response to their experiences. Yet it is all too com-

mon for this activity (i.e., the documenting of lessons learned) to be overlooked or simply ignored.

Dynamic leadership is essential – Successful partnerships are characterised by vibrant leadership. It is not unusual to see leadership shift from those who envision and establish a given partnership to others who can, for any number of reasons, more effectively carry it forward. In general, the case studies demonstrate that leadership should be explicitly addressed in the early stages of forming a partnership. Different kinds of partnerships require different types and degrees of leadership, and the success of a partnership is very often directly related to careful consideration of this element during the design phase. Moreover, successful partnerships are themselves dynamic in nature, with new partners joining the enterprise over time and others leaving once it was clear that their intended role(s) had either changed or been fulfilled.

Avoid centralisation – Successful partnerships usually embrace the principle of subsidiarity and decentralised decision making, thereby avoiding the rigidity that can come with undue centralisation of authority. Subsidiarity implies that responsibility **and** authority are delegated to those closest to the work – whether in the field or in the laboratory – and that the ‘higher-ups’ step in only as necessary, for example, when





policy decisions affecting the overall partnership are required.

Look for cultural differences – It is always important to explicitly consider the differences between organisational cultures when entering into a partnership, but especially when seeking to develop a public–private partnership. Government agencies are often constrained by time-honoured rules and regulations, while private organisations – whether non-profit or for-profit – tend to be more nimble and adaptive. This generic difference is not insurmountable by any means, and can in many instances prove to be beneficial to achieving the goals of the partnership, but it is important to be aware of such differences because they can be a source of friction and frustration in the relationship.

Do not shy away from public–private partnerships – Cultural differences notwithstanding, an unambiguous lesson from the case studies is that building formal and informal relationships among public and private stakeholders can be extremely fruitful in achieving the goals and objectives of agricultural R&D partnerships. This carries with it implications for institutional change – changes in the rules, habits and conventions that govern how people behave and interact – that need to be explicitly considered in the development and nurturing of such partnerships.

Appreciate the strengths of others – The strongest partnerships are those that explicitly recognise and build upon the strengths of the partners and formally and informally acknowledge the contributions of the different organisations and individuals involved. This critical element needs to be built into the design of any partnership and, because the capacity of partner organisations normally changes over time, the complementarity and comparative advantages among partners should be frequently and openly considered during on-going monitoring and evaluation activities.

Build relationships with local community residents – All too often, the participation of local community residents who have a stake in a given research partnership comes almost as an afterthought or is addressed through superficial participatory exercises. The workshop case studies show that, especially when partnership activities sought to deliver livelihood benefits, success was positively correlated with the use of approaches that brought members of the local community, including the poorest and most socially disadvantaged, into planning and implementation. In other words, local community residents were considered not so much as ultimate beneficiaries but rather as fully fledged members of the undertaking.

Strive for transparency – Successful partnerships are characterised by transparency in planning, decision making and financial management. Like some of the other principles and guidelines delineated above, this may seem like a patently obvious point. Yet achieving true transparency is not easy. It requires a shared understanding and acceptance that being transparent benefits everyone, and is closely linked to institutional changes aimed at building trust, dynamic leadership, and flexibility. The rules that govern a partnership need to be designed in ways to ensure transparency; reliance on the initial good intentions of partners in this area is usually a recipe for failure.

Develop and use appropriate performance criteria – A recurring theme from the case studies is that the performance of those who participate in R&D partnerships (particularly individual scientists) needs to be evaluated differently from those functioning in more traditional settings. It is often not easy to identify precisely who should get credit for what in the context of a partnership, because many people contribute in many different ways to achieving the goals of the alliance. The traditional frameworks for evaluating individual performance are generally not compatible with accurately assessing contributions within a partnership. Beyond that, new mechanisms need to be put in place specifically to gauge the

partnership performance. The case studies reveal a number of useful indicators for measuring the effectiveness of R&D partnerships, each linked with the benefits associated with the partnership approach (see Box 3).

Distinguish between research and development – A criticism often made of researchers by development practitioners and donors is that they do not understand the challenges of development and that as a consequence scientists typically develop approaches, methods and technologies that are difficult for extension- or development-focused organisation to scale up. Thus R&D partnerships that include the participation of organisations whose purpose is to achieve development offer a means of understanding the challenge and overcoming this obstacle to delivering development outcomes.

In responding to this criticism, researchers often begin to undertake development activities, rather than reposition their research in the context of the development challenge. By differentiating research from the delivery of development outcomes, new research challenges arise such as: how to test different ways to provide support services (information and technical backstopping) and how to develop more effective strategies for community development.



Box 3. Evaluating Partnership Performance

The criteria used to evaluate the performance of individuals are different from those that should be used to evaluate the performance of a partnership. Discussion of the New Delhi workshop case studies (Box 1) revealed a number of useful indicators for measuring the effectiveness of R&D partnerships. These indicators are linked below with the benefits – as identified by workshop participants – that are derived from taking a partnership approach to agricultural R&D.

Identified benefits of partnership	Indicators of performance
More sustainable over time	<ul style="list-style-type: none"> • Continued acceptance of project interventions in the face of shocks • Institutionalisation of relationships once the initial project is completed • Changing composition of the partnership allowing it to adapt to changing circumstances
Enhanced synergy	<ul style="list-style-type: none"> • Less time needed for solving problems and for scaling up
Greater creativity	<ul style="list-style-type: none"> • Innovative problem solving visible among stakeholders, including those at the grass roots level
Improved opportunities for scaling up	<ul style="list-style-type: none"> • Measurable increases in the rate of uptake
Enhanced cost-effectiveness	<ul style="list-style-type: none"> • Research, extension and development take place more or less simultaneously
Greater empowerment of partners	<ul style="list-style-type: none"> • Increased investment in capacity building activities and reported changes in the abilities of partners to make independent decisions within the partnership
Positive changes in organisational behaviour	<ul style="list-style-type: none"> • Participatory priority setting • Shared responsibility for problem solving • Changes in organisational and management structures, less bureaucracy, more efficient and streamlined decision making
Leads to a strong multiplier effect	<ul style="list-style-type: none"> • Impacts that extend beyond the direct reach of the partnership are observed

Focus on improving livelihoods – Livelihood-focused partnerships require mechanisms that enable ultimate beneficiaries to develop new livelihood strategies in ways that are non-deterministic (from the perspective of the external agents). Participatory 'prioritisation' around a set of pre-defined options is typical of technology- or intervention-driven research or development projects, and this approach seldom provides sufficient opportunities for change. Some of the case study work demonstrates that livelihood impacts can be achieved by developing the capacity of local individuals to facilitate the formation of self-help groups and establish other local arrangements, such as linkages to micro-finance institutions. This in turn led to an increased demand for new technologies and other services and interventions.

Manage conflicts as they arise – Conflict in any partnership is inevitable and can come from many different sources. The important thing, however, is to deal with conflict as it comes up, to have mechanisms in place that enable conflicts to be resolved in an equitable and even-handed way. Sometimes this

means simply moving forward while recognising differences within the partnership and allowing space for partners to develop and change their positions. Agreeing as much as possible early on in the design phase of a partnership as to the relative roles and responsibilities of each partner is one good way to help diffuse conflict before it gets started; it is also a good mechanism for helping to resolve certain kinds of conflicts when they crop up. But conflicts can be caused by many things, large and small, and it is vital to recognise their inevitability and be ready to deal with them as they arrive.

Invest in communication – All too often, communication in a partnership is taken for granted. This can be a fatal mistake. Effective communication requires an explicit investment of time and money, and an understanding that it is impossible to communicate too much with partners. Information is the life blood of any partnership, but especially one focused on research and development. Proactive information sharing among partners – transparency without reservation – is critical to success.



Conclusion

The critical point is that you distinguish between partnership rhetoric and partnership-like behaviour.

Partnerships can take many forms and their establishment and ultimate effectiveness results from thoughtful and on-going negotiation among potential partners. Once you decide to take a partnership approach, the definitional frameworks and good partnering principles described in this resource document can help provide a common language for negotiating and nurturing the relationship. They also can serve as starting points for assessing the efficacy and sustainability of the partnership(s) in which you find yourself.

The critical point is that you distinguish between partnership rhetoric and partnership-like behaviour. While partnerships can take many forms, many relationships referred to as partnerships are really something else. They are perfectly legitimate and valuable relationships, to be sure, but they rest on dissimilar principles and operational ground rules. It is important to discern the difference in order to ensure that partners' expectations of one another are reasonable and mutually understood. This in turn will greatly enhance the probability that your partnership will deliver on its potential and endure over time.



References

- Austin J.E. 2000. Strategic collaboration between nonprofits and businesses. *Nonprofit and Voluntary Sector Quarterly* 29(1):69–97.
- Brinkerhoff J.M. 2002. Government–nonprofit partnership: a defining framework. *Public Administration and Development* 22: 19–30.
- Douthwaite, B. and Ashby, J.A. 2005. Innovation histories: A method for learning from experience. *ILAC Brief* No. 5. Institution Learning and Change Initiative, IPGRI, Rome, Italy.
- Douthwaite B., Sikka A., Sulaiman R., Best J. and Gaunt J. 2006. Learning with innovation histories. *LEISA* magazine, in press. <http://www.leisa.info/>
- Frumkin P. and Andre-Clark A. 2000. When missions, markets, and politics collide: values and strategy in the nonprofit human services. *Nonprofit and Voluntary Sector Quarterly* 29(1): 141–163.
- Huxham C. 1993. Pursuing collaborative advantage. *Journal of the Operational Research Society* 44: 599–611.
- Kanter R.M. 1994. Collaborative advantage: the art of alliances. *Harvard Business Review* 72(4): 96–108.
- Kellner P. and Thackray R. 1999. A philosophy for a fallible world. *The New Statesman* 12(547): R22–R25.

For additional information

An important purpose of this resource document is to help readers navigate their way to additional information and tools that can be used to strengthen their efforts to form new R&D partnerships, and/or to assess existing ones. The partnership literature is vast. What follows here is a representative selection of useful citations and websites.

Books

Hall A.J., Yoganand B., Sulaiman R.V., Rajeswari Raina S., Shambu Prasad C., Naik Guru C. and Clark N.G. (eds). 2004. *Innovations in Innovation: Reflection on Partnership, Institutions and Learning*. Crop Post-Harvest Programme (CPHP), South Asia, International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), and National Centre for Agricultural Economics and Policy Research (NCAP), Patancheru, Andhra Pradesh and Pusa, New Delhi, India. 252 pp. ISBN 92-9066-461-4.

This book explores the nature of innovation processes associated with socioeconomic change in rural areas of developing countries. It brings together a collection of empirical and conceptual papers that discuss contemporary experiences and perspectives. Common to all of them is the use of the innovation systems concept as a guiding framework for analysis. Most of the papers used this framework to provide lessons for the agricultural research community, and in particular lessons on ways to more effectively deploy agricultural science and technology as part of the socioeconomic development process.

Three main themes emerge in the book. First, partnership is viewed as a core methodology for promoting innovation, and thus ways of developing effective partnerships should be a central concern of research managers and planners. Second, research and related interventions need to be understood, planned, implemented and evaluated in the light of their institutional contexts. Practical tools to assist with these evaluations need to be further developed and promoted. And third, learning – particularly institutional learning – is a central innovation process and finding ways to enhance learning will be critical in building more effective agricultural innovation capacities.

For further work by these authors also see:

Hall A.J., Sivamohan M.V.K., Clark N.G., Taylor S. and Bocket G. 2001. Why research partnerships really matter: innovation

theory, institutional arrangements and implications for developing new technology for the poor. *World Development* 29(5): 783–797.

van Mele P., Salahuddin A. and Magor N.P. (eds). 2005. *Innovations in Rural Extension: Case Studies from Bangladesh*. CABI Bioscience, and International Rice Research Institute; International Rice Research Institute, Egham, UK and Dacca, Bangladesh. 320 pp.

This book presents the evolution of methods, outlines them in contextual detail and presents the keys to success and some of the difficulties that may be encountered in implementing them. The book has six parts, four of which are especially relevant: One addresses issues of gender in agricultural extension; another examines learning within rural communities; a third focuses on the complex linkages that are essential to enable poor farmers to adopt certain technologies; and the fourth deals with the emergence of pro-poor rice seed systems in Bangladesh.

Book chapters

Hall A.J., Sulaiman R.V., Clark N.G., Sivamohan M.V.K. and Yoganand B. 2002. Public–private sector interaction in the Indian agricultural research system: an innovation systems perspective on institutional reform, pp. 156–176. In: *Agricultural Research Policy in an Era of Privatisation: Experience from the Developing World*. Byerlee D. and Echeverria R.G. (eds). CAB International, Wallingford, UK.

Web resources

Douthwaite B. and Ashby J.A. 2005. Innovation histories: a method for learning from experience. *ILAC Brief No. 5*. <http://www.cgiar-ilac.org/downloads/Brief5Proof2.pdf>

This brief is a highly practical guide to the methodology of the innovation history and to the task of writing such histories. It explains two key tools (the timeline and the actor network matrix), and outlines processes for using these tools to promote discussion, reflection and learning among stakeholders to prepare the innovation history. Based on the initial detailed account of the innovation process, more concise information products can be prepared that summarise the innovation process for wider dissemination of findings. The process outlined in the brief involves two stakeholder workshops.

Douthwaite B., Sikka A., Sulaiman R.V., Best J. and Gaunt J. 2006. Learning with innovation histories. *LEISA magazine*, in press. <http://www.leisa.info/>

This is an account of a workshop in India that used the innovation history method to draw lessons from the experience of research and development projects which involved partnership (between government or parastatal research and development organisations, NGOs, the private sector and international development agencies). The article covers both the processes involved in the workshop and the lessons to emerge from this process about partnering arrangements. It shows how the workshop provided space for participants representing member organisations of each partnership to track and analyse the institutional changes which were required to make the partnerships effective, and then communicate their findings to a policy audience.

Go to <http://www.cphpsouthasia.com/Pdfs/Overview.pdf> to find: Hall A. J., Yoganand B., Sulaiman R.V. and Clark N.G. Innovations in innovation: partnership, learning and diversity in the generation, diffusion and use of new knowledge.

This is a very worthwhile background paper that provides an overview and synthesis of three cases of innovation in innovation from the post-harvest sector in India. Using the innovation systems framework five themes are used to compare these cases, namely: context, partnership, institutional rigidities, learning, and poverty focus. While we argue that this comparative analysis suggests a number of general principles, it also leads us to stress that there is no universal model or blueprint. Instead what seems to be important are interventions that rely on and encourage the development of capabilities that allow adaptation to local circumstances, resources and opportunities, and that rely on learning processes as a way of finding new ways to achieve goals. The conclusion raises two cautionary points. Firstly much greater attention needs to be given to understanding the institutional and historical context of partnerships than was perhaps previously thought necessary in research planning and management. Part of this task concerns monitoring stakeholder interests during project implementation and particularly testing assumptions about the poverty relevance of certain courses of action and the implications of decisions. Secondly, institutional change in the agricultural sciences is long overdue and is emerging as a serious impediment to the agricultural innovation system.

Go to http://www.prgaprogram.org/pnrm_resources/matsaert_intro_actor-oriented_tools.pdf to find:

Matsaert H., Ahmed Z., Islam N. and Hussain F. Actor-oriented tools for analysis of innovation systems: some guidelines from experience of analysing natural resource based innovation systems in Bangladesh.

Go to <http://www.cgiar-ilac.org/> for information on the CGIAR Institutional Learning and Change initiative. The ILAC initiative fosters learning from experience and use of the lessons learned to improve the design and implementation of agricultural research and development programs.

Go to http://www.odi.org.uk/agren/papers/agrenpaper_134.pdf to find:

Biggs S. and Matsaert H. Strengthening poverty reduction programmes using an actor-oriented approach: examples from natural resources innovation systems.

This paper explores the use of actor-oriented approaches in natural resource-based development. It begins by reviewing the need to bring an analysis of actor linkages, coalitions and information flows higher on the agenda in planning, implementation, monitoring and evaluation. Various tools which could assist in doing this are introduced and their use is illustrated in case studies of natural resource-based R&D projects in Nepal and Bangladesh.

Go to <http://www.change-management-toolbook.com/index.html> to find a link to a change management toolbox.

This Toolbox for Change Management offers a broad range of tools, methods and strategies which can be applied during different stages of personal, team and organisational development, in training, facilitation and consulting. It is based on the wealth of tools and principles that have been provided by Kurt Lewin, Edgar Schein, Peter Senge, Arie de Geus, Robert Dilts, Virginia Satir, Bert Hellinger, Harrison Owen, David Cooperrider, Marvin Weisbord, Steve de Shazer – just to name a few – and many other great teachers. Our group is constantly developing and testing new tools and new application forms of the established methodologies. We work worldwide, cross-sectoral and our clients cover private business, public service and development agencies and NGOs.

Go to <http://www.nri.org/research/ds-processes-publications.htm> for a bibliography of research on Processes and Institutions in Agricultural Innovation Publications provided by the Natural Resources Institute, UK.

Annex

Learning from Institutional Change: an innovative workshop approach

On November 7–10, 2005, ICAR–NRM and DFID–NRSP co-hosted a workshop focussed on distilling the key lessons learned from four case study partnerships identified as good examples of innovative, interdisciplinary, multi-partner agricultural research and development alliances.

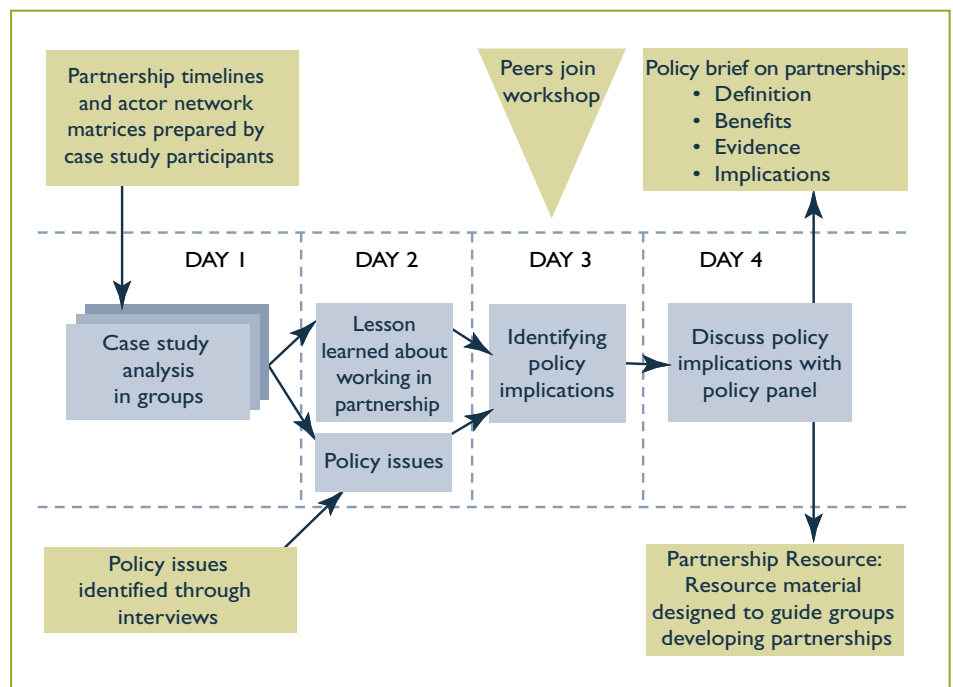
The case studies were analysed using an adaptation of the innovation history approach. The full version of the approach normally involves two separate workshops and the construction of a written account of the innovation history. The outputs from the innovation history process come from an analysis of the written innovation histories carried out during the second workshop.

This process was adapted by conceiving the November 2005 meeting as a 'workshop within a workshop,' meaning that it had distinct phases, the outputs from which fed into and served as the resource materials of the next phase. The analysis of the innovation histories were based on documentation prepared beforehand. Participants were asked to develop two documents before the workshop: 1. a timeline of the significant events in their partnership histories from their organisation's perspective; and, 2. actor network matrices describing the relationships between the actors involved. In addition, policy makers and senior research managers were interviewed to document their questions and insights with respect to partnership in the context of NRM research and development.

A second adaptation was to design the workshop as 'a workshop to prepare for a policy panel.' The initial two days comprised preparatory activities involving representatives

from each of the case study partnerships. They analysed the case studies in detail, gleaned information that then served as resource materials for the second stage of the meeting. As the workshop progressed, participants became resource persons for subsequent phases.

Participants in the 'main workshop' on day three were representative of the target audience for the resource materials being generated from the workshop – NRM researchers and development professionals. The format of the main workshop was highly interactive and led to the preparation of materials for presentation and discussion in a final 'policy plenary discussion' on day four of the meeting. A panel comprising eight senior and mid-level policy makers joined the workshop during its final two hours to respond to the findings of participants and discuss the policy implications. The overall workshop process is summarised in the figure below.



Workshop participants

Dr I.P.Abrol

Director, Centre for Advancement of Sustainable Agriculture (CASA)

Mr John Best

Lecturer, Publications Editor, Agricultural Extension and Rural Development Department, The University of Reading

Mr Sunil Choudhary

Secretary, Centre for Promoting Sustainable Livelihoods

Dr Boru Douthwaite

Technology Policy Analyst, International Center for Tropical Agriculture (CIAT)

Dr Olaf Erenstein

Agroeconomist, Rice–Wheat Consortium for the Indo-Gangetic Plains (RWC)

Dr John Gaunt

Director, GY Associates Ltd (GYA)

Dr U.S. Gautam

Senior Scientist, Indian Council of Agricultural Research (ICAR), ICAR Complex for the Eastern Region

Dr Raj Gupta

Regional Facilitator and Head, Rice–Wheat Consortium for the Indo-Gangetic Plains (RWC)

Mr Tiff Harris

Science Writer/Editor, Green Ink Publishing Services, Africa

Ms Ritu Kanotra

Programme Associate, Natural Resource Management (NRM), United Nations Development Programme (UNDP)

Mr Ashok Kumar

Executive (Projects), Professional Assistance for Development Action (PRADAN), Purulia, West Bengal

Dr Ashwani Kumar

Director, ICAR Water Technology Centre for the Eastern Region

Dr R.K.Malik

Director (Extension Education), CCS Haryana Agricultural University

Dr A.K. Misra

Principal Scientist and Head, Division of Soil Physics, Indian Institute of Soil Science

Dr J.P. Mittal

National Coordinator, ICAR National Agricultural Technology Project (NATP)

Dr Mruthyunjaya

National Director, ICAR National Agricultural Innovation Project (NAIP)

Mr V. Padmakumar

Programme Officer, Capitalisation of Livestock Programme Experiences India (CALPI) (SDC-IC)

Mr Kirtti Bhusan Pani

Executive (Projects), Professional Assistance for Development Action (PRADAN), Eastsingbhum, Jharkhand

Dr B.R. Patil

Vice President, BAIF Development Research Foundation

Mr Ekalavya Prasad

Practitioner, Natural and Social Resource Management

Dr David Radcliffe

Senior Rural Livelihoods and Environment Adviser, UK Department for International Development (DFID) – India

Dr P. Rai

Principal Scientist (Agronomy), National Research Centre for Agroforestry (NRCAF)

Mr Venkat Rao

Assistant Project Coordinator – Productivity Enhancement, DFID Andhra Pradesh Rural Livelihoods Project (APRLP)

Dr Somnath Roy

Chief Programme Co-ordinator, BAIF Development Research Foundation

Dr B.R. Sharma

South Asia Liaison Officer, International Water Management Institute (IWMI)

Dr P.D. Sharma

Assistant Director General, Soils, Indian Council of Agricultural Research (ICAR)

Dr Alok K. Sikka

Director, ICAR Complex for the Eastern Region

Dr A.K. Singh

Senior Scientist, ICAR Complex for the Eastern Region

Mr Rajdeep Singh

National Agro-Industries

Dr A.K. Singh

Project Director, Water Technology Centre (WTC), Indian Agricultural Research Institute (IARI)

Mr Hardeep Singh

Programme Director, Society for Promotion of Wasteland Development

Mr Ravindra Singh

Programme Officer, Natural Resource Management (NRM), Indo-German Bilateral Project Watershed Management (WMRO)

Mr R.P. Singh

Area Manager, Aga Khan Rural Support Programme (AKRSP), India

Dr S.S. Singh

Research Scientist (Agronomy), International Center for the Improvement of Maize and Wheat (CIMMYT), Rice–Wheat Consortium for the Indo-Gangetic Plains (RWC)

Mrs T.K. Sreedevi

Scientist (Watershed Development), International Crops Research Institute for the Semi-Arid Tropics (ICRISAT)

Dr Subrahmanyam

Principal Scientist, National Research Centre for Weed Science

Dr K.V. Subrahmanyam

Head, Transfer of Technology Section, Central Research Institute for Dryland Agriculture (CRIDA)

Dr Rasheed V. Sulaiman

National Centre for Agricultural Economics and Planning (NCAP)

Mr Pramod Tyagi

Farmer working with the Rice–Wheat Consortium for the Indo-Gangetic Plains

Mr Pramod Tyagi

Programme Director, Society for Promotion of Wasteland Development

Dr N.K. Tyagi

Member, Agricultural Scientists Recruitment Board

Dr S.P. Wani

Principal Scientist (Watersheds) and Regional Theme Coordinator, International Crops Research Institute for the Semi-Arid Tropics (ICRISAT)



ICAR Research Complex for the Eastern Region
PO Phulwari Sharif, Patna-801 505, Bihar, India
Phone: +91-(0)612-2452231 • Fax: +91-(0)612-2452232
www.icar.org.in/nrm.htm



GY Associates Ltd
32 Amenbury Lane, Harpenden, Hertfordshire, AL5 2DF, UK
Phone: +44-(0)1582-460551 • Fax: +44-(0)709-2373965
www.gya.co.uk