Institutionalising the Study of Institutions in Agricultural Research: Reflections on the CGIAR Systemwide Program on Collective Action and Property Rights (CAPRi)

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Abstract:
The CAPRi program has helped to demonstrate the relevance of collective action and property rights for agricultural research systems, particularly if they are to achieve equitable and sustainable natural resource management practices. The program works to help people learn from communities as well as from other researchers and practitioners who may be working in other regions, resources, or disciplines, to put the ideas into practice in their own work, and pass them on to others as a process of innovation within the research community that parallels the innovation processes in farmers' communities. This paper reviews how the program has worked toward these ends within the CGIAR system through conceptual frameworks, improved methods, policy outreach, and the governance of the program itself.

Introduction:
The Systemwide Program on Collective Action and Property Rights (CAPRi) of the Consultative Group on International Agricultural Research (CGIAR) is not, per se, a farmer participatory research program, but it helps to explain why participation may or may not take place, and why innovations may or may not be adopted. Bringing the analysis of institutions into agricultural research systems has been challenging, but we have seen considerable progress in demonstrating the value of these approaches. This paper reviews the broad patterns and lessons from the program. It begins with the background and history of the program, then turns to the major concepts and heuristic devices used to help biophysical scientists, policymakers, and others understand the relevance of collective action and property rights. But many of the intuitive definitions of these terms do not match the reality in the field, especially in developing countries. The paper therefore describes how the CAPRi program has worked to develop more nuanced understanding of collective action and property rights and methods to study them appropriately, and to promote this understanding with practitioners and policymakers. Finally, the paper examines the structure of the program and provides some personal reflections on how it has worked to promote collective action among researchers themselves, and to promote institutional change within agricultural research institutes.

Background
In 1994, the CGIAR began "intercenter initiatives" designed to get the international agricultural centers to cooperate on common themes, such as livestock, water, genetic resources, or participatory research. Around that time, several CGIAR centers had approached the International Food Policy Research Institute (IFPRI) to collaborate on the study of land tenure in rangelands and trees. Rather than just collaborating bilaterally with each center, IFPRI proposed to start an intercenter initiative on Property Rights and Collective Action (PRCA).[1] After a process of consultation, the initiative was launched in 1995 with five centers attending the initiation meeting. Although there was initial skepticism about why agricultural research systems should deal with seemingly abstract institutions like property rights and collective action, within two years, the program had expanded to include all 16 CGIAR centers. Because the program is relatively small, it has focused on the CGIAR centers as a catalyst, but through the participating researchers in the CGIAR center and the institutions they work

[1] Another of the initial intercenter initiatives was on Participatory Research and Gender Analysis (PRGA). Because both PRGA and PRCA both dealt with the human side of agriculture and had similar acronyms, they were often confused until, in 1999, we noted that collective action had assumed a larger role in our program, and changed the name to Collective Action and Property Rights, or CAPRi.

with, the CAPRi program now includes people from over 500 institutions worldwide, from local NGOs to national research institutions, to international organizations.

The first meeting developed criteria for selecting priority research themes, including 1) addressing important problems in natural resource management; 2) generating strong international public goods; 3) applying across resources and sectors; 4) generating synergies and positive externalities between centers; 5) relating directly to the CGIAR mandate and to other eco-regional and system-wide initiatives and programs; and 6) have a strong policy focus. From these agreed criteria, the following themes were selected:

- Technology adoption
- Accommodating multiple uses and users of a resource
- Structuring devolution
- Role of environmental risk
- Demographic change, especially feminisation of agriculture.

Subsequent Steering Committee meetings added two more priority themes that were also consistent with these criteria:

- Changing market relationships
- Genetic resources.

Each of these themes has direct links to both collective action and property rights, and it is these linkages that the CAPRi program highlights. This initial list of topics was instrumental in showing all 16 centers—both those "commondity centers" primarily involved in crop breeding and the "natural resource management" centers that there were topics that they deal with that relate to these two types of key institutions.

Showing the relevance of institutions for agriculture and natural resource management

The first major workshop, on the role of property rights and collective action in technology adoption, was instrumental in showing the relevance of these issues to the CGIAR. The workshop in November 1997 brought together researchers from CGIAR centers at ICARDA in Alleppo, Syria. The first day was a field trip onto the steppe, where we talked with farmers about the collective action that maintained a cistern since the Roman era. Then, under a Bedouin tent, we heard from both government officials and the pastoralists discuss (and debate) the contentious issues of property rights over shrubbery plantations that the government was developing to restore the range: who had the right to set limitations on access—the government of the tribe? This interaction reminded us that the issues we are dealing with are not abstractions, but real forces that affect people's lives. Every subsequent workshop[2] has had a field trip as an integral part of the workshop to see the work of the hosting center and local communities.[3]

While the field trip was very grounded, at the other extreme was a conceptual framework developed to show the relevance of collective action and property rights for the adoption of innovations—both technologies and natural resource management practices. This "CAPRi Box" framework has been our most effective tool for enabling people other than social scientists to understand the importance of these institutions (see Knox et al. 2002; Meinzen-Dick and Di Gregorio). Although there can be many variations of the contents of the box to adapt it to any particular set of innovations such as agroforestry, a simple version is indicated in Figure 1.

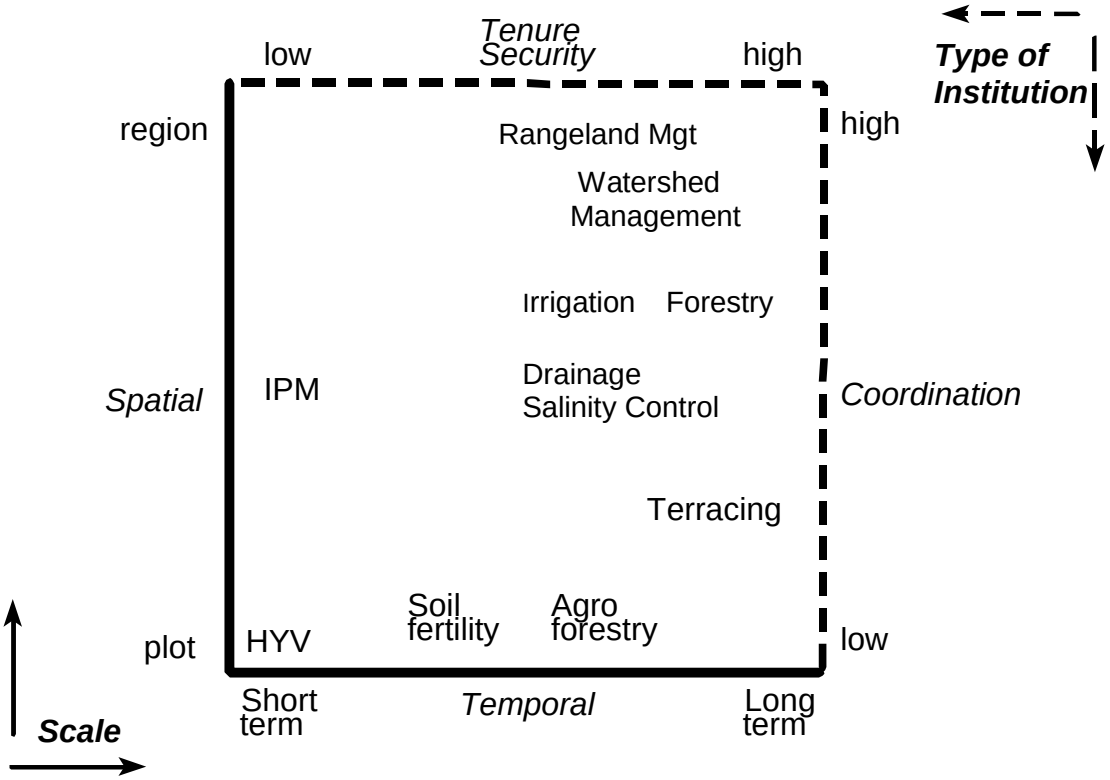
Agricultural technologies and natural resource management practices can be (approximately) placed according to their time and spatial scales. On the time scale (horizontal axis), those that have a short time frame between investment and returns, e.g. within a season, are on the left, with those that have longer time frames placed toward the right. On the spatial scale (vertical axis), those that can be adopted on a single plot are near the bottom, with those operating at larger areas, e.g. community or landscape level, placed higher. For example, high-yielding varieties (HYVs) would be in the bottom left-hand corner, because they can be adopted by a single farmer, and give short-term returns, thus even tenants can adopt. As the time between investment and return increases, property rights become more important, to provide incentive and authorization to invest. For example, planting trees

[2] For a list of workshops and their output, see Appendix 1.

[3] The bonus is that the interaction during the field trips often helps build ties among workshop participants.

can be done on a single plot, but tenants, wives, or others without secure property rights do not have the authority or incentive to make these investments. As the spatial scale increases beyond a single farm, some form of coordination is needed to adopt a practice, and coordination is often through collective action.[4] Many types of Integrated Pest Management (IPM), for example, give returns within a season, but are not effective if adopted by a single farmer alone. Farmer groups for participatory agricultural research or extension would also fall in this area. This framework indicates that much of agricultural research relates to at least one of these key institutions. In particular, most natural resource management (NRM) relates to both collective action and property rights.

Figure 1: "CAPRi Box" showing relevance of collective action and property rights for innovation in agriculture and natural resource management



When presented with this framework, many biophysical scientists recognize that at least some of the issues that they have been dealing with in developing technologies that will be adopted relate to one or another of these issues, though they may not have been recognized as such. A useful analogy is that in the early days of the green revolution, new rice varieties were developed that would give high yields if given the right biophysical environment: controlled water supply, fertile soils, and no pests. Efforts were then made to provide irrigation, fertilizer, and pest control to provide the new varieties with what they required to perform well. But this would not help farmers in marginal environments, so subsequent effort has gone into developing varieties that would perform with less optimal water, soil, or pest conditions. Similarly, watershed management or other practices may be introduced that call for farmers to work together and make long-term investments in their land. But if there is low social capital or tenure insecurity, this is not likely to work. Efforts can then go into building collective action or providing stronger property rights, or the technologies may be adapted, e.g. by using natural vegetative strips instead of terracing to have shorter repayment periods so that tenants can also benefit. Institutions are not immutable, but they also cannot be changed overnight, or "engineered" into existence.

[4] This coordination can also be provided by markets or the state, but these are generally less effective for community-level coordination of natural resource management in most developing countries. The issue of the appropriate roles of each type of institution is the subject of other work done under CAPRi, e.g. on decentralization and devolution of natural resource management.

Deepening understanding of collective action and property rights

Once people understand the relevance of these institutions, the next step is to look at them in more depth. Because both collective action and property rights are familiar terms, they often conjure up concepts that don't fit the wide range of situations that are encountered. Government officials, project staff, and many researchers, especially those trained in formal Northern institutions (or their way of thinking) often think of collective action in terms of formal organizations, and of property rights in terms of "ownership." Government programs, for example, may focus on registered societies or cooperatives, and who holds a formal title to the property. But many formal organizations are "paper tigers" that exist only on paper, whereas many of the bases for cooperation are based on kinship, community, or even organized groups that may never be registered. Similarly, the Northern focus on titles and ownership is not the appropriate focus for understanding many poor people's access and security of rights over resources.

Thus, the CAPRi program has worked on developing and sharing appropriate methods for understanding these institutions. The first workshop indicated that many of the studies done on collective action or property rights at agricultural research institutes were not measuring the concepts correctly for the kinds of analysis that were called for. Thus, the second Working Paper in the series (after the conceptual framework paper) was on methods for studying property rights (Place and Swallow 1998), Key elements included looking at tenure at the appropriate level (plot, household, or community), the elements of tenure security, and going beyond simple "ownership" to look at bundles of rights, including access, withdrawal, management, exclusion, and alienation rights as separable and often overlapping rights that could be held by different individuals and institutions.

The CAPRi program has also used the concept of legal pluralism for understanding property rights (Meinzen-Dick and Pradhan 2002). This goes beyond just state-defined laws to recognize the coexistence and interaction between legal frameworks such as state, customary, religious law, project regulations, and local norms. While this may sound abstract, it boils down to starting with the perspective of people's experience with access and control over resources on the ground, and the range of strategies they draw upon for claiming and obtaining resources (Benda-Beckmann et al. 1997). But rather than imposing Northern concepts of "law" and property rights over this, legal pluralism prompts people to look for the different types of normative frameworks that may define who may use and control resources for different purposes, and shows that these uses are not mutually exclusive, but are often overlapping, e.g. between farmers and pastoralists. Many titling and other programs designed to increase "tenure security" under state law have ignored these other bases for claiming rights. In the process, it is often the poor, women, and other marginalized groups that lose important rights to use and manage resources. Drawing attention to these other rights is an important step towards safeguarding those rights.

Identifying sound methods for studying collective action took somewhat longer. When the CAPRi program began, many of the studies of collective action focused on what Robert Chambers (1988) referred to as "islands of salvation," i.e. a few cases with effective collective action, without looking critically at the special conditions that may make them effective, or the many other cases in which collective action is not as successful. The result was somewhat like the six blind men and the elephant: each analyst would identify factor that seemed important in their site, but did not address whether factors that others found important were also relevant in their sites. CAPRi sponsored several research projects and brought together researchers who were working to overcome these limitations in their studies. The 1992 CAPRi workshop on methods for studying collective action for natural resource management had several presentations by CAPRi-sponsored research and work by other partners on studies that collected comparable data on collective action in a relatively large number of randomly sampled sites, so that it was possible to quantitatively analyze the factors that affected collective action. Other methods such as action research and experimental games were also presented, with constructive discussion of the advantages and limitations of each. Results were disseminated in a series of CAPRi Working Papers (# 25-30, 32, 33) and a special issue of *Agricultural Systems* (Meinzen-Dick et al. 2004).

The issues of concepts and methods may sound quite abstract, but they have very real implications for communities and for agricultural research centers to engage with them. The conceptual frameworks help to "make visible" the institutions such as collective action and property rights and to

highlight the importance of dealing with them. Methods such as action research provide a systematic way for communities and researchers that are working together to strengthen collective action, to critically reflect upon the lessons from each round of action. This can provide important lessons for those that seek to expand or "scale up" the collective action in other communities. Experimental games are not only a way of measuring a community's likelihood of cooperating, but there are also indications that playing collective action games and then reflecting on them within a community may be a useful entry point for discussing and strengthening collective action. Comparative studies across a large number of sites helps to identify the "fertile ground"—the conditions under which collective approaches are more likely to succeed, especially when programs are expanded beyond a few pilot sites. An especially important aspect of this has been to learn to identify existing bases of cooperation and people's own innovations in developing arrangements to manage resources.

Some of the early work in this area tended to idealize indigenous forms of collective action, but subsequent work, especially that on the role of collective action and property rights on poverty reduction, has pointed out that many local institutions are not egalitarian, and in fact may be repressive or patriarchal and so work against the interests of the poor, marginal ethnic groups, or women. Both research and intervention programs need to be able to address these forms of elite capture of the benefits of collective action.

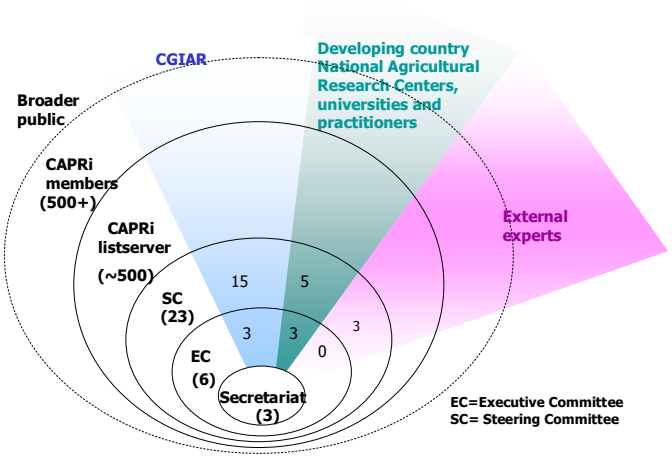
Finally, it is not enough for researchers to understand these issues—they need to communicate them to others, In particular, CAPRi has worked on making this work accessible to practitioners, both through NGOs involved in grassroots work and policymakers who shape broader agendas. We encourage projects to engage with policymakers at different levels at all stages of the project, from planning through to dissemination of findings. We hold policy workshops to bring researchers and policymakers to discuss research findings, and get feedback on their relevance, as well as the practical difficulties in implementation of recommendations. We also work to make research papers and especially policy briefs as accessible as possible to developing country practitioners.

Coordination issues

Getting communities to work together is one thing. Getting research institutes to work together is another, and often even more complicated. Although collaboration between "sister centers" often generates considerable sibling rivalry, the CAPRi program has been relatively successful in minimizing this. In particular, insights developed from the study of collective action among farmers, water users, pastoralists, and forest communities have been consciously applied to developing collective action among researchers. That is, we use principles from collective action studies to stimulate collective action to study collective action.

A key lesson derived from studying collective action is the importance of establishing clear and transparent rules (operational rules) as well as mechanisms for setting those rules (collective choice and constitutional rules). Thus, we began with a governance structure that included one representative from each participating CGIAR center, plus six outside experts in the field who serve in their personal capacity on the Steering Committee. (Subsequently, when 16 centers had joined, the size of the Steering Committee became too large for annual meetings of all, so we adopted a smaller Executive Committee of three CGIAR center representatives, two (now three) from developing country institutions, plus the Coordinator (see governance structure in Figure 2).

Figure 2: Governance structure of CAPRi



Another lesson from farmers working on natural resource management is that it is often easier to get cooperation to enlarge the pool of resources than to divide up a fixed amount. Thus although we did not know it at the time, CAPRi had an advantage over other CGIAR systemwide programs: we started off with much less funding than others. Starting off with too much money can start a "feeding frenzy" in which each center thinks of what they can get out of the program. Because we did not have much money to begin with, we spent it on public goods—things that would benefit all members. This also gave us time to develop a track record of performance and rules for allocating resources when they did come in, so that we could have competitive calls for proposals for research grants to CGIAR centers with their national agricultural research partners, and for PhD students to work with centers. (It probably also helped that many of the people who work with communities to understand collective action are themselves more cooperative).

The governance figure also illustrates another important principle of CAPRi: the ripple effect, like when a pebble is thrown into a pool of water and he ripples spread out beyond the initial point of impact. With limited financial and human resources, we could not address all the needs for work on collective action and property rights in natural resource management. Thus we needed to figure out a way to be a catalyst, rather than trying to do everything. Because we are in the CGIAR, we started working with interested researchers in these centers, because we quickly found that each of these were working with many others, including farmer organizations, NGOs, and national agricultural researcher centers. When the program began, we could identify 13 projects across all 16 CGIAR centers that dealt with collective action and/or property rights in some way; this has now expanded to hundreds of projects, involving many times as many institutional partners. As much as possible, we have also made our materials available to others, as well. This has included CAPRi training courses and development of training materials that others can use; dissemination of our working papers and bibliography (which was especially important to people without a good social science library, especially before so much literature became available online); a listserver and website that publicize events, funding sources, etc. that may be of interest; and even participation at some of our workshops. This has contributed to a community of practice, in which people involved in CAPRi pass on information to other networks that they are involved in, including several other CGIAR initiatives (e.g. ILAC, UrbanHarvest, etc.) and other professional networks, e.g. the International Association for the Study of the Commons (IASC).

Part of the relatively rapid uptake of the program is that when we began, many of the social scientists at CGIAR centers felt isolated, working predominantly with biophysical scientists who did not understand their work, and without enough contact with their own field to feel that they were keeping on top of it. The CAPRi network provided a way to break out of that isolation, both by linking to others working on applied research in their field at other agricultural research centers and with outside experts. These links were forged through in-person workshops, but also through a listserver and e-conferences, sharing literature, and the CAPRi Working Paper series that provides peer review and a chance to publicize the results of studies.

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Conclusions

Far from being academic abstractions that are far removed from people's lives, the institutions of collective action and property rights play a fundamental role in shaping how people interact with each other and with their physical environment. The CAPRi program has worked to create a space and legitimacy for serious attention to these institutions within agricultural research organizations. Much of the value added from CAPRi lies in helping people to step back from the work they are doing with individual communities, to reflect on broader patterns. This may be what lessons from elsewhere may inform their work, as well as what lessons can they draw from their work that can help others. We strive for output that is sound, but also understandable (not caught up in the jargon of a particular discipline). This is to facilitate learning across disciplines, regions, and resources. For me personally, as a sociologist working on water resources mostly in South Asia, some of the most exciting moments have come from bridging between what I had learned and what an economist working on rangelands or forestry in Africa, for example, had learned. What things did we find in common? What were important differences? Did these relate to the characteristics of the user groups, of the resources, or the approaches we were using? Seeing people pick up ideas from each other, put them into practice in their own work, and pass them on to others to ignite the next round of learning is a process of innovation within the research community that parallels the innovation processes in farmers' communities. And the ultimate aim of this is to feed back into community processes to make them more effective for the development and adoption of innovations that will help to make agriculture more productive,, equitable, and sustainable,

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Appendix 1: CAPRi sponsored workshops

International Policy Conference on **Collective Action and Property Rights for Poverty Reduction** hosted by IFPRI in Entebbe, Uganda, in February – March,, 2007 in Entebbe, Uganda. Papers being finalized for Working Papers and submission as an edited volume.

The Research Workshop on **Collective Action and Market Access for Smallholders** held at CIAT (Cali, Colombia) in October, 2006. Most of the papers have been reviewed and published as CAPRi Working Papers. A subset has been submitted to *Food Policy* for a Special Issue.

International Workshop on **Gender and Collective action**, October, 2005 in Chiang Mai, Thailand, hosted by ICRAF. Papers presented were reviewed for CAPRi working papers, and selected papers were developed into a special issue Forthcoming in *Journal of International Development.*

International Workshop on **Property Rights, Collective Action and Local Conservation of Genetic Resources**, September -October, 2003 in Rome, Italy, hosted by IPGRI. Selected papers published in Published in Eyzaguirre, Pablo, Monica Di Gregorio and Ruth Meinzen-Dick *(eds.)* Property Rights, Collective Action, and Local Conservation of Genetic Resources. *World Development,* 35(9) (8rticles).

Technical workshop on **Methods for Studying Collective Action** held in Kenya in February-March, 2002 hosted by ICRAF. Published in Meinzen-Dick, Ruth S., Monica Di Gregorio and Nancy McCarthy (eds.) 2004. Methods for Studying Collective Action. *Agricultural Systems* 82(3) (8 articles).

International Policy Workshop on **Institutional Options for Rangeland Management** held in Tunisia in May, 2001, hosted by ICARDA and co-sponsored by several Tunisian government organizations. Results published in International Conference on Policy and Institutional Options for the Management of Rangelands in Dry Areas: Workshop Summary Paper. Ngaido Tidiane, Nancy McCarthy and Monica Di Gregorio. CAPRi Working Paper 23. Washington DC: IFPRI. 2002. http://www.capri.cgiar.org/pdf/capriwp23.pdf

Technical workshop on **Watershed Management** held in Managua, Nicaragua in March, 2000, hosted by CIAT. Published in special issue on Watershed Management, edited by Brent M. Swallow, Nancy L. Johnson and Ruth S. Meinzen-Dick (eds.) 2001. *Water Policy* 3(6). (8 articles)

International Policy Workshop on **Devolution of Natural Resource Management** held in June, 1999, hosted by ICLARM in the Philippines, co-sponsored by DSE (German foundation for development training). Proceedings were published in Meinzen-Dick, Ruth S., Anna Knox, and Monica Di Gregorio (eds.) 2001. *Collective Action, Property Rights, and Devolution of Natural Resource Management: Exchange of Knowledge and Implications for Policy*. Feldafing, Germany: Zentralstelle für Ernährung und Landwirtschaft. (available online at http://www.capri.cgiar.org/workshop_devolution.asp)

Workshop on **Property Rights, Collective Action and Technology Adaptation** held in November 1997 in Aleppo, Syria. A collection of the the papers presented was published in ***Innovation in Natural Resource Management*.** Ruth Meinzen-Dick, Anna Knox, Frank Place, and Brent Swallow eds. 2002. John Hopkins University Press. 328 pp. (http://www.ifpri.org/pubs/jhu/innovnrm.htm)

E-mail Conference **on Gender and Property Rights** held from September 1995-March 1996. The papers from the e-mail conference are published in the August 1997 issue of the journal *World Development* (volume 25, number 8).