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Theories of Action for Institutional Innovation in Rural R&D Organizations

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The age of industrialization is giving way to a new epoch that is being shaped by a threefold technological, economic, and socio-cultural revolution. As this new epoch establishes itself, the current rural development paradigm is experiencing a crisis. Both the individuals and the organizations associated with this paradigm have become vulnerable as a result. This vulnerability cannot be overcome using the same worldview and theories of action that have created it. Rural research and development (R&D) organizations need to deconstruct the premises, principles, values, and theories that are shaping their actions and that have led to the current institutional crisis before they can successfully embark on a change process that will make them more sustainable in the future.

This briefing paper summarizes findings reported in a doctoral thesis entitled "Institutional Innovation for Sustainable Agriculture and Rural Resources Management: Changing the Rules of the Game" (Santamaría 2003). First, the changing context of institutional innovation is reviewed; second, the importance of analyzing theories of action for institutional innovation is discussed; and third, the main theories of action currently informing institutional change in rural R&D organizations are presented. Finally, the paper makes some recommendations for managing and facilitating institutional change.

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The changing context of institutional innovation in rural R&D organizations

The changing context

Agriculture is changing in response to global, regional, and national forces that are transforming the world's food regime through the growth of the market economy. At the same time, new forces are emerging that are conducive to the development of a local agriculture that will be more responsive to the diverse needs of the societies practising it in the longer term.

The clash between these different forces takes the following forms:

- The development of agriculture and the rural sector in a globalized economy depends strongly on technology. Nevertheless, the domination of technological determinism without consideration for the human, social, ecological, and institutional dimensions of rural change is jeopardizing rural development efforts.
- Modern intensive agriculture increasingly comes into conflict with other interests over the use of natural resources such as fresh water, clean air, fertile soil, and biodiversity.
- The old emphasis on the abundance of fat, animal-based, processed foods is giving way to a new emphasis on healthy foods, i.e. diets containing less fat and meat and more fresh vegetables, fruits, and fibres.
- The decline of public-sector investment in technology development and the increasing role of the private sector in the formulation of government policy towards agriculture are weakening conventional rural R&D organizations.
- Powerful global and regional social movements (such as the World Social Forum or the Via Campesina in Latin America) are struggling to develop solidarity and unity among small-scale farmers' organizations, in order to forge new economic relations that will promote greater equality and social justice, the conservation of natural resources, and the creation of a sovereign local food system, leading to more sustainable agricultural production.

Against this background, a radical shift is emerging in thinking about agricultural innovation:

- Productivity and competitiveness are no longer accepted as the only goals of farming. Instead, these goals are increasingly traded off against other goals, such as sustainability, equity, food sovereignty, and poverty reduction.

- Other premises and paradigms[1] are beginning to override the market as the "driving force" of rural development.

- Agriculture is increasingly seen as only one of the sectors competing for the future use of fresh water and other rural resources.

Under these conditions, innovation in agriculture is no longer the outcome of research focused on delivering the best technical means to achieve increased productivity and competitiveness. Instead of just being the product of basic and/or applied research by scientists, innovation is increasingly seen as the "emergent property" of the interaction among multiple stakeholders in "theatres of innovation" (Engel 1997; Röling and Wagemakers 1998). These multiple stakeholders include not just researchers, extension workers, and farmers but also, and increasingly, relevant nongovernment organizations (NGOs), other resource users, processors, consumers, industrialists, and so on.

For policymakers, innovation managers, and rural development practitioners, this means that attention must shift from emphasizing technological innovation alone to carefully understanding the whole context of innovation and the differing perspectives of the various stakeholders affected by it. Above all, innovation must take on an institutional dimension.

Institutional innovation

Institutional innovation is understood here as the "emergent property" of the interactions among an organization and its stakeholders that transforms the organization's conceptual framework and mode of intervention.

What is perceived as "new", when knowledge is generated or applied, is a matter of the internal consistency or institutional coherence of an organization: that is, the fit among the various components that determine how the organization innovates. These components, together with their interrelationships, are shown in Figure 1.

This model of institutional innovation is based on what biologists, philosophers, system theorists, and social scientists call "cognition", which is the essence of knowledge-based action in living beings. The members of an organization interact to share theories, approaches, concepts, worldviews, values, emotions, theories of action, and perceptions of the shared context, all of which lead to organizational knowledge-based action. The components shown in the figure are defined as follows:

1. **Conceptual framework.** This includes the most important theories, approaches, and concepts for interpreting and understanding an organization's activities.

2. **Perception of the context.** This is how the organization's operational context is perceived and consequently how that context affects and is affected by the organization's *praxis.*

3. **Value framework.** This consists of the organizational values, paradigms, rationality[2], and worldviews[3] that largely determine the way processes of change are conceived and implemented.

4. **Configurations**. These are arrangements or relationships among the individuals that make up an organization, arrived at in their search for internal consistency and for correspondence with the needs of their external stakeholders.

5. **Internal rules of the game.** These are the norms of behavior and the reward systems that regulate people's relationships within the organization and with their external stakeholders.

The tendency of the elements of the model towards internal consistency within an organization's *praxis* is what I call the *requisite for coherence.* A different institutional coherence leads to different problem definitions, to different sets of relevant questions, and hence to different solutions. An additional concept, the *requisite for correspondence*, expresses the tendency of these elements to seek external consistency between the aspirations and needs of stakeholders, on the one hand, and the rules of development within the operational context, on the other. A lack of coherence thus affects mainly the effi-

1. Kuhn (1970) defined a *scientific paradigm* as the "entire constellations of beliefs, values, techniques, and so on shared by members of a given community". Bawden (1998) further proposed that paradigms could be characterized by their ontological, epistemological, axiological, and methodological foundations. Based on the analysis of these core philosophical perspectives, Miller (1985) proposed a classification, further developed by Bawden (2001), that considers the existence of four basic scientific paradigms: *egocentric, technocentric, ecocentric* and *holocentric.*

2. Habermas (1984, 1987) distinguishes between different types of action: *instrumental*, associated with the material world; *strategic*, associated with the social world; and *communicative*, associated with the inner world. Each type of human action is associated with a different sense of "rightness". This sense of rightness or preferred way of getting things done is what is called rationality.

3. Worldview or *Weltanschauung* (Checkland 1989; Wilson and Morren 1990; Bawden 1998, 2001) is a mental framework that influences the way people think, decide, and act. Wilson and Morren (1990) pointed out that worldviews "consist of the experiences, feelings, emotions, attitudes, values, morals, beliefs, tastes, and personalities of individuals, as well as their patterns of reasoning and intelligence and their store of knowledge".

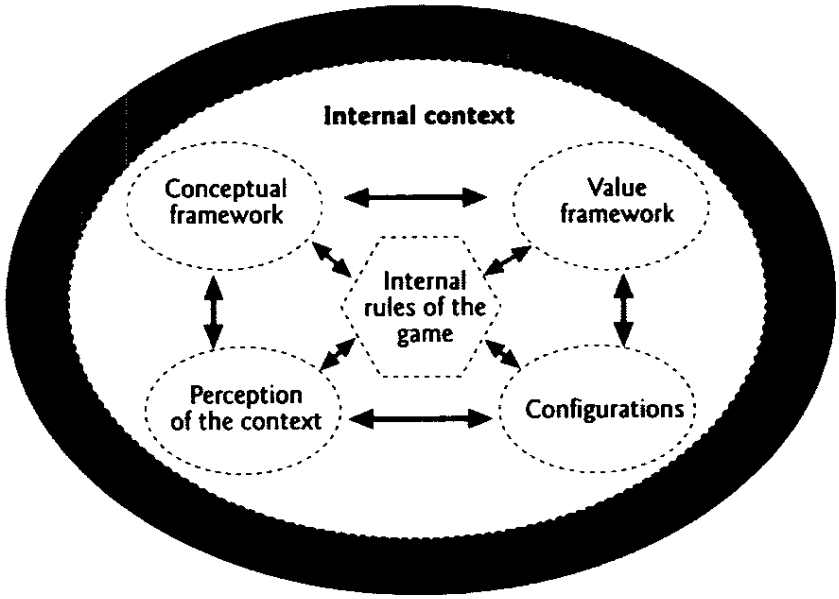

Figure 1 Model of institutional innovation in rural R&D organizations.

ciency of an organization, while a lack of correspondence affects mainly its relevance (see Box 1).

The model reflects the dialectic of both contradiction and convergence between coherence and correspondence. On the one hand, when the operational context changes, demanding a new correspondence, this will in turn lead to the need for a new coherence. On the other hand, the re-ordering of internal coherence leads to the need to establish a new external correspondence. If we are to develop a better understanding of institutional innovation, we need to recognize that there is no single best way of setting about it. In practical terms, this implies adopting a flexible stance, which is highly responsive to context and embraces diversity and complexity, instead of assuming that institutional innovation is simply a matter of transferring technical know-how.

Thus I understand institutional innovation as a context-specific interactive learning process which moves its participants towards transformational change that has important implications for the identity of rural R&D organizations. Based on the critical questioning of an organization's identity, participants develop a new conceptual framework, perception of the context, value framework, and configurations that aim to confer greater correspondence with the needs of external stakeholders.

Box 1: Efficiency and relevance: Two sides of organizational sustainability

The search for internal efficiency without paying attention to the relevance of an organization conditions the process of institutional change so that this responds solely to the dictates of rationalization: efficiency, prediction, control, and quantification. From this perspective, past history and present context are not considered important for the change process. The internal re-arrangement of activities and processes is emphasized, at the expense of such factors as interorganizational solidarity, public–private alliances and coalitions of stakeholders.

Why analyze theories of action for institutional innovation?

One of the indicators of the new post-industrial epoch is the emergence of a new model for the generation of knowledge. The characteristics of this model include: (i) the development of knowledge in the context in which it will be applied; (ii) a transdisciplinary approach in which the views of lay people are sought in addition to those of specialists; (iii) the diversity of participating organizations and individuals; (iv) the reflection of social concerns and the commitment to social ends; and (v) broader social control over the quality and validity of the process and its results (Gibbons *et al*, 1994; de Souza Silva *et al*, 2001). According to these authors, knowledge generation, dissemination, and transformation are embedded in, and defined by, a complex set of social, institutional, and technical practices and parameters. Furthermore, ideas or bodies of knowledge exist neither as discrete objects

or commodities that can be transacted nor as collections of individual beliefs that groups can simply come to share.

Thus knowledge is not created and processed in a disembodied, abstract fashion but rather in relation to the conditioning factors, including struggles over meanings and practices, that occur in everyday life. Socially relevant knowledge is not simply defined by organizational criteria or by centres of authority, but is instead the outcome of the interactions, negotiations, and accommodations that take place between the different stakeholders and organizations involved. Consequently, it is necessary first and foremost to understand how individual and collective stakeholders construct and adapt the value frameworks, conceptual frameworks, and perceptions of the context that influence their configurations and modes of intervention.

The growing irrelevance of the conventional development paradigm is creating a crisis of perception among the social, economic, political, and institutional actors in development efforts. They are unable to understand what is going on—and as a result they are incapable of suitably changing their individual and organizational *praxis*. This crisis of perception, together with that of the legitimacy of conventional development efforts, is leading to the increasing vulnerability that today affects the organizations involved in rural R&D.

In their search for innovative solutions to these emerging and, as yet, poorly understood challenges, organizations and individuals have generally clung to theories of action that are relevant only for technological innovation and its management. But, as Argyris and Schön (1978) put it: "Theories created to understand and predict may be quite different from theories created to help people make events come about. The latter, which we have called *theories of action*, must lead to understanding and prediction, but they must go beyond these two important functions". According to these authors, "Organizational learning might be understood as the testing and restructuring of organizational theories of action." Moreover, institutional innovation should lead to a change in the organization's theory of action, which here is understood as a set of principles of behavior, shaped by paradigms, worldviews, and rationality, and by theoretical and methodological premises, that informs the way a given organizational purpose can be effectively achieved.

For this reason, it is impossible to achieve institutional change in a given organization without a deep-seated change in the organization's way of thinking, which influences the individual and organizational value frameworks that mould the collective perception, decisions, and actions of the organization. This perspective is congruent with the theory of organizational learning (Argyris 1992; Kitchener 1983; Broekstra 1998; Bawden 2000), according to which learning may occur in the following forms:

- **Single-loop learning:** when organizational practices are changed without questioning why existing practices do not work;
- **Double-loop learning:** or second order change, in which learning occurs through a process of joint inquiry into the conceptual and methodological frameworks that guide the organization;
- **Triple-loop or epistemic learning:** this involves questioning established mindsets, through deliberate and self-critical reflection about the worldviews, rationality, paradigms, theories, values, and other elements that govern the organization's behavior.

So, if we wish to strengthen rural R&D organizations through institutional innovation, we must, besides analyzing their internal coherence and external correspondence, reflect critically on their dominant value framework and theories of action, since these inform their organizational *praxis*. Indeed, the theory of action that underpins the change process influences the understanding of what constitutes institutional innovation, the purpose to be achieved through it, and the way the change initiative is to be planned and implemented.

The main theories of action

The model of institutional innovation described above was used to analyze the change processes at work in different rural R&D organizations. The following general questions were formulated to guide the research: (i) What are the main theories of action that inform these processes in rural R&D organizations? (ii) How does institutional change in rural R&D organizations reflect the contradictions arising from the transition to a new epoch? (iii) How do change agents develop and deploy alternative theories of action in order to overcome the limitations imposed by the mainstream development paradigm? (iv) How are institutional innovation processes affected by (and how do they affect) the theories of action of donors and external facilitators? And (v) What are the external and internal factors facilitating (or hampering) institutional innovation in rural R&D organizations?

The study examined three cases:

- **The National Agricultural Research Institute of Panama (IDIAP):** This is a public-sector R&D organization responsible for agricultural research and the "transfer" of its results to extension agents. The extension service in Panama is part of the Ministry of Agricultural Development (MIDA).
- **Environmental NGOs in Panama:** In view of the important part played by such NGOs in the national rural R&D

effort and the voluntary character of their membership, two environmental NGOs were studied: The Foundation for Integral Development of Cerro Punta (FUNDICCEP) and the Panamanian Association for Sustainable Agriculture and Natural Resources (APASAN). These NGOs have received support from the institutional strengthening programmes of the United States Agency for International Development (USAID) and the NATURA Foundation respectively.

- **The ISNAR New Paradigm project:** This is a capacity-building project carried out by ISNAR in Latin America and the Caribbean. Working with pilot cases, mainly regional agricultural science and technology organizations, the project has both supported institutional change processes started by participating organizations and initiated such change processes itself.

Four theories of action for institutional innovation were identified during the study: *mechanistic*, *economic*, *evolutionary*, and *contextual*. These are presented in Table 1, in which the components of the model presented in Figure 1 serve as the organizing framework

The theories that managers and facilitators explicitly or implicitly use to realize institutional innovation differ considerably in their effectiveness. As an example, Box 2 summarizes the case of the New Paradigm Network (NPN).

Table 1 Theories of action for institutional innovation in rural R&D organizations

Components of institutional innovation	Theories of action			
	Mechanistic	Economic	Evolutionary	Contextual
Conceptual framework	Systems theory (hard systems thinking), scientific management, re-engineering	Institutional economy, strategic planning, systems theory (hard systems thinking)	Sustainable human development, ecosystems management, conservationism	Actor network theory, soft systems thinking, constructivism, critical theory
Value framework	Instrumental rationality, techno- and ecocentric paradigms, mechanistic social worldview	Strategic rationality, ecocentric paradigm, economic and social worldview	Communicative rationality, ego- and ecocentric scientific paradigms, evolutionist social worldview	Communicative rationality, holocentric scientific paradigm, holistic and contextual social worldview
Perception of the operational context	Context is manageable, controllable, and predictable. Science and technology are seen as playing key roles in coping with the context	Context is an arena for competition, with opportunities and threats. Strategic planning (scenario building) is given a key role in coping with the context	Context is uncertain and dominant. Nature is fragile and harmonious. Adaptation as means of creating and maintaining the input–output equilibrium of organizations	Context is complex and contradictory. Change of epoch fragments the coherence and correspondence of the rules of development
Configurations and basis for interaction	Bureaucratic hierarchies. Technology development, agrotechnical change	Bureaucratic hierarchies and individualism. Competition, bargaining, strategizing	Hierarchical networks and coalitions. Interactive cooperation, reaching agreement	Democratic networks and learning communities. Interactive negotiation, networking
Internal rules of the game	Scientific methodology, control of nature for human purposes	Social Darwinism, market forces optimize the use of resources and facilitate the survival of the most competitive actors	Trust, responsive relationship with nature, equity and mutual respect among people	Social commitment, responsible ethical relationship with nature and other people

Source: Santamaría (2003).

Box 2: The New Paradigm Network

ISNAR staff and a team of regional experts from Latin America created the New Paradigm Network (NPN) in 2001. Supported by the Swiss Agency for Development and Co-operation (SDC), the network draws heavily from the previous efforts that led to its creation, namely three regional projects implemented between 1991 and 2000. The aim of NPN is to develop and exchange capacities for the management of institutional innovation within rural R&D efforts in Latin America. The key achievements to date include (i) the training of over 1000 trainers/facilitators in institutional innovation; (ii) the strengthening of national agricultural organizations at management level, such that these have become more sensitive to the needs of rural communities; (iii) the publishing and dissemination of reference guidelines and other materials in support of institutional innovation (specifically, more than 9000 copies of the series *Innovation for Institutional Sustainability* have been disseminated since 2001); and (iv) the sensitization and training, over the period 2002-2003, of more than 3000 agriculture-related professionals from 34 organizations in 12 countries.

The NPN has also held workshops and implemented research designed to reflect and agree on the theoretical and methodological elements of its conceptual framework and theory of action. The following general premises have been defined as the most important to the network's conceptual framework:

- Existence is an eternal search for coherence and correspondence, with the aim of achieving institutional sustainability;
- The world is a web of relationships between all forms of life;
- Reality is that which our worldview allows us to perceive;
- History is a permanent process of construction, fragmentation, and reconstruction of coherence and correspondence whose impacts continuously generate the rules of the game;
- The actions of individuals are conditioned by the rules of the game and by their worldview;
- Institutional innovation is an interactive learning process whose aim is to reconstruct coherence and correspondence;
- Humanity is undergoing a change of epoch, starting in the second half of the twentieth century.
- The change of epoch fragments organizational coherence and correspondence, creating a crisis of perception and legitimacy that leads to institutional vulnerability (Red Nuevo Paradigma 2003).

Other elements of the network's conceptual framework include the definitions of key concepts, such as social network, coherence, correspondence, historical epoch, development, and so on, and the selection of theories (critical theory, systems theory, actor network theory, etc.) and approaches (constructivism, dialectic, strategic, etc.) that might prove useful for research and other interpretative efforts.

The elements of the NPN's theory of action (Figure 2) are grounded in its core philosophical adherence to specific axiological, ontological, and epistemological perspectives. As such, the theory of action is expressed through the principle of ethical intervention and the methodological premises for the generation of knowledge and the development of capacity. Collaboration with its stakeholders takes place under the philosophical premise that the network practices the development *of* and not development *in* organizations. According to the methodological premise behind NPN's action-research and other activities, knowledge is socially relevant when it is generated in the context of its application. From this premise, practical implications were derived to orient associated professionals in their *praxis*. For example, the construction of knowledge about institutional innovation has to start from local capacity, experience, knowledge, and realities.

The institutional innovations achieved by the NPN occurred under the contextual theory of action, which considers institutional innovation as a complex and interactive process of construction and collective appropriation, in which the human talents of the organization negotiate both the aims of the organization and the means for creating a new institutional coherence. By contrast, under mechanistic and economic theories of action, institutional innovation is a deliberate, explicit, simple, and controlled process of searching for new opportunities, of conceiving new strategies, and of implementing changes in the organization's products and services.

Box 2: The New Paradigm Network (continued)

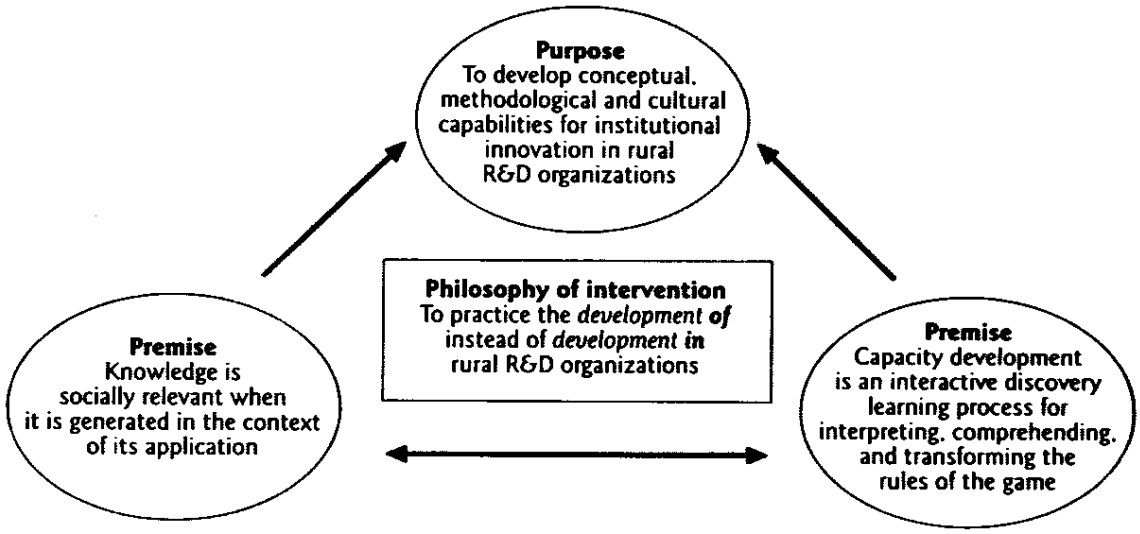

Figure 2 The NPN's theory of action

In Table 2 the four theories of action are compared with regard to their premises (rationale), advantages, and limitations.

Guidelines for institutional innovation in rural R&D organizations

When they embark on institutional innovation, managers of rural R&D organizations and facilitators of institutional change need not only conceptual and theoretical insights but also practical methodological recommendations. With this in mind, I will share some recommendations derived from my own research and experiences in facilitation, informed by the contextual theory of action.

Facilitation of organizational learning for institutional innovation

Formal educational programs are the main sources of the theories of action that explicitly or implicitly inform the practices of most R&D managers and staff. Despite their origin, these theories of action do not occur without biases. Educators who train professionals have also been educated under the influence of certain theories of action adopted by their previous instructors.

Therefore, what is more important, in institutional innovation, than knowing how to learn is knowing how to *unlearn* previous premises and assumptions. In this endeavor, single-loop learning will not help very much. Double- and triple-loop learning are necessary, since only in these forms of learning are the norms, principles, hypotheses, and the overall conceptual and methodological frameworks that guide an organization, as well as its established mindsets, opened up for questioning through deliberate and self-critical reflection.

The effort to engage in double- and triple-loop learning under a contextual theory of action can benefit from the following practices:

- The identification of existing learning communities within rural R&D organizations and the creation and strengthening of relevant communities of practice;
- The linking of organizational learning with the needs of stakeholders;
- The use of interpretative questions to stimulate the development of critical and creative thought;
- The creation of platforms for interaction, critical reflection, and discovery learning;
- Efforts to stimulate the emergence and development of local leaders for institutional innovation; and
- The participation of multiple organizational stakeholders in the design, implementation, and evaluation of learning activities.

When they use more interactive models to organize themselves as a basis for innovation, stakeholders can create new

Table 2 Four theories of action compared

Theories of Action	Premises (rationale)	Advantages	Limitations
Mechanistic	Institutional innovation is a deliberate, explicit, simple, and controlled process of searching for new opportunities, conceiving new strategies, and implementing changes in the organization's products and services	Can help improve the quality of products and services, reduce bureaucracy, monitor production processes, strengthen hierarchical relationships, and temporarily reduce organizational vulnerability	Restricts analyses and actions to the world of facts, ignoring the values, ideas, ideals, relations, commitments, and aspirations of internal and external stakeholders. Reduces complexity to its technical dimension, ignoring other dimensions and factors, without generating an understanding of the whole system
Economic	Promotes change as an instrument for achieving competitiveness, where "benchmarking" serves as the measure for transferring organizational capacities. Relies mainly on hard sciences and on market forces to cope with the new challenges faced by R&D organizations	Stimulates discontinuous thinking, structural changes, and contextual awareness. Creates a high level of satisfaction among clients and improves relationships with stakeholders	Promotes a new wave of social Darwinism, spreading the concept of competitiveness as synonymous with competition, thereby stimulating social actors to compete and prevent ing them from pursuing solidarity. Creates a high degree of internal resistance that makes it difficult to change organizational culture
Evolutionary	The organization is seen as a live organism (or ecosystem), which is born, grows, and will die when it is unable to renew itself. Adaptation to the environment is the best way to survive	Recognizes social relationships between individuals and with other organizations. Favors the establishment of network-like configurations for institutional change	Leaves little or no room for initiative and creativity, since the environment will in the end always determine the organization's survival
Contextual	Institutional innovation is a complex and interactive process of construction and collective appropriation, in which the human talents of the organization negotiate both the aims of the organization and the means for creating a new institutional coherence	Includes, but transcends, the issues promoted as important by other theories of action. Improves communications among internal actors, creates commitment to the organization, and accommodates diverse interests within the organization	Requires more time for implementation and long-term efforts to achieve consistency if a new organizational culture is to emerge

and qualitatively different organizational configurations, such as platforms, coalitions, alliances, and networks, which can themselves be seen as forms of institutional innovation. Facilitators of institutional innovation within these new configurations need to develop a range of personal skills and qualities, including the ability to communicate, the ability to be consistent, self-confidence, the ability to articulate and channel political anger, and the capacity for negotiation and the management of group dynamics.

Organizational configurations for institutional innovation

Different configurations for innovation can be seen as knowledge systems, in which it makes sense to talk of network-like relationships. A network-like dynamic emerges only when a growing number of participants start to become conscious of the need to think, make decisions, and act as if they were part of a network-like initiative. Networks can thus be seen as a set of interconnected relationships mediated by partici-

pants who are linked to a previously agreed-upon purpose under a set of rules (explicit and implicit) that guide their participation.

At different levels (see Figure 3), those intervening to promote institutional innovation in rural R&D organizations should, therefore, seek to initiate and build new network-like configurations.

The identification and strengthening of existing learning communities within organizations will be a key element for institutional innovation under the contextual theory of action. This will allow the change initiative to start the process of organizational transformation with the aim of changing *people* rather than *things* (products, services, processes, etc.).

In addition, network-like configurations may link geographically dispersed stakeholders that otherwise would not be able to interact. However, networking is not just about connecting people materially. The theory of action, the nature of the problem to be addressed, and other considerations also define the characteristics of the network.

An organizational management model is necessary

Management is the most important dimension of an organization because it affects, positively or negatively, all the other dimensions. It is the single most important determinant of organizational sustainability. In the daily activities of rural R&D organizations, the tendency is to think of administration and management as one and the same activity.

The rules for administration are defined *a priori* and are explicitly recorded in the organization's constituent documents, such as statutes, general regulations, memoranda of association, and so on. These documents commonly define (i) the basic functions of managers at different levels; (ii) the organizational architecture (the functional and hierarchical structure that moulds the formal chains of command and authority within the organization); and (iii) the authority of the senior managers.

In contrast, the rules of management are not normally defined *a priori*. Thus it is possible for the senior manager to choose the theory of action he or she is going to use. That is what explains the prevalence of personal management models. A personal management model of this kind is totally dependent on the values, worldview, images of the organization, knowledge, experience, and interests of the organization's senior managers. Moreover, when managers are not aware of the existence of different theories of action, they will follow blueprints coming from experiences in different contexts.

There are good reasons why rural R&D organizations are seldom well prepared for dealing with change. First, most of their managers are not professional managers. For example, the process for selecting the directors of public-sector R&D organizations usually places a high value on the scientific merit of applicants. Popular wisdom then says: "We lost a good researcher and gained a bad manager." Second, even the few professional managers have not generally been trained to manage change in development organizations. Moreover, most capacity-building projects include the hiring of international consultants, who commonly do not take into account local culture, history, and context, assuming that they already know all there is to know about the management of institutional change and innovation. Third, many R&D organizations are dependent on external funding from donors who are not interested in promoting conceptual and methodological autonomy in development organizations. Finally, through-

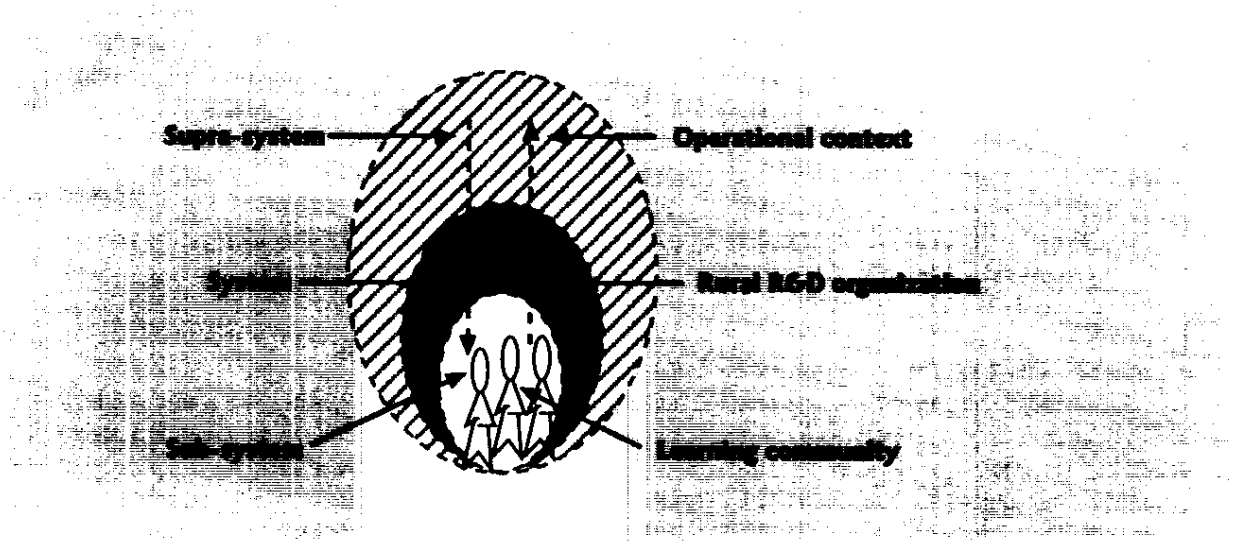

Figure 3 Levels of intervention for institutional innovation

out most of the twentieth century management science has been shaped mainly by a mechanistic theory of action, under which the history, culture, and context of an organization are not considered relevant for the purposes of changing the "machine-organization". Over the past three or four decades, this theory has to some extent been displaced by the economic theory of action, under which the organization is perceived and managed as a provider of information and technology. Neither of these theories facilitates the multidimensional, interactive, and participatory management of institutional innovation that is now needed.

Under the contextual theory of action, in contrast, the rules of management do not depend on the attributes and abilities of the senior managers but are predetermined and apply to all managers in the organization, influencing their thinking, decision-making, and actions. The collective construction of an organizational management model is thus an important step for promoting institutional innovation in rural R&D organizations.

The practice of participation for institutional innovation

As understood here, innovation is no longer the product of the individual genius working in isolation but instead emerges from people's interactions. New capacities for participation are thus needed within the emerging forms of organization, such as cross-institutional working groups and network-like configurations, both inside and outside rural R&D organizations.

Until a new consensus is reached round the importance of the joint effort to construct a new institutional coherence, the road will be long and difficult, because the rationalist model of management has programmed us to act individualistically.

Participatory processes depend more on the intention of the people involved than on the methods used. Obviously, if there is a sincere intention and the process is well managed, then it will add value. In fact, there are different kinds and degrees of participation, such as passive participation or nonparticipation, participation in information-giving or pseudoparticipation, participation for material incentives, liberal participation, virtual participation, functional participation, interactive or critical participation, and participation by self-mobilization (Pretty 1994; Salazar *et al.* 2001).

In my research I saw how the theory of action embraced (whether consciously or not) by participants affected the way they took part in change processes. Indeed, nonparticipation, pseudoparticipation and, more recently, virtual participation are commonly practiced within the framework of intervention informed by the mechanistic theory of action. Under these circumstances people "participate" only in the sense of being told about what is going to happen or what has already happened. These nonparticipatory practices assume that human relations are determined by the dichotomy between those who are able to think and those who are not. In this situation, the boundaries of, and the conditions for, participation have been already decided by "experts", who manipulate the results of "consultations" to accord with their theory of action and interests.

Liberal or incentive-driven forms of participation are more often practiced under processes influenced by the economic theory of action. Since it is assumed that the rules, premises, and promises of the dominant social system are right, there is no discussion about the causes and consequences of such phenomena as globalization, rural development, environmental degradation, and so on. The underlying theory of action is simply not open to question.

Finally, critical interactive participation is promoted by authors and practitioners who have embraced a contextual theory of action and soft systems thinking. In this form of participation, people take part in joint analysis, which leads to action plans and the formation of new local configurations of stakeholders (or the strengthening of existing ones). Responsiveness and awareness allow all stakeholders to influence decision-making and to feel ownership of the results.

Conclusion

Every society has a set of dominant rules of the game and an organizational configuration through which to make them operational. These rules and configurations build on certain premises and basic assumptions and quietly reinforce the existing asymmetrical power relationships and differentiated access to wealth. Moreover, the rules of the game are framed in a manner that seems to be natural and is therefore generally accepted.

People who are interested in promoting sustainable rural development, without questioning the underlying assumptions, assume that any constraints to such development must lie in implementation. Typically, they consider the rules of the game to be correct but assume that the way the rules are implemented must be corrupt or inefficient, or that the development team must lack strong leadership. The solution therefore lies in providing more of the same, but more effectively and without changing the rules. The focus is on so-called "practical action", while the beliefs, assumptions, rules, and theories underlying the action are not questioned.

If we want to change the deeply held values, beliefs, and assumptions that guide the way we think, decide, and act, we need to uncover the underlying components (Figure 1) of institutional innovation: conceptual framework, value frameworks, perception of the context, configuration, and rules of the game. Without new organizational behavior, and new attitudes informed by new theories of action, it will be practically impossible for rural R&D organizations to shake off

their current vulnerability and become more sustainable in the new epoch.

New conceptual frameworks, value frameworks, and perceptions of the context are critical for organizational sustainability as the new epoch dawns. Projects and organizations that seek to promote sustainable rural development by building local capacities must therefore adopt a multidimensional, inclusive theory of action that necessarily develops not only the skills but also the intellectual abilities of stakeholders, who will then define the values and principles that will inform local development according to local historical and cultural realities and aspirations. People who entertain the hope that a different world is possible need to develop the ability to think outside the box imposed by mainstream theories of action. The contextual theory of action has the potential to support their efforts.

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