

IASCP 2004 Conference: the Commons in a Age of Global Transition: challenges, risks and opportunities

Multifunctionality of rural territories and natural resource management: an analysis based on Brazilian and French examples

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Abstract: This paper analyses the renewal of public policies supporting natural resource management in two contrasted cases: the Nordeste of Brazil, a semi-arid region, and the west France. This work is based on field studies undertaken in order to assess local development projects for resource management in Brazil (in co-operation between the CIRAD, the EMBRAPA and the Federal University of Campina Grande) and on a comparative study about multifunctionality between European countries and countries of the South (Brazil, Senegal, New Caledonia, etc) realized in co-operation between the CIRAD and the INRA.

The degradation of natural resources and the crises linked to intensive farming have led European countries, as well as Latin American countries, to seek new modes of governance for rural development. In both cases, agricultural policies have been reformed: in France, through the second pillar of the Common Agriculture Policy and the multifunctionality agriculture support; in Brazil, as in other countries of the South, a new mode of governance seems to be adopted: we assist to the multiplication and segmentation of public policies concerning the rural sector (production, competitiveness, environment, rural poor, gender, etc). In both cases, this kind of reform is associated to a participatory approach of local society. In France, a contractual relation between farmers, the State and civil society was promoted with CTEs (Local Farm Contracts), now transformed in Sustainable Agriculture Contracts. In Brazil, local society is associated to social, environmental and productive policies with the Municipal Councils for Rural Development. In France, with CTEs, environmental practices – previously achieved freely by farmers -- are now remunerated by public funding. In Brazil, public subsidies are mainly limited to competitive agriculture and supports to family farming are reduced to social policies such poverty programs. In semi-arid Nordeste, environmental practices associated to agriculture, like natural resources management, are still achieved through the free contribution of farmers through collective forms for local resource management (common grazing, dry forest, water, biodiversity, etc.). This paper questions how to support these multifunctional collective forms so they can maintain themselves. In both cases, these structures are menaced of disappearing, because their nature and the motivations of farmers will become purely financial in France and because of a lack of support and acknowledgment to peasant and family farming in Brazil. The author presents an analysis and some alternative in terms of public policy devices, in order to face these two kinds of situation.

Key words: Natural resource management, multifunctionality, collective action, reciprocity, Brazil, France.

Multifonctionnalité des espaces ruraux et gestion des ressources naturelles : une analyse à partir d'exemples en France et au Brésil

Résumé : Cette communication analyse le renouvellement des politiques publiques et leur impact sur la gestion des ressources naturelles dans deux situations contrastées : le Nordeste du Brésil et l'Ouest de la France. Les observations reposent sur l'étude de la gestion des ressources dans le cadre de projets de développement local dans la région semi-aride du Brésil avec l'Institut Brésilien de Recherche Agronomique et l'Université Fédérale de Campina Grande d'une part et, d'autre part, sur une approche comparative de la multifonctionnalité de l'agriculture entre des pays européens et des pays du sud, dont le Brésil et la France conduite par le Cirad et l'Inra.

La dégradation des ressources naturelles associée à la crise de l'agriculture productiviste a conduit les pays d'Europe comme d'Amérique latine à chercher des stratégies alternatives de développement rural. Dans les deux cas, il y a remise en cause des politiques agricoles. En France, elle s'est traduite par le second pilier de la PAC et par le dispositif de soutien à la multifonctionnalité de l'agriculture. Au Brésil, comme dans d'autres pays du Sud, s'impose un nouveau mode de gouvernance : on assiste à une multiplication et segmentation des politiques publiques en matière de développement rural (production, environnement, pauvreté, genre, etc). Dans les deux cas, cette réforme s'accompagne d'une démarche de participation de la société locale. En France il s'agit d'une approche contractuelle entre l'agriculteur, l'Etat et la société civile, avec les Contrats Territoriaux d'Exploitation, devenus Contrats d'Agriculture Durable. Au Brésil, il s'agit de la volonté d'associer les structures locales aux politiques sociales, productives et environnementales, via les Conseil Municipaux de Développement Rural Durable.

En France, les pouvoirs publics via les CTE, rémunèrent les fonctions environnementales assurée par les agriculteurs. Au Brésil, les appuis à la production sont mobilisés pour l'agriculture d'entreprise et les appuis aux agricultures familiales sont réduits à des politiques sociales ou de lutte contre la pauvreté. Par contre, dans le Nordeste semi-aride, les fonctions environnementales associées à l'activité agricole, continuent encore à être assurées gratuitement par les agriculteurs, au moyen des dispositifs collectifs de gestion des ressources locales (pâturages, forêt sèche, biodiversité, eaux, etc).

La communication pose la question de l'appui au fonctionnement et à la pérennisation de ces dispositifs multifonctionnels. Ils sont menacés de disparition, par le changement de nature induit par leur marchandisation en France, par le manque d'appui aux agriculteurs paysans et familiaux ou par les politiques d'assistance au Brésil. Le texte propose une réflexion et quelques pistes alternatives en termes d'instruments de politique publique dans ces deux types de situation.

Mots-clef : Gestion des ressources naturelles, multifonctionnalité, action collective, réciprocité, Brésil, France.

Introduction

The degradation of natural resources linked to intensive agriculture has pushed some European and Latin American countries to invest new rural development strategies which might guaranty a better preservation or management of these resources. This communication analyses the renewal of such public policies and their impact in terms of natural resource management in two contrasted situations: in the northeastern region of Brazil (the Nordeste) and in the west of France. The Brazilian observations are based on studies of common resource management in the semi-arid region, conducted by the CIRAD in partnership with the Agricultural Research Institute of Brazil and the Federal University of Campina Grande (Caron and Sabourin, 2001). In France, the analysis is based on direct observations in the western region as well as on a comparative approach of multifunctionality of agriculture, undertaken by the CIRAD and the INRA (National Agronomic Research Institute in France) in diverse situations, of which France and Brazil (Barthélémy, 2003).

On both continents, the questioning of agricultural policies goes along with the investigation of alternatives to natural resources management, in particular through local or territorial development structures. In France, this tendency is revealed by the second pillar of the CAP (Common Agricultural Policy) (Bonnieux et al., 1999) and through the implementation of support to agricultural multifunctionality (Léger, 2000). In the Nordeste of Brazil, as in other countries of the South, new governance systems are emerging through the multiplication and segmentation of public policies concerning rural development (agricultural production, environmental issues, poverty, gender, etc.) (Bonnal et al., 2003). In both cases, this reform of the system is associated to participatory approaches with the concerned actors and local society. This communication will focus on the devices, the results and the perspectives of the dynamics of interaction between collective action and public action for resource management. It looks into the question of how to help collective structures to ensure common resource management and to maintain these practices. Are these structures guaranteed in France -- or on the contrary menaced of disappearing -- by the change of nature operated through the attribution of a market value by subsidies (Angel, 1998)? In Brazil, will they be condemned to disappear through a lack of support to peasant and family agriculture? We will first present the evolution and the modes of implementation of these policies in both cases. Then, in a second part, we will analyze the first results of these policies, and infer their teachings and limits.

1. Evolution of the strategies for managing common resources

1.1. General considerations

The degradation of natural resources, and in particular of common property (or management) resources (forests, grazing grounds, biodiversity, water spreads or streams) has been, since a few years, associated with two major phenomena : the overexploitation of ecological systems and the weaknesses of resource management systems (Weber, 1997).

Overexploitation by an excess of use is mostly due to the intensification of agricultural, breeding, or mining systems : deforestation and settlement in tropical forests, deforestation linked to grouping of land, use of pesticides, implementation of big dams and irrigation perimeters, moto-mechanization, etc. (Mazoyer et Roudart, 1997). Deficiencies of the management systems are due to several factors which all tend to eliminate the ancestral or

local rule systems without offering any alternatives of new appropriate and lasting systems (Sabourin et al, 1997). This situation is explained by three main factors: i) the nationalization of land and resources in socialist regimes, followed by their devolution to the private sector and the generalized liberalization of economies; ii) the end of collective management by farmers, for two reasons : rural decline and the abandonment of certain ecological systems on the one hand, and on the other, the privatization and total individualization of farming systems (following different modes between North and South); and last iii) legislation concerning decentralization which assigns natural resource management to new local structures or collectivities.

The limits and failures of these different reforms reveal a real need for the definition of new management rules through both public action and collective action of users (Ostrom, 1992, 1998). This leads to the question of the difficulties, conditions and successes of interaction between collective action dynamics and public action processes.

In the examples we shall develop, the situations are quite distant and contrasted but their comparison remains relevant: they both present the transformation of family farming systems, the transition from peasant farming to family enterprises being more or less advanced.

1.2. The West of France: have the hopes of multifunctionality been deceived?

This first example deals with the maintenance and conservation of river banks and marshlands, the last wooded zones to be cultivated in Poitou-Charentes after the uprooting of hedges with the land regrouping in the 1970s.

Traditionally, this maintenance was carried out through the collective action of the riverside farmer families, were they owner, tenant or sharecropper. In the marshlands, this maintenance was needed to keep the canals navigable, and along the rivers, it aimed to provide water access for animals and wood from the hedges for heating and construction (poplar) (Billeaud, 1984). Stock herding required the maintenance of thick hedges to cut down on wire fences, for the sun-shelter, and for the waterholes that were preserved.

When either banks of a watercourse weren't owned by the same farmer, both farmers and owners agreed on how to ensure half of the maintenance. Indeed, even though water has a public statute in France, the watercourse itself is a private territory, owned for half by each owner of a riverside parcel. Little by little, since the needs in heating wood decreased (replaced by fuel, gas or electricity) and extensive grazing disappeared, these practices were abandoned.

Progressively, this maintenance was taken over by inter-municipal structures, water basin agencies, fishing or hunting associations (for the vegetation linked to fauna and its restocking). However, there were abuses: preventing floods and regularizing water flow was used as a pretext for deforesting riverbanks to facilitate machine access and for constructing dams. Environmental impacts were very negative : degradation and progressive erosion of riverbanks was enhanced, nitrate retention and pesticide filtration by the hedges decreased, leading to water pollution, specific flora and fauna disappeared, sun-shelter became rare, etc.

Public authorities which had encouraged land re-grouping and stream drainage in the 1970s through subsidies then tried to limit these degradations during the 80s and 90s (Ollivier et al, 2001). A series of measures concerning farm structures were taken in the 1980s by public authorities at a national level, through OGAF (Opérations Groupées d'aménagement Foncier : grouped operations for land planning), and then at a European level with agri-environmental measures (CNASEA, 1997 ; Doussan, 2004).

Starting in 1998, the implementation of policies concerning the multifunctionality of agriculture or the new European Rural Development Code (green box measures) enabled to

remunerate certain preservation practices, as part of the second pillar of the CAP, through conditioned subsidies (Bodiguel, 2004).

In France, with the 1999 Agricultural Orientation Law, a contractual approach between the State, farmers and civil society was carried into effect with CTEs (Contrats Territoriaux d'Exploitation : Local Farm Contracts) (Léger, 2000 ; Rémy, a & b, 2000).

However, CTEs and agri-environmental measures were abandoned by the Chirac government in 2002-2003 and replaced by CADs (Contrats d'Agriculture Durable : Sustainable Farming Contracts) which haven't yet been implemented. Reference to and acknowledgement of multifunctionality have almost disappeared, put back by exclusively environmental considerations, timidly mentioned rather than integrated in a real strategy for sustainable development.

Interactions between collective action and public action, which have become rather reduced concerning common resource management, could have found a new dynamism through CTEs. In the west of France, this was sometimes the case as farmers, river comities; hunting and fishing associations were associated to the environmental management of certain hunting zones or river-courses. However, the majority of contracts were considered by the Chambers of Agriculture as a simple transfer of subsidy from agri-environmental measures over to CTEs (Berriet et al, 2000).

1.3. In the Nordeste of Brazil: creativity through non merchant collective action.

In Brazil, as in other countries of the South, a new governance mode is imposing itself through the multiplication and segmentation of rural development public policies. Policies supporting productivity, prices and marketing channels have been mainly relevant for agrobusiness farms, turned toward export, but the measures which have been appearing recently aim at providing indirect support to family farming: installation programs, environmental considerations, poverty relief, promoting women or young people. Accompanying this reform, new considerations can be heard concerning participatory approaches of local society, associated to decentralization and the disengagement of the State from direct production support. Paradoxically, the new policies implemented often over-assist local actors and ignore their autonomy and responsibilities (Sabourin, 1999).

As far as management of collective natural resources (water, dry forests, grazing lands, biodiversity) is concerned, peasants of the Nordeste traditionally proceed through collective action, through mutual aid and community structures.

Civil society was progressively mobilized on reforestation projects and hedge planting by NGOs or farmer unions. In most cases, managing the commons is ensured by collective structures, be they formal (peasant organizations) or informal (groups of neighbors, rural or peasant communities).

Public action is still limited. In Brazil, there is willingness to associate local structures to social, environmental or productive policies, through Municipal Councils for Rural or Sustainable Development. However, in the semi-arid Nordeste, environmental practices associated with agricultural activities are still ensured freely by peasants, by means of collective structures for local resource management. We have studied three types of commons: grazing in dry forests, biodiversity of local seeds and common water reserves (Sabourin, 2003a).

In the Sertão, most common grazing lands in dry forests (*fundos de pasto*) that have been preserved are in the State of Bahia. In the 1980s, in order to prevent illegal invasion of such commons, the Secretary of Agriculture of this state implemented a program for the acknowledgement of these commons in favor of peasant communities who have no legal statute. The project consisted in encouraging the creation of community peasant associations,

recognized as juridical entities, to whom the joint common grazing lands, once they had been registered in the cadastre, could be attributed through a collective title. These zones benefited from a statute of agrarian reform land, enabling the associations to have access to certain public subsidies (credits, hydraulic infrastructures). This before-time “multifunctional” initiative helped preserve significant areas of xerophilous forests (*caatinga*) and maintain peasant communities who would have been condemned to exodus had they not been able to continue herding small cattle on extensive grounds. Besides, this boosted an ovine quality production: the *bode* du Sertão (Sabourin et al, 1997).

In the same way, the acknowledgement by the State Secretary of Agriculture in the Paraíba of Community Seed Banks in the semi-arid zone enabled these informal structures to exist and be recognized as the structures supporting the public program for the distribution and conservation of seeds. This gave them an institutional legitimacy which helped them find new resources and continue preserving and developing local bean and corn varieties. This allows them to guaranty the biodiversity of species and cultivars adapted to the different ecosystems and production systems in this region (Almeida & Cordeiro, 2001, Almeida et al., 2002).

In these three case studies, three elements remain constant : i) multifunctionality of family farming and collective structures is mostly (but not exclusively) associated to non merchant retributions, ii) these non merchant collective structures are based on indigenous or peasant rules of reciprocity¹, iii) in some cases (water provisioning, communities, unions), these institutional structures were prior to production and there now exists a competition between two modes of organization and distribution of resources : production for the market versus production for the community and domestic units (Sabourin, 2003b).

Interactions between collective action and public action have started to emerge under the pressure of peasant organizations, unions, civil society associations, and especially of hybrid forums (gathering peasant’s organizations, scholars and independent figures). The most active of these forums in the State of Paraíba are those dealing with issues on water or semi-arid zones. They obtained public support for Seed Banks in Paraíba, the acknowledgement of collective property titles for common grazing lands in dry forests in Bahia, and in Ceara the institutionalization of basin comities.

2. Analysis and teachings of the case studies

2.1. Different situations, similar evolutions

We first have a global tendency: the disappearance of peasant societies or their conversion into family farming models more or less integrated into the market is linked to a reduction or to the end of traditional management systems of common resources. Where peasant communities continue to exist in the midst of a larger society, these systems are maintained or reconstructed into more modern organizational forms, as is the case in the Nordeste of Brazil and in particular in the semi-arid zones of Cariri or Sertão.

In France, common natural resources have been progressively disappearing because of the intensification of production systems which was accompanied by the individualization and competition of family units. Land structuring reforms, such as land re-grouping or hedges uprooting between parcels and along roads or watercourses have accelerated this process. Values of mutual help and collective management have not disappeared, but they now concern the use of common equipment with CUMAs (Coopérative d’Utilisation de Matériel

¹ Reciprocity is generally defined as the reproduction of a gift. We consider it as the redoubling of an action (not only a gift).

Agricole: cooperative for the common use of agricultural equipment) or the management of short-circuit marketing.

In France, the policy for agricultural multifunctionality, although sometimes ambiguous concerning the support to farmers (Perraud, 2003), could have contributed to preserve environmental services by farmers for the general interest if it had been continued on the long term. It is too difficult to judge by the two years of CTEs. Indeed, too rapidly carried into effect, under the control of the Chambers of Agriculture and sometimes against the hostility of the dominant farmer unions, these contracts didn't really become territorialized on a local level. They did not either integrate negotiations with actors other than farmers. In this configuration of subsidy transfer really existed the risk of merchandising "non merchant" services by supporting these activities that were previously ensured freely by farmers, firstly as a cultural heritage and according to their production system, and secondly in the general interest.

In Brazil, as in France, in spite of its undefined and also ambiguous dimensions, the idea of sustainable agriculture seems to go towards the general interest. Policies for the multifunctionality of agriculture could be seen as one of the possible strategies.

2.2. Advantages and limits of the concept of multifunctionality of agriculture to deal with resource management

Multifunctionality of agriculture, or of rural territories? This question is not innocent. FAO and most countries of the South associate the concept of multifunctionality to rural territories and not only to agriculture (FAO, 1999). The territorial dimension of multifunctionality is incontestable.

In the North, farmers are becoming increasingly insignificant in rural territories. They must cohabit with many other actors and activities. This is one of the reasons why the issue between multifunctionality of agriculture or rural territories is at stake: since farmers must ensure services in the general interest, they must interact with other actors, including public authorities.

The risk, which does actually exist in some motions proposed by the OECD concerning multifunctionality and natural resource management, is that environmental measures become uncoupled from agricultural policies (OECD, 2001).

These proposals go towards a financial evaluation of the positive externalities produced by agriculture. What is at stake here is not the principle of merchandising these services. It is rather the risk of a financial over-bidding and that these services will never more be ensured without retribution. These are rich country measures, associated to the protectionism policy of European agriculture, which allows no way back. The second negative element is that the end of voluntary and free services with mutual help and distribution practices (through access to resources and to work) might endanger the perpetuation of human values such as responsibility, justice, equity, which are produced by these structures. That are not only social structures, they are also economic ones, inherited from the reciprocity principles of peasant societies.

One could imagine modern systems of redistribution and reciprocity, encouraged by public authorities, and which would at the same time leave local actors autonomous and responsible, so as to foster the perpetuation of these human values.

Such structures would appear as real examples for countries of the South, much more convincing than the current protectionism and its subsidy blows, disguised or not.

In countries of the South, it is not the concept of multifunctionality that is enhanced but that of sustainable agriculture and rural or territorial development.

In the case of the Nordeste, alternatives are emerging with new sustainable or ecological agricultural systems, carried by civil society and peasant organizations. For Nordeste smallholders, who use little external inputs and chemical (fuels, pesticides, synthetic fertilizers), converting to agroecology systems is much easier than for specialized and intensive productions (Tonneau, 2003; Silveira et al, 2002).

This is probably why interactions between collective action of peasants and of civil society and public action, in particular of public research and development services, would be most relevant and efficient at this level.

2.3. Interactions between public action and collective action

In both cases, France and Brazil, these reforms are carried out along with an increasing participation of the concerned actors and local society. In France, managing the commons implicates individuals and the State, as well as territorial structures (townships, township communities, departments, regions). CTEs are by essence territorial contracts at a local level: one or a few farms.

In Brazil, individuals, or rather peasant families maintain or update collective practices carried out by local groups or professional organizations. They then try through coalitions (mixed forums, federations, lobbies, etc.) to have public authorities recognize and support these structures, mostly at a local or regional level (municipality, State). Indeed, the managing scale is mainly local (water resources) or micro-regional (forests, water basins, etc.).

New regional structures for the preservation of natural resources have emerged in both cases, more flexible than regional natural parks. In the west of France, for instance, the Regional Conservatory for natural areas in the Poitou-Charentes regulates and co-finances measures for the preservation of the natural heritage, landscape and specific site resources, but in return of the negotiation and co-management of the maintenance measures with the farmers and township community structures. Such is the case for the protection of some valleys, watercourses, forests, etc.

In Brazil, as in France, new means of interaction between collective action and public action are appearing, with repercussions on the preservation of common natural resources. For example, public policies are being implemented on a local scale to contractualize with farmers over services like the conservation of biodiversity, the construction of collective water reserves, and the maintenance of certain sensitive zones. Another feature common to both countries is the certification not only of quality products (origin, method) but also of sustainable cultivation systems: agroecology, organic or integrated agriculture, family agriculture (Tonneau, 2003, Sabourin, 2003c).

In Brazil, such dynamics of public acknowledgement of common resource management is not yet generalized, even though they are increasing in number. However, there exist many cases of public support to collective action dedicated to the production of collective goods (instead of the management of commons) (Ostrom et Ostrom, 1978; Bindabran et al, 1999): information, education, innovation, technical references, etc. This is for example the case of rural extension programs ensured by peasant organizations (rural schools, family schools, union schools) or collective structures for production of innovation through experimental peasant groups or seed banks for participatory selection. Through these structures, peasants or their organizations endorse on local or regional level responsibilities in the general interest, such as research, experimentation, extension, education, freely and generally without any public support.

A simple alternative, in terms of multifunctionality policies, consists in facilitating or ensuring the maintenance and continuance of these collective structures for the general good. This kind of articulation between public action and peasant organizations is yet another example of the positive interface between economic principles based on capitalist exchange and economic principles governed by reciprocity. Such practices are of course ensured by peasants through individual necessity (and sometimes even survival), and at the same time, they depend on social structures and rules of proximity and reciprocity, constructed over time during centuries, and that have undergone several evolutions and adaptations (Sabourin, 2000). Recovering these practices means preserving social and economic structures of reciprocity (mutual help, shared management of resources, etc.) and of redistribution that allow them, as well as the human values which proceed from them (Sabourin et Djama, 2003). Maintaining and reproducing these human values requires that the name, the knowledge and the gestures of the local actors, peasants, fishers and craftsmen be acknowledged. Their social being, their statute and their prestige depend on this. On the contrary, the application of a multifunctional system founded on the individual remuneration of environmental and social services linked to agricultural production leads to a monetary and merchandized system of previously free services. However, this free production of services is what guarantees the production of universal human values (Barthélémy & Nieddu, 2002). Transforming the nature of these practices, free and voluntary, might accelerate their disappearance (particularly if such a remuneration should come to disappear) or simply lead to the dismantling of social and economic structures of reciprocity and shared managing which regulate them by modifying the nature of rules and values.

Conclusions

The question of supporting the collective structures which ensure common natural resources management is at stake both in the Nordeste of Brazil and in the west of France. The traditional management systems have practically disappeared in the west of France replaced by two types of systems: township associations or comities, managed by the different territorial structures, and although less important, CTEs which offer a individual remuneration through contracts with the farmers, so they insure different environmental services on their farms. This experiment, implemented as part of a policy recognizing agricultural multifunctionality, remained marginal. The idea of a territorial contract between farmers, other actors and the State is relevant but the type of contract and remuneration is still too fragile.

In the Nordeste of Brazil, most services for the management of common natural resources at a local level are still ensured by collective peasant structures, inherited or adapted from peasant community practices. However, these free and voluntary services are menaced because of a lack of economic priorities and resources for family agriculture. When they are supported by local public authorities, the collective responsibility and the free nature of the services are maintained. Beyond the wide institutional gap that separates these two countries, it seems like the solution of a contract that would not be individual (for each farm) but collective (a local structure for resource managing) might be the most viable for both countries. This kind of interaction between collective action and public action has the advantage of coinciding with different types of sustainable agriculture, be they implemented through policies taking into account agricultural and rural multifunctionality or through agri-environmental measures.

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