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Institutionalization of the Agroecological Approach in Brazil: Advances and Challenges

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This article sketches a brief panorama of the advances and challenges involved in the implementation of the agroecological approach in Brazilian institutions. It begins with an account of the struggles of rural social movements working at the deepest grassroots level of the country's "agroecological field." The processes that led to the creation and development of the National Agroecology Alliance (ANA) and the Brazilian Agroecology Association (ABA-Agroecologia) are presented as a key part of the construction now under way. Taking as a baseline the evolutions in the internalization of agroecology in official teaching, research, and rural extension services, the article identifies some of the powerful practical, theoretical, and politico-ideological obstacles preventing the rupture with the paradigm of modernization on the part of state institutions.

KEYWORDS *political agroecology, Brazil*

SITUATING THE BRAZILIAN AGROECOLOGICAL FIELD IN A HISTORICAL CONTEXT

After five centuries of social, economic, and ideological domination by the agrarian elites, today in Brazil, we can observe the emergence of a broad social process looking to build alternatives to the environmentally predatory

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and socially excluding patterns of land occupation and use implanted since the beginning of European colonization (Pádua 2002). Although the country's marginalized rural populations have never been passive in the face of the serious denial of basic rights experienced by themselves over the course of history (Oliveira et al. 2008), the current situation of rural social movements includes unprecedented characteristics that deserve to be highlighted (Petersen and Gomes de Almeida 2007; Wolford 2010).

First, it should be emphasized that, despite their many diverse forms of expression, rural social organizations are slowly converging on a number of consensus concerning the changes needed to overcome the dominant pattern of land occupation and use, allowing peasant family farming to expand and become firmly established in the country. As well as the historical fight for access to land and for the implementation of basic rights of citizenship, the consensus now being built include a new political-conceptual dimension: the socio-environmental sustainability of peasant production. Given a situation in which tens of thousands of families are forced to abandon their properties each year due to unsustainable living conditions, it is clear that improving access to land through agrarian reform will not be enough to secure the long-term development of family-based farm production in Brazil. Critiques of the patterns of technical and socioeconomic organization inherited from the Green Revolution have matured among rural social organizations and movements as it has become clear to them that access to public policies designed to disseminate these patterns has not provided adequate conditions for the social, economic, and environmental reproduction of family farming production units.¹ Much the opposite: They have subjected family producers to technological dependency, ever higher production costs and indebtedness, combined with the ecological degradation of agroecosystems and pesticide poisoning among humans (Articulação Nacional de Agroecologia 2006; Bolliger and Oliveira 2010; Guanzirolli et al. 2010).

This increasing incorporation of the critique of industrial farming's production patterns by the national leaders of rural social movements cannot be properly understood without taking into account the vigorous emergence of alternatives developed by family farmers and their local organizations, actively responding to the denial of rights and processes of economic exclusion generated by agricultural modernization. A shared trait of these responses can be identified in the innovative forms of ecosystem management based on technologies that valorize local resources, guarantee high levels of autonomy to family economies, and, at the same time, preserve the environment and health of producers and consumers.²

The second distinctive characteristic of the current historical context of rural social movements is related precisely to the growing national coordination of these autonomous local and regional initiatives designed to promote technical, economic, and organizational alternatives for family-based

farm production. The main spaces for the expression of this emerging and evolving dynamic are the National Agroecology Alliance (*Articulação Nacional de Agroecologia*; ANA) and the Brazilian Agroecology Association (*Associação Brasileira de Agroecologia*; ABA-Agroecologia) (Caporal and Petersen 2011).

However, this evolution toward the internalization of the agroecological paradigm by civil society organizations is unfolding in parallel with the Brazilian state's entrenchment of conventional forms of production centered around monocrops and large agro-export farm entities. Based on a political economy pact reformulated in the 1990s, the agri-business sector maintains the initiative in terms of influencing state policy guidelines, reasserting its dominance at political, economic, and ideological levels (Petersen 2009). In operation since the Fernando Henrique Cardoso government (1995–2002), this pact combines the government strategy of boosting economic growth with revenue derived from farm commodity exports with the maximizing of profits by agribusiness groups from the large-scale farming, agro-industrial, and financial sectors.

The tension between these two contradictory trends means that Brazil is today exalted by the ideologues of modernization as one of the world's largest agricultural powers thanks to the occupation of vast areas of land by modernized monocrops produced for export ("Brazil's agricultural miracle" 2010; Tollefson 2010) while at the same time being recognized as a benchmark for actions promoting agroecology, family farming, and nutrition and food security (Action Aid 2010; De Schutter 2012).

This political collision, related to distinct conceptions of development, cannot be decided in favor of socio-environmental sustainability without implementing a strategy of mass occupation of rural areas by agroecological experiences as a material means of production and a source of inspiration for public policies. The Political Charter of the 2nd National Agroecology Encounter provides an analytic expression of this viewpoint:

An increasingly significant number of male and female workers and their organizations throughout the country have understood that only Agroecology will have the political capacity for transformation if effectively developed through concrete policies that guarantee that the needs of family producers and society as a whole are met. At the same time as they are experimented and disseminated locally, innovative agroecological practices comprise the embryos for the new model being built and that is already inspiring the formulation of a collective project at national level (ANA 2006, quoted in Gomes de Almeida 2009, 67–83).

The challenge of connecting agroecological practice with agroecological theory so that this collective project can come into historical force requires the continual maturation of an agroecological movement capable of channeling

society's living forces so that the paradigm of modernization is transcended in practice, theory, and politics. The experiences of constructing the National Agroecology Alliance and the Brazilian Agroecological Association, along with the challenges they have generated, provide a rich source of teaching and inspiration towards this end.

ANA AND ABA-AGROECOLOGY: EXPRESSIONS OF AN EMERGING MOVEMENT

Although practices of social experimentation designed to respond to the productive, economic, and environmental challenges provoked by the dynamics of agricultural modernization have flourished since the 1970s, evinced especially in the pro-active capacity of the Grassroots Ecclesiastical Communities (Comunidades Eclesiais de Base; CEBs) linked to the Catholic Church, the systematic construction of an agricultural alternative to the Green Revolution model only began to take shape in the early 1980s following the encounter between these innovative local dynamics and a more intellectualized sector of society that had been developing a critique of the processes of agricultural transformation taking place in the country (Petersen and Gomes de Almeida 2007).

The political setting was exceptionally favorable, involving the weakening of the military dictatorship, the progressive regaining of public freedoms, the resumption of the organizational processes of popular movements, and the intensification of the debate on alternatives for the democratic development of society. Notable aspects of this historical moment include the creation of nongovernmental organizations (NGOs) and the action of professional associations, especially the agronomists, as precursors in the elaboration of a critical assessment of modernization in farming. Key technical and conceptual contributions were made by professionals already armed with reference works critical of industrial farming.³

Later, from the end of the 1980s, what was then called alternative farming acquired greater conceptual and methodological consistency with the arrival in Brazil of the core scientific texts of agroecology. Decisive contributions to this arrival were made by the publication in Portuguese of key books (Altieri 1989; Gliessman 2000) as well as the connection between Brazilian NGOs and organizations from other Latin American countries, especially those belonging to the Latin American Consortium on Agroecology and Development (CLADES). These theoretical contributions also arrived through professionals who trained in agroecology at U.S. and European universities.

Possessing an epistemological framework that allows a better understanding of the reality in which peasant family farming lives and works (Altieri 1989; Norgaard 1989), the agroecological approach opened up new horizons for the development of methodologies more consistent with the

objective of promoting an alternative form of agriculture to the Green Revolution.

The accumulation of local experiences explicitly identified with agroecology and their spread throughout the different regions of the country helped increase the visibility of the decentralized processes led by local and regional networks of innovation. It was in the wake of these dynamics of approximation and mutual recognition that the proposal emerged and gained force to create a national alliance, which would value and take advantage of the diversity of decentralized initiatives already being implemented and enable the expression of the agroecological field as a united front (Gomes de Almeida 2009).

The formalization in 2001 of the proposal to hold the 1st National Agroecology Encounter (I ENA) resulted from the dissemination and interrelations between multi-actor networks identifying themselves with the agroecological proposal. Held in June 2002 in Rio de Janeiro, with the participation of 1,100 people from all regions of Brazil, I ENA was conceived with the purpose of increasing the visibility of concrete experiences in agroecological innovation, placing them at the center of the debates. The principal political follow-up to I ENA was the creation of the ANA, coordinated by the varied set of entities (social movements, regional networks, professional associations, and NGOs) originally involved in convoking the event.

In this process, the encounter between social practices based on agroecology with agroecological theory proved to be an essential element in building and intensifying social forces around a project capable of transforming Brazilian agriculture. It was only after this process of translation and mutual fertilization between the theory and practice of agroecology that the scientific knowledge brought by specialists ceased to be perceived as an outside imposition or the expression of unquestionable truths and became incorporated as inputs towards local innovation. But, for this evolution to take place, it has been essential for corresponding evolutions to unfold in the practices of scientific-academic institutions.

Notable advances have also been made in Brazil in this sphere. Although this process has so far been unable to redirect the conceptions and practices of the majority of institutions, the seeds for this change have been widely disseminated and are now being germinated through the work of educators, researchers, and rural extension technicians who, individually or collectively, innovate in the form of understanding and participating in the production and sharing of knowledge toward rural development (Petersen et al. 2009).

The creation of the ABA-Agroecology in 2004 represents a landmark in this evolving process. With the principal objective of uniting in its membership all those who, professionally or otherwise, dedicate themselves to agroecology and related sciences, ABA-Agroecology assumes the challenge of maintaining and strengthening scientific-academic spaces,

such as congresses and seminars, and promoting the divulgation of agroecological knowledge elaborated in a participatory form through publications. Furthermore, it is committed to engaging in politics to defend peasant family farming. Having already hosted seven Brazilian Agroecology Congresses, ABA-Agroecology is today recognized as a key interlocutor on issues related to the incorporation of the agroecological perspective in official teaching, research and rural extension institutions.

AGROECOLOGY IN OFFICIAL TEACHING, RESEARCH, AND RURAL EXTENSION INSTITUTIONS

The capacities to propose and influence policy acquired by civil society go a long way to explaining the significant advances that have been made by the Brazilian state over the last decade and a half. At different levels of conceptual and methodological consistency, agroecology has been assimilated as a reference point in the projects and programs of a variety of federal, state, and municipal government bodies. Even where the actions are merely symbolic, it is gradually breaking the paradigm of modernization that until very recently reigned exclusively in the discourse and directives of these institutions.

In the area of formal education, there are already more than one hundred 100 courses in agroecology or with different approaches to the agroecological perspective, spanning from secondary and undergraduate education to initiatives at master's level and research on doctoral programs (Aguar 2011).⁴ One of the major obstacles encountered in terms of fully implementing an agroecological approach in these innovative initiatives derives from the departmentalized structures of the teaching institutions. Although there is increasing support for educational projects based on a multidisciplinary or interdisciplinary perspective, the structural segmentation resulting from the large areas of knowledge generates powerful obstacles to any systemic approach, one of agroecology's core methodological premises. Moreover, the positivist traditions deeply entrenched in academia generate difficulties in terms of implementing an agroecological epistemology (Norgaard 1989), in particular such that knowledge building processes value and take advantage of the dialogues between scientific and popular knowledge. An important innovation in this area was the creation of teaching and rural extension nuclei of agroecology in universities and technical colleges, enabling the integration of academic staff and students from different disciplines in fertile learning environments based on direct interaction with rural communities (Caporal and Petersen 2011).

Also in the field of agricultural research, some initiatives began to take shape for institutionalizing the agroecological paradigm in the practices of public organizations at national and state level. One of the

facts worth highlighting in this regard was the 2006 launch of the Reference Framework in Agroecology by the Brazilian Agricultural Research Corporation (EMBRAPA; 2006). This document was identified as a provisional sedimentation, the result of the accumulations made over a long though little visible trajectory of constructing the agroecological approach within EMBRAPA, shaped by researchers who either individually or in small groups adopted this approach, frequently against the tide of institutional orientations (Petersen 2006).

After some years executing projects conceived on the basis of the theoretical-conceptual foundations established in the reference framework, another level of sedimentation is necessary for the institution to move beyond its operational routines linked to the notion of technology transfers, since the latter is, itself, a powerful obstacle to the full implementation of the agroecological paradigm.⁵ Additionally, progress is needed in the approach to systemic research, in particular by incorporating investigations focused on the redesigning of agroecosystems.⁶ These advances also need to be reflected in the institution's budget allocation, given that the financial resources invested in this field are negligible compared to those invested in technological innovation in conventional farming, especially in the development of transgenic varieties.

Positive evolutions are also visible in the area of technical assistance and rural extension (ATER). From 2003 onward, strongly influenced by organizations linked to ANA in the public debates on the construction of the National Policy for Technical Assistance and Rural Extension (PNATER), agroecology was adopted as the guiding approach for ATER initiatives in Brazil. A variety of actions aimed toward the professional training of rural extension workers and project financing were implemented in order for official ATER entities to incorporate the agroecological perspective in their practices. However, the experience of institutional transition in this direction revealed the major obstacles in this field due to the entrenched models of management and conventional technico-methodological conceptions adopted by the institutions (Mussoi 2011). Accordingly, despite the achievements made at a formal level, the diffusionist approaches that guided the creation of the official ATER institutions and continue to organize them still comprise a strong theoretical and practical limiting factor for the agroecological approach to be effectively incorporated by rural extension. Individual technical assistance practices continue to be stimulated by public calls for ATER services in detriment to the use of methods that stimulate the territorial dynamics of agroecological innovation needed for the creation of social environments capable of promoting the dialogue of knowledge practices advocated by agroecological theory.

The incipient but already significant experience of internalizing the agroecological approach in official teaching, research, and rural extension organizations has shown the need for far-reaching reforms in

the organization and everyday running of the same if the concept of agroecology is to come into effective operation. A national project of systemizing experiences in “building agroecological knowledge” coordinated by ABA-Agroecologia (Cotrim and Dal Soglio 2010) identified some recurring characteristics of the most advanced initiatives in this field, among which we can highlight: 1) the most innovative teaching practices in agroecology are those that incorporate research and rural extension as a pedagogical method; 2) the most effective approaches to agroecological research are those that mobilize rural communities as part of the process of formulating problems and of developing and testing hypothesis to solve them; and 3) the most promising ATER initiatives are those that stimulate local dynamics of technical and socio-organizational innovation that valorize the environmental, economic, and sociocultural potential present in rural areas. One of the principal conclusions reached in this collective process of reflection, which involved the participation of 72 groups and institutions from across Brazil, is that the institutionalization of practices for building agroecological knowledge demands overcoming the excessive segmentation of functions between teaching, research, and rural extension and a radical review of the roles played by the actors most directly involved in these activities, especially by emphasizing the proactive contributions made by male and female farmers to innovation processes (Petersen 2011).

STRUCTURAL OBSTACLES TO THE ADVANCE OF AGROECOLOGY

Although many policy instruments have been launched by the Brazilian state with at least the nominal objective of supporting agroecological transition processes, the brief presentation made above, centered on teaching, research, and ATER institutions, has looked to show the structural inadequacy of the institutional frameworks that regulate state action in order for this objective to be attained. One of the fundamental reasons for this is that the planned intervention approach⁷ that ideologically legitimizes the paradigm of modernization remains the dominant underlying principle in the elaboration of public instruments in support of development.

Conceived from a top-down interventionist viewpoint, the policies supporting agroecology end up confining it as one more sector of agriculture. Given the sector-based logic that informs the elaboration and implementation of these policies, the dominant model is not itself called into question, since, according to the current conception of those formulating the policies, there is room for various kinds of farming.⁸

In assessing the advances made by the set of public policies launched by the Lula Government to promote agroecology, von der Weid (2006) pointed to the structural dispersal of the state and its instruments as one of the main obstacles.

Not only is the government unable to maintain a coherent set of policies for farming, it is also unable to integrate the various components of the development support policies. Each of these policies follows its own logic with distinct instruments that require considerable effort from development workers and farmers themselves in order to access them. (von der Weid 2006, 3–6)

Pursuing his analysis, von der Weid (2006) highlights the problem caused by the incompatibility between the temporal horizons of the government, focused more on the execution of programs and projects, and those of society, centered more on continuous development processes. In the face of public administration cycles determined by the need for concrete and visible results over the short term, the perspective of sustainability, which by nature projects results into a distant future, ceases to be a central concern in political decision making. Aggravating the problem, the budget execution of the executive is guided by one-year projects, which translates into serious problems in the release of financial resources to provide material support to the ongoing activities related to rural development programs. The combination of the fragmentation of policies in space (the focus on administrative sectors) and time (the focus on the short term) imposes serious obstacles to the transition of public institutions from the perspective of agroecological development.

Overcoming this sector-based approach means recognizing that it is imperative that the institutional frameworks regulating rural development also undergo structural changes. Only in this way will the enormous transformative potential existing in civil society, especially in the family farming communities and organizations, be able to be channeled, allowing the systemic agrarian crisis to be overcome by widespread adoption of the agroecological approach.

A FEW FINAL WORDS

There seems no doubt that over the last 15 years we have experienced an “affirmation bubble” in the agroecological field. However, the fear remains of a growing conceptual confusion that could undermine the adoption of agroecology, especially as a public policy. The recent issue of the presidential decree instituting the National Agroecology and Organic Production Policy (PNAPO) presents itself in the current setting as an unparalleled opportunity for the civil society organizations and social movements identified with the agroecological proposal to channel their efforts towards elaborating proposals and exerting political pressure. A set of proposals has been elaborated by ANA and ABA-Agroecology in order for PNAPO to become an instrument capable of guiding public initiatives that favor the transition from the dominant model of rural development to more sustainable patterns that

take family farming as their sociocultural base and that penalizes the negative externalities of agribusiness and work to impede its expansionist dynamic.

NOTES

1. The Combined Meeting of Workers and Rural, River and Forest Peoples, held in August 2012, represented a landmark in the building of convergences. For the first time, the principal rural social movements made explicit their decision to adopt agroecology as the guiding framework for implementing structural transformations in rural Brazil (Encontro Unitário dos Trabalhadores e Trabalhadoras, Povos dos Campos, das Águas E Das Florestas 2012).

2. The social construction of local markets, which allow food production and consumption to be brought closer together, is another expression of these actively constructed responses to the processes of corporative concentration in the agrifood systems (Wilkinson 2008).

3. A key role in the process can be attributed to Ana Maria Primavesi and José Lutzemberger, two prominent intellectual leaders in this nascent movement.

4. The curricula of many of these new courses presented as “agroecological” are shaped by the promotion of organic farming based on input substitution and adopt conventional forms of teaching.

5. Despite the undeniable advance that it represents, EMBRAPA’s recent launch of a portfolio of technologies generated for ecologically based farming systems reveals the difficulty of breaking with the diffusionist approach founded on the logic of technology transfer. For further information see: <http://www.embrapa.br/embrapa/imprensa/noticias/2012/setembro/3a-semana/embrapa-lanca-portfolio-com-tecnologias-para-agricultura-organica-e-agroecologia> (accessed on September 23, 2012).

6. The EMBRAPA research system includes two national level projects that have been generating a significant volume of technical information. However these results remain linked to the “input substitution” approach, which, in practice, does not favor the expansion of the ‘agroecological paradigm’ within the institution (Mussoi 2011).

7. As part of its process of legitimization, the modernization of farming relied on a powerful ideological offensive that was able to associate orthodox economic theory with a scientific-technological paradigm under construction. However, the affirmation and dissemination of the productivist paradigm in material terms relied on the definitive intervention of national states and their apparatuses. The interventionist-type development projects depend on discourses that promote the idea that the problems of development are better approached when, through mechanisms of diagnosis and prescription, they simplify the complex reality into a series of realities taken to be independent by the sector-based approaches that organize the state. This image of intervention policy and processes is reinforced by the notion of a “project cycle” that situates various activities (definition of the problem, formulation of alternatives, policy design, implementation and evaluation of results) in a linear and logical sequence (Long 2007).

8. Indeed, the rhetoric of coexistence has been a powerful device employed by proponents of agribusiness in the political arena in which the debates on rural development take place. This rhetoric is applied at various geographical scales with the purpose of legitimizing the progressive expropriation of family farming’s means of production. At a macro scale we see the occupation of entire territories by monocrops under the allegation that other territories are granted to family farming. At a local level, the claim is made that conventional and organic farming, or transgenic and non-transgenic agriculture, can coexist when it is well known that the dispersal of pesticides and the pollen of GMOs does not respect the physical limits of the production units. At both scales, the rhetoric of coexistence obscures the fact that what is under dispute are the territories and that the territorial rights of family farming are being violated.

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