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EDITORIAL

Reaffirming Agroecology as a Critical Science: reflections and perspectives

The editorial of a scientific publication is generally the means by which its editorial team positions itself on issues and themes related to the journal's publications or the presentation of a given issue. At the *Revista Brasileira de Agroecologia* (Brazilian Journal of Agroecology) (RBA), however, we often invite experts to discuss current issues or analyze the institutionalization of Agroecology in its various dimensions, whether in Brazil or worldwide. These editorials mostly offer a critical perspective and discuss how an academic science participates in the construction of agroecological knowledge. There are times, however, when it's necessary to look at inflection points and ask, with so much time on the road and how far we've come, are we, as a science, getting anywhere? Or are we simply going in circles, unsure of which direction to take?

Twenty years ago, during the III *Congresso Brasileiro de Agroecologia* (Brazilian Congress of Agroecology) - CBA (October 17-20, 2005, Florianópolis, Santa Catarina), the General Assembly of the *Associação Brasileira de Agroecologia* (Brazilian Association of Agroecology) – ABA-Agroecologia - decided to create the RBA. The mission was to disseminate scientific knowledge in Agroecology within the academy and integrate it with its other dimensions. This would contribute to fulfilling the primary function of ABA-Agroecologia and its congresses. Thus, after a year of work by a group of associates, the RBA was launched on November 21, 2006, during the IV CBA in Belo Horizonte, Minas Gerais. In 2026, the RBA will celebrate 20 years of continuous publication, which calls for reflection: is the RBA fulfilling its mission?

When the RBA was created, it was known that its establishment in the academic world would not be smooth. It is important to remember that the traditional and disciplinary journals that dominated the Brazilian scientific publishing market were a type of scientific colonialism. They had a lot of influence in their areas of knowledge in the postgraduate system and with the Brazilian science and technology (S&T) funding agencies. Many of these journals defend development models criticized by Agroecology, especially those derived from neoliberal capitalism, based on the pursuit of high productivity and financial profit. Therefore, they do not provide space for scientific articles that have an inherently systemic agroecological perspective and that foster local autonomy and sovereignty.

Thus, considering the clamor for change, the proposals for "Another Possible World", a context in which several popular changes were articulated in Brazil, initiatives in Agroecology began to establish themselves in the academic field, so that the RBA was necessary. In addition to scientific dissemination, its interdisciplinary nature would open up space for academic production neglected by disciplinary journals.

The "World Social Forums" and conferences on sustainable development and the environment, always attended by thousands of people, both in Brazil and abroad, highlighted the need for major changes in agriculture as well. Therefore, seminars and conferences on Agroecology were and continue to be important, also demanding changes in the scientific field. Thus, the RBA was expected to have an impact on the academic world, contributing to the development of agroecological knowledge and strengthening the scientific dimension of Agroecology:

> […] a science, a movement, and a social practice, which adopts a scientific, theoretical, practical, and methodological approach that articulates different areas of knowledge in a transdisciplinary and systemic way, aiming at the development of sustainable agri-food systems in all their dimensions (RBA Focus and Scope, 2024).

However, after almost 20 years, even with growing social pressure for changes in development models and the hope that this will impact national and international public policies, the sociotechnical regime responsible for the most serious planetary crisis our

civilization has ever faced still persists. We face a crisis that is simultaneously social, environmental, cultural, economic, and political. And this systemic crisis, already felt across the planet, threatens our existence. Its symptoms are countless: social inequality, hunger, pandemics, environmental problems, cultural and genetic erosion, extinctions, growing violence, concentration of wealth, and very short-term populist policies. It's an endless list of interrelated issues that, due to denial or selfishness, persist, resisting the necessary changes. We are still far from the major transformations that agrifood systems demand. Much of the Brazilian diet still consists of ultra-processed foods laden with pesticide residues.

In various fields of knowledge, including Agroecology, progress in combating this crisis remains insufficient. There are achievements in academic circles and growing social recognition, but little progress has been made in establishing more sustainable ways of life. Meanwhile, the recalcitrant reality, which leads us toward unsustainability, worsens the crisis faster than we can study it or develop control or mitigation measures. Therefore, we urgently need to escape resignation and academic complacency, seeking to understand the circumstances that prevent us from making more significant progress in transforming agriculture and the diet of Brazilians.

Brazil, a country of continental proportions and rich in biological and cultural diversity, where we have been following this crisis most closely, serves as a model for what is happening in the rest of the world. After 1992, when the United Nations Conference on Environment and Development (Rio 92) was held in Rio de Janeiro, Brazil seemed to be aware of this and quickly ratified the two important international conventions then under discussion: the Convention on Biological Diversity (CBD) and the Convention on Climate Change. However, after dozens of “Conferences of the Parties” (COPs) to these conventions and having committed to new treaties and international agendas, dominant projects in Brazil continue to burn forests, deforest, silt rivers, and continually cause environmental crimes and biodiversity loss across all its biomes. And, at a time when COP 30 of the Convention on Climate Change is about to take place in Belém, Pará, the National Congress approved Law 15.190/2025, making environmental licensing even

more flexible. This disregards all the opposing arguments put forward by environmentalists and scientists.

We witness environmental disasters and extreme weather events (foreshadowed by scientific evidence) every day, resulting in immense loss of life (human and non-human) and incalculable costs. Yet, the irrational use of our ecosystems and agroecosystems continues to be strengthened. And this is done shamelessly by those who should, in compliance with the Federal Constitution, care for the environment so that current and future generations have the right to life. Environmental destruction continues, as populist, conservative, and progressive governments in Brazil and around the world prioritize economic growth, an unsustainable development model and the main cause of the planetary crisis.

Our planet is a closed system, with limits that must be respected. But spaces of power refuse to adopt a systemic perspective, without which it is impossible to transition from current sociotechnical regimes to more sustainable models of development. This makes us reflect: is our academic work sufficient to change the perspectives of the different levels of these power structures? Or are we becoming complacent, operating in alternative niches, with limited capacity to change regimes, resigned to operating outside the systems, satisfied with the title of an engaged, contextualized, and critical science? In fact, institutionalizing Agroecology as a science also means assuming academic and political responsibilities and seeking solutions to issues large and small, at the different scales of agroecosystems, with quality and competence. However, this is not happening in a way that would enable the necessary major transformations. The "other possible world" remains very distant.

In the academic field, the institutionalization of Agroecology depends on two movements: within teaching, research, and extension institutions, working more efficiently for human development focused on acting in the agroecological transition at different scales, without disregarding diversity, social justice, and responsibility to future generations; and outside those institutions, strengthening social and political agency and the ability to actively, organizedly, and pragmatically change structures,

deploying all available tools for this transition. However, it does not appear that Agroecology, as a movement, is making sufficient progress in these two directions.

There is a reasonable effort to describe cases that represent specific practices, but little effort is made toward scientific and academic development. This appears to be both a consequence and a cause of the mobilization methods used by organizations and associations that "stir up" the agroecological movement. It seems that an anti-academic perspective still prevails, dating back to the era of "alternative agriculture." That was once necessary due to the disconnection between science and local and traditional knowledge, but, nowadays, it must be rethought. This perspective stigmatized both "academia" and "science."

The discussion on "building technical-scientific knowledge" in Agroecology, which is part of ABA-Agroecology's mission, should be important for the congresses as well as for the articles published by RBA. But this issue is still limited to secondary spaces within our field, where it goes unnoticed. The systemic approach, for example, lacks methodology, understood as the study of methods. This has received little attention, limiting research in Agroecology to the application of disciplinary, Cartesian, and reductionist methods. It's understandable that this is because it's a rather dry topic, especially when compared to the festive gatherings of groups with which we feel comfortable. But this complacency, or even resignation, cannot be the rule. On the contrary, we need theoretical and methodological reinforcements that truly recognize Agroecology as an interdisciplinary and transdisciplinary field of knowledge, capable of systematizing different modes of production and more sustainable living.

The academic prestige already achieved by agroecology is worthy of praise, but it must be acknowledged that it remains limited. The field of knowledge continues to be viewed by public policymakers as marginal and incipient, indicated only for production systems they consider "low-tech." The National Plan for Agroecology and Organic Production (PLANAPO), for example, does not address a systemic agroecological transition but rather merely supports family farming, indigenous peoples, and traditional communities. Lacking support during the Temer and Bolsonaro administrations, PLANAPO was slow to be relaunched under the current administration, obstructed by

agribusiness sectors, which continue to dictate the rules for Brazilian agriculture. The same happened with the National Program for Pesticide Reduction (PRONARA), launched only recently, after a decade of discussions and interruptions. Included in PLANAPO, without budget guarantees, PRONARA will face significant resistance and is already feeling the pressure from agribusiness lobby groups. Thus, PLANAPO and PRONARA are public policies that exemplify, due to their delays and implementation difficulties, how little we have been able to achieve so far.

Furthermore, while we celebrate some public policies that help combat the devastating agricultural model, we also know that there are no guarantees for long-term planning in our projects. That's because it doesn't seem like we'll be free from populist conservatism anytime soon. Without an active presence in spaces of power, Agroecology, in its various dimensions, will continue to face many obstacles, including in academia. We need to have the capacity for political agency to achieve long-term public policies and, at the same time, improve the technical qualifications of those working in Agroecology teaching, research, and extension.

Currently, specific research funding for Agroecology in Brazilian academia is minimal. Only recently has there been a breakthrough, albeit with limits on participation, scope, and implementation time. With resources from various ministries, without the involvement of the Ministry of Science, Technology, and Innovation, the *Conselho Nacional de Desenvolvimento científico e Tecnológico* (National Council for Scientific and Technological Development) (CNPq) launched a call for projects from Agroecology Study Nuclei (NEA), but only for public higher education institutions. Sure, it is better than nothing and will help to enable local sociotechnical networks, but it will not solve Agroecology needs as a science. The CNPq Public Call No. 01/2025 has limited resources and a short implementation time if we consider the integration of teaching, research, and university extension. Therefore, it is difficult to support systemic projects that Agroecology requires. The reliance on exclusive funding calls for projects for Agroecology shows that the field is still unable to compete in S&T funding calls, which provide more funds and have longer implementation times. There are few solid and comprehensive research programs in Agroecology, as well as interinstitutional

research groups with vigorous academic production accredited to access these calls. And projects in areas of knowledge close to Agroecology, that achieve significant funding are also very rare and, in general, do not apply the systemic approach, as they have to adhere to the guidelines of the funding agencies.

The limited scientific production in Agroecology, and with a systemic approach, is evident in the RBA editions. In the last two years, for example, the journal rejected 72% of the submissions received, 60% of which were rejected at the reception stage. Some were rejected for falling outside the scope or standards, but the majority were rejected for not being suitable for the category of article, which prioritizes contributions with a systemic approach or those presenting more robust analyses. Some of these rejected submissions often end up being resubmitted as Agroecological Notes, a category created to accommodate more specific works, which are generally disciplinary. It is also worth reflecting on why the nearly 3,000 papers submitted to the ABA-Agroecologia congresses, on average, do not impact the number of manuscripts submitted to the RBA.

This reality has changed little over the journal's nearly 20 years, even negatively impacting its evaluation and indexing. Receiving many Cartesian contributions from the agricultural sciences, RBA was evaluated in this area by CAPES, the Brazilian agency that governs graduate studies, and was classified as a B4 journal in its journal evaluation system, QUALIS. Since Graduate Programs are interested in having their faculty and students' publications published in journals with a QUALIS rating higher than B1, RBA is no longer recommended, even by Graduate Programs in the field of Agroecology. Had it been evaluated in the interdisciplinary area, more suited to Agroecology, if the systemic approach had been applied, RBA would have received a much better evaluation. A scientific journal's indexing depends on the citation of its articles, which is not the case if it only receives submissions presenting limited data or analysis. Thus, this ends up being a vicious circle. In order to have more citations, many authors still prefer to publish in clearly disciplinary journals, which do not criticize the model of science and scientific communication that Agroecology seeks to change.

It is worth noting here that the *episteme* within which RBA operates, according to Thomas Kuhn, is an anomaly of the current positivist paradigm, as it focuses on a

science critical of the status quo of reductionist norms and methods. From this perspective of scientific revolution, it naturally clashes with impositions (norms) that reinforce disciplinary approaches. And it is these approaches that impose limits on a better understanding of the complexity of addressing issues arising from agroecological movements and practices.

In conclusion, it can be stated that it is necessary to focus on at least two actions that drive the development of the science of Agroecology. One is related to improving performance in the academic environment and within movements, seeking to reinforce the structure, both physical and personnel, and adopting a systemic approach, overcoming resistance and antagonisms from the Alternative Agriculture era. On the other hand, we must seek greater effectiveness in political agency, as pressure groups or as actors in spheres of power, to establish long-term public policies that change the reality of the development model. These are urgent and necessary actions to achieve a transition to global sustainability, beyond the sociotechnical niches to which we currently seem to be complacent.

Fábio Kessler Dal Soglio[1], Clóvis José Fernandes de Oliveira Junior[2], Flaviane de Carvalho Canavesi[3], Joel Donazzolo[4], Leticia Andrea Chechi[5], Luis Mauro Santos Silva[6], Janaína Deane de Abreu Sá Diniz[7] e Regina Coelly Fernandes Saraiva[8].

[1]Editor da Revista Brasileira de Agroecologia. Professor aposentado da Faculdade de Agronomia e do Programa de Pós-Graduação em Desenvolvimento Rural, Universidade Federal do Rio Grande do Sul, UFRGS, RS/Brasil. Ph.D. em Fitopatologia pela University of Illinois at Urbana-Champaign, UIUC, EUA.

[2]Editor da Revista Brasileira de Agroecologia. Pesquisador do Instituto de Pesquisas Ambientais – IPA, SP/Brasil. Doutorado em Botânica, no Instituto de Biociências da Universidade de São Paulo, USP, Brasil.

[3]Editora da Revista Brasileira de Agroecologia. Professora da Faculdade de Agronomia e Medicina Veterinária, e do Programa de Pós-graduação em Meio Ambiente e Desenvolvimento Rural, da Universidade de Brasília – UnB, DF/Brasil. Doutorado em Planejamento Urbano e Regional na Universidade Federal do Rio de Janeiro, UFRJ, Brasil.

[4]Editor da Revista Brasileira de Agroecologia. Professor nos cursos de Agronomia e Engenharia Florestal e no Programa de Pós-Graduação em Agroecossistemas, da Universidade Tecnológica Federal do Paraná, UTFPR, PR/Brasil. Doutorado em Recursos Genéticos Vegetais, pela Universidade Federal de Santa Catarina, UFSC, Brasil.

[5]Editora da Revista Brasileira de Agroecologia. Professora na Universidade Federal do Rio Grande (FURG), campus de São Lourenço do Sul, RS/Brasil. Doutorado em Desenvolvimento Rural pela Universidade Federal do Rio Grande do Sul, UFRGS, Brasil.

[6]Editor da Revista Brasileira de Agroecologia. Professor do Instituto Amazônico de Agriculturas Familiares, e do Programa de Pós-graduação em Agriculturas Amazônicas, da Universidade Federal do Pará (UFPA), PA/Brasil. Doutorado em Agronomia pela Universidade Federal de Pelotas, UFPEL, Brasil.

[7]Editora da Revista Brasileira de Agroecologia. Professora da Faculdade UnB Planaltina, do Programa de Pós-graduação em Meio Ambiente e Desenvolvimento Rural e do Mestrado Profissional em Sustentabilidade junto Povos e Territórios Tradicionais (MESPT) da Universidade de Brasília – UnB, DF/Brasil. Doutorado em Desenvolvimento Sustentável pela Universidade de Brasília, UnB, Brasil.

[8]Editora da Revista Brasileira de Agroecologia. Professora da Faculdade UnB Planaltina, e do Programa de Pós-graduação em Meio Ambiente e Desenvolvimento Rural, da Universidade de Brasília – UnB, DF/Brasil. Doutorado em Desenvolvimento Sustentável pela Universidade de Brasília, UnB, Brasil.