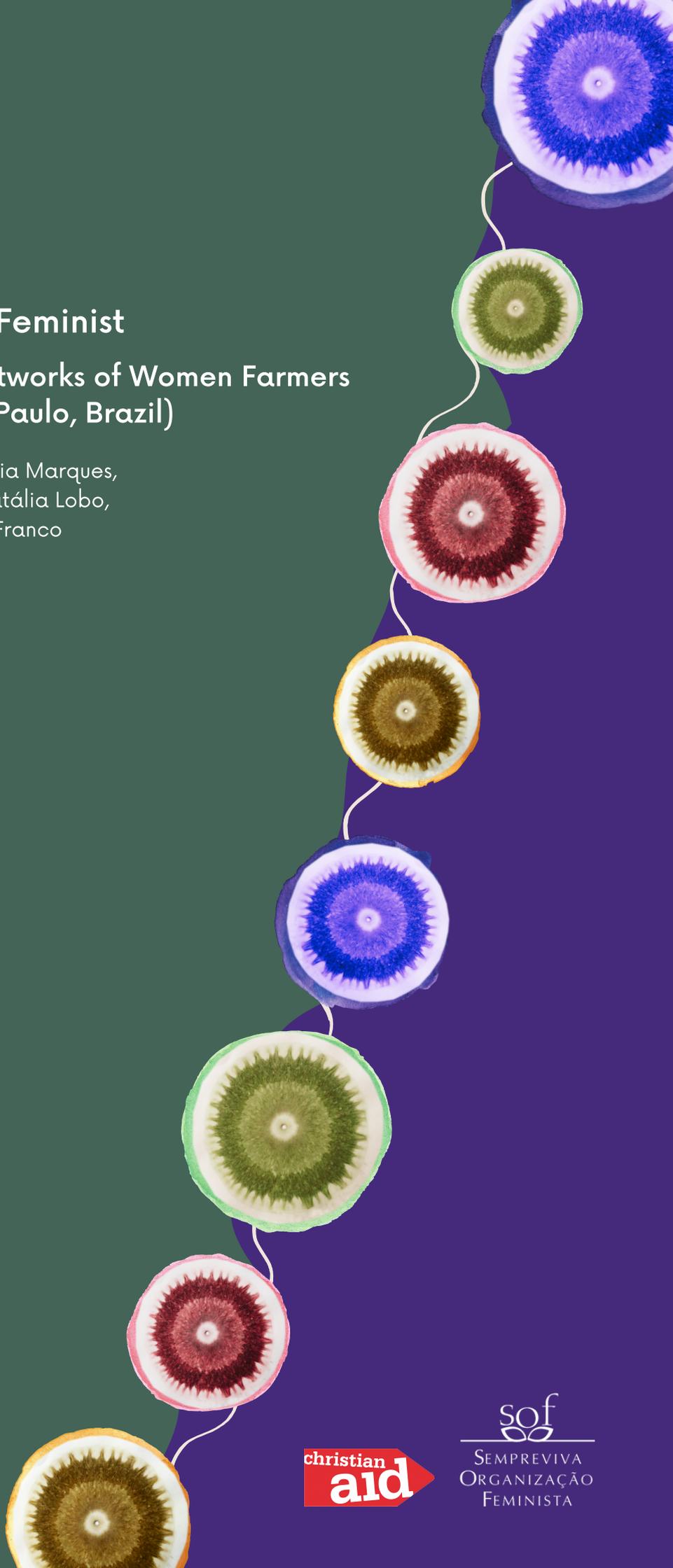


Research report Summary

(Re)acknowledging Feminist

Agroecosystems and Networks of Women Farmers in Vale do Ribeira (São Paulo, Brazil)

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Kas Sempere, Miriam Nobre, Natália Lobo,
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The survey “(Re)acknowledging feminist agroecology” was conducted by the feminist organization Sempreviva Organização Feminista (SOF) and Christian Aid¹, in collaboration with the Agroecological Network of Women Farmers of Barra do Turvo (*Rede Agroecológica de Mulheres Agricultoras da Barra do Turvo—RAMA*), São Paulo, Brazil, between August 2020 and September 2021.

The considerations included in the final report—which informs this summary report—aim to answer to the survey’s guiding question: *“How, by agroecologically managing agroecosystems (including production, processing, and trade), do organized women farmers contribute to gender equality, to maintaining their communities’ ways of living, to the care for nature, and to the building of food sovereignty?”*

This summary report briefly introduces each part of the document. We have also included the findings in full, in order to present the outcomes of the survey.

First the report presents the context of the Vale do Ribeira region and the background of feminist agroecology as something that has been built by social movements and impacts public policies. The paper then introduces the methodology we used, which had to be adjusted as the survey was conducted during the COVID-19 pandemic. It also presented the criteria used to define the women farmers from four agroecological production units that would directly take part in the process. It then presents the results organized as follows: “Brief introduction of women farmer participants”; “Diversity and perceptions of women farmers about the space”; “How they build soil fertility”; “Agroecological management in crop and livestock production”; “Food transformation for self-consumption and trade”; “Trade”; “Building agroecological knowledge”; “Findings.”

[1] This survey is part of the project “Strengthening rural women’s agroecosystems and networks to build alternatives to poverty and vulnerability in Brazil,” supported by the Newton Fund of the British Council.



Regarding the characteristics of Vale do Ribeira, it is a remarkably rich territory in terms of sociobiodiversity. It has been historically marked by different economic cycles and there have been big infrastructure projects in the region as part of development projects. Another remarkable feature is the demonstrations communities have held against many of these projects, and the creation of a specific form of organizing conservation units in this territory (the Jacupiranga Mosaic of Conservation Units, or *Mosaico de Unidades de Conservação do Jacupiranga—MOJAQ*), encompassing different ways of living. Along with it, many initiatives have been created to promote agroecology and a harmonious way of addressing nature within local communities. These initiatives, notwithstanding being very important and transformative, don't always acknowledge women's needs and knowledge as a big part of how they are built.

The work conducted by SOF on the ground is connected to this need, and this survey intends to feature and provide elements that help to create a feminist way of building agroecology. To do so, it is inspired not only by the reality of the women from Vale do Ribeira themselves, but also by a number of elaborations built through the Women's Working Group of Brazil's National Coordination of Agroecology (*GT Mulheres da Articulação Nacional de Agroecologia—ANA*), presented in the report. We point out that SOF started its work with Rural Extension and Technical Assistance (*Assistência Técnica e Extensão Rural—ATER*) at Vale do Ribeira as part of the public policy-making efforts made between 2003 and 2015 by the Brazilian government through its Department of Policies for Rural Women of the defunct Ministry of Agrarian Development (*Diretoria de Políticas para as Mulheres Rurais do extinto Ministério do Desenvolvimento Agrário—DPMR/MDA*) to strengthen rural women's economic autonomy. SOF's engagement in building these policies has directly influenced the way how the organization has followed up the women's groups from Vale do Ribeira. The same is true for the alliances established between the organization and research institutes and other collectives and movements, such as the ones that build free technology alternatives.

As for its methodology, four family units of women who are part of the RAMA were selected, with different profiles, to directly take part in the survey. The farmers' names were replaced by pseudonyms they chose for themselves, to keep their identity confidential and protect the people involved. While the conversations about the survey were held with the RAMA, there have also been enquiries and meetings with five researchers², who provided the methodological and theoretical inputs that have helped us conduct the survey. Our research tools were later adjusted to comply with necessary prevention protocols and with the appropriate social distancing measures amid the COVID-19 pandemic.

[2] Alexandra Filipak, Christine Verschuur, Emma Siliprandi, Isabelle Hillenkamp and Marta Rivera



Our bibliographical review was organized based on guiding themes: History of Feminist Agroecology in Brazil; the Contributions of Feminist Economy to Agroecology; *Quilombolas*³ and Racial Equality; and Agroecological Practices. Additionally, the course of the survey was based on Participant Observation methods and included a guided tour around the agroecosystems, as well as a croquis sketch drawn by the women farmers, a semi-structured interview with them, and soil analysis (chemical tests and Pfeiffer's chromatography).

After providing a detailed description of each farmer's background and ways of living and working, the report presents the characteristics of each agroecosystem. It then includes a section dedicated to these women farmers' diversity and views on their agroecosystem, a reflection that aims to present the space where they work and how time is organized and marked by the sexual division of labor and the seasonal aspect of production.

The section "Building soil fertility" introduces the findings from soil analysis. The survey showed that the way these women farmers conceive fertility is based on their everyday practices; their ancestral knowledge and lessons passed from generation to generation; the knowledge exchanged between the different groups of which they are part; and, additionally, the experiences they draw from technical assistance projects and the shared knowledge from agroecological fairs in which they take part.

The section on Agroecological Management is dedicated to the knowledge these women put into practice every day when farming the land or tending to their livestock. The practices these farmers presented were primarily related to soil management, which shows how building fertility is a shared wisdom and shared work between these women, constantly evolving and representing a key aspect of the way they are engaged in agriculture.

The section on food processing shows how these women farmers have a very diverse range of practices in this area. Overall, we could say that some practices are common, not necessarily among all survey participants, but at least for more than one: how they use different plants (cultivated or spontaneous) for medicinal purposes; how they have dehydration and milling techniques (for coffee, rice, turmeric, and annatto, for example); how they usually forage foods that enrichen their everyday meals while they work; how they have received different influences to solidify their ways of processing food; and how they process food for self-consumption and to sell it as well.

[3]Quilombolas are residents of quilombos, communities originally established as a place of resistance and refuge for Black people who were enslaved in colonial Brazil. While some quilombos are now acknowledged by the Brazilian state, many still struggle to have their territories and traditional customs and ways of living protected.



Trade was addressed as a social practice promoted by the women, understood as a process that involves organizing production and making decisions encompassing the management of diversity and the financial situation of the farmers. They access different markets, relying on different kinds of interpersonal relationship and taking on a variety of types of political character. Solidarity trade plays an important role among these forms of trade for these women, which includes building relationships, such as sharing knowledge and exchanging and building bonds and expressions of solidarity, as a way to prevent overburdening them and strengthening non-monetary economic relationships.

Finally, in the investigation into how these women are building agroecological knowledge, we observed that this happens in many different ways: by passing a family's knowledge from generation to generation; by taking courses; through experimentation and observation at women farmers' network meetings; by researching online; with the support of technical assistance; etc. The surveyed women have also demonstrated knowledge about many different "fields" of agroecology: soil management; growing, preparing, and using medicinal plants; processing foods; producing artisanal pieces; tending for animals and plants; identifying plants; and others.

FINDINGS

The survey has presented an understanding on how women farmers from the RAMA live, work, and relate with nature, aiming to identify aspects that show how these women, in their work relationships through agroecological management of agroecosystems, contribute to building gender equality in established social relationships, while maintaining their communities' ways of living, caring for nature, and building food sovereignty.

These aspects, as demonstrated through this survey, constitute a set of different kinds of knowledge about how these women build agroecology, indicating agroecological feminism as a political, economic, and social actor.

Regarding the methodology this survey used, it should be noted that the participation of women farmers and researchers from women's organizations such as the RAMA and the World March of Women (WMW) has allowed this survey to be conducted in a participatory fashion and its knowledge to be collectively constructed.



This is clear, for example, as we have chosen to call the local agroecosystems by the same names the farmers use to refer to them. This was a choice based on how important it is to represent women's everyday lives, respecting their heritage, intimacy, and trust, which are the foundations of building feminist agroecological knowledge. There was also an effort to allow this produced knowledge to be re-elaborated by the farmers, thus contributing to their autonomy development processes and their integration in social relationships and the labor universe.

The investigations start with the context of Vale do Ribeira and the background of feminist agroecology as something that has been built by social movements and impacts public policies. Feminist Economy, Black Feminism, and Ecofeminism are key theoretical, analytical, and methodological aspects of this work. Based on these formulations, the critique of the hegemonic organization of the economy today and the way these women's economic alternatives are organized provide the theoretical characteristics of this survey, which reveals how life is supported by nature and by care work conducted on the domestic and community level. In this sense, it's an economy centered around life, not capital. The economic activities described in the case of these four women farmers are decommodified and create life, education, health, and food.

Regarding the conservation of nature and the promotion of food security and sovereignty, when it comes to diversity and the farmers' views on the space and on how they build soil fertility and agroecological management in plant and livestock production, the results of this work provide knowledge on the role played by these women in agroecology based on their knowledge about how to tend to the land and manage agroecosystems. The survey shows diversity in the food produced by these women, as their local productions include not only food crops, but also diverse plants that constitute a mosaic of conservation—which means diversity is at the core of the agroecology promoted by these women farmers. They apply great knowledge and practices to maintain this diversity, which manifests in agroecosystems, resulting in environmental-agroecological and climate resilience, food sovereignty, and food and nutrition security.

The women farmers presented different ways of growing their food, which vary according to their heritage, background, shared knowledge, and the plants they like to grow and which adapt to their reality, according to soil type, the tools they use, and the time they have available for agriculture activities as well as other activities and leisure. Nevertheless, as they manage the soils on a daily and shared basis, they present a constant exchange of care with nature, prioritizing the use of available inputs, which they create for their own management—such as seedlings and seeds, for example—in addition to fertile soils, covered with broad genetic and nutritional diversity.



Resuming or expanding rice crops, which are traditional Vale do Ribeira practices that have been losing ground in recent years, comes with numerous challenges. The women farmers of the RAMA report that small birds eat their entire crops, and they also address the laborious work of husking rice with a mortar and pestle method. Because it's a small production, it's not worth cleaning it through a huller, as none of the associations in the municipality owns such a machine. However, it was probably a bird who planted the rice variety known as “*governinho do talo roxo*”, which has grown outside the home of a *Quilombola* man who had been searching for this variety for several years. His niece considered the episode a gift. From this one plant, the *Quilombola* family was able to produce seeds and share them at the RAMA's seed exchange event in August 2021. These movements around rice production took place in an area that was once a big rice producer in the 19th century, and where wild rice varieties are still found today in traditional farms (*Oryza spp*) (VEASY *et al.* 2001). This is happening in a moment of spike in rice prices (which have skyrocketed nearly 70 percent in February 2021 over February 2020)⁴, drawing the women's interest in resuming collective crops to share the tribute to the birds, and in growing these crops in times when the forests are producing fruit that birds like, in order to distract them and allow the farmers to harvest more rice.

While resuming rice cultivation may be modest and a bigger concern for women, it is a statement about how rice and beans are Brazil's traditional staple foods—as opposed to a food transition toward ultra-processed products based on wheat and soybeans—and a way to tackle the lack of buffer stock policies by the Brazilian government. The fruits and tubers produced by the RAMA and distributed by donation collectives to people in vulnerable conditions—such as students deprived from meals at school, single mothers, or unemployed workers—are part of initiatives by civil society that resist against the increasing levels of food insecurity experienced during the pandemic. Bringing back flavors and textures, as well as an ancestral food culture, draws lines of continuity between the women farmers of Barra do Turvo and populations living on the outskirts toward food sovereignty.

Their produce is traded in alliances with responsible consumption groups from the city of Registro and the Greater São Paulo area, aiming to welcome the diversity of products produced by this kind of agriculture.

[4] Available at: <https://g1.globo.com/economia/agronegocios/noticia/2021/03/23/entenda-por-que-o-arroz-continua-carro-mesmo-com-a-queda-na-inflacao-mensal.ghtml>. Access on: 14 Oct 2021.



At the community that supports agriculture (Comunidade que Sustenta a Agricultura—CSA) of which Rosa is a member, diversity is appreciated as they assemble food baskets with different kinds of vegetables, including unconventional food plants, known in Brazil as PANCs (plantas alimentícias não convencionais). Valda has a good share in the products traded through the RAMA, thanks to the variety of products she offers, including different varieties of chayote, bananas, and roots (plantains, prata bananas, pink yams, cará mandioca and cará angola—both members of the Dioscoreaceae family along with yams—, and batata doce-cenoura—a type of sweet potato). Valda and Daluz also process products, expanding the diversity of their offer. For these two farmers, diversity is found in production, processing, and trade. The variety of products offered by the RAMA is one of the reasons why consumption groups and food donation collectives make an effort to buy from their network (HILLENKAMP; LOBO, 2021). Meanwhile, the increase in demand has allowed them to expand their crop areas and the use of rice and bean seeds that were stored and unused from previous seasons, which also helped to bring back at least one rice variety.

In terms of gender equality, after investigating the social context and the stories of the women farmers in their relationship with their families and communities, with labor, with and collective organizations they are part of, we may point out that different changes have happened in gender relations once they started to develop some autonomy in food production and trade.

Our results show, for example, that Valda juggles her productive work and care work passed on to the generation of her children and grandchildren. She carries out productive work collectively along with her family and other women in joint efforts known in Brazil as mutirões. Based on this aspect, the survey infers that, while she is still burdened with care work in an unbalanced way within her household, this collective work provides productive integration, which significantly changes her relationship with her family and neighborhood. As she sells her products as part of her engagement with the RAMA, this also plays a role in changing gender relations and developing, however gradually, Valda's autonomy.

Ne, in turn, is still in charge of care work to tend for her son with disability and her youngest grandson. This care work is passed from generation to generation, and it limits her productive activities. When care work still represents a burden in the role taken on by women, gender imbalance remains apparent.



Meanwhile, the farmer Daluz unveils other possibilities of building gender equality, through women's participation in education and playing a prominent role at work. Her family's core value is education, and it is education that makes it possible for Daluz and her sister to work with livestock and production. In this family, there is significant change in gender relations.

The four women farmers who took part in this survey have in common this relative autonomy in decision-making processes about their production. The starting point for building this autonomy, which has become stronger after they joined the RAMA, stems from different situations. Ne and Rosa are the adults responsible for the production and the household; the former is a widow and the latter is separated. While Valda is married and faces challenges to become autonomous in many aspects of her life, she asserts herself in production in alliance with her sister-in-law. Finally, the young Daluz has an area under her responsibility, due to a family practice in which they assign different areas of her grandfather's land to different family members. Still, that her decisions are respected—even when her grandfather may find them incorrect at first—is noteworthy. For all of them, the knowledge they have in agriculture is an edge for their autonomy, while their decision-making power in experimentations allows them to acquire more knowledge. While their degree of autonomy and decision-making power may vary in the areas they manage alongside the men of their families or the community, it is lower than in the areas assigned to their responsibility. The development of their autonomy is an indicator of gender equality. This way, the main role played by these women in agroecological production and trade represents an important potential to build gender equality within families and across rural communities.

The maintenance of the communities' way of living—another element of analysis in this survey—is related with the building of agroecological knowledge found in our results. This means that these women, with their ancestral knowledge and practices especially, contribute extraordinarily to maintaining traditions and ways of living in their rural communities. We can see this in many different descriptions and characteristics regarding the integration of these women farmers in the local agroecosystems.



Different kinds of knowledge are built in the different territories where the women farmers live: *Quilombos* or rural neighborhoods in the municipality or along the BR highway. They all have memory of the knowledge coming from their women ancestors, which in turn interact with current knowledge they gain through formal education and by looking for recipes online, in Daluz's case; from technical assistance, whether based on agroecology or not; and from exchanges with other women farmers, especially during the RAMA *mutirões*. Daluz's mother recalls how her mother used to make cheese curds using the stomach of a wild animal, while Daluz talks about techniques to make milk jam (*doce de leite*) they have learned from *TikTok*.

In order to organize these different sources of knowledge and how they interact, naming things and processes is significant. Some women farmers say that the hoe is their pen when they explain that they can't write. But the hoe is indeed a pen when we observe their gestures as they are clearing the soil, mulching, bringing the soil closer to the seedlings (to cover them with soil—"aterrar"), tilling, and mulch-tilling, a practice they call "*munchão*." Valda and her sister-in-law are very careful when doing this procedure, which, they assess, guarantees the good development of plants in the sandy soil of the floodplain. They call this soil "*vargedo*", which doesn't quite have the same meaning as the one stated by the language norm (in standard Portuguese, *vargedo* means a group of floodplains, or *várzeas*). The names by which they call different spaces may indicate specific forms of organizing them, as is the case of *plantio em bola* (literally "ball crops"), in which they grow crops in circles instead of lines, to delimit the use of space in a nonlinear way.

Their knowledge and use of technical terms indicate their contact with institutionalized education in their relationship with the cooperative or technical assistance, such as the green fertilizers introduced by Cooperafloresta. Knowledge of technical terms may come from the farmers' own demands. Maria Rodrigues dos Santos (2020) addresses how farmers who have studied the book *Brazilian Trees* (LORENZI, 1992) before starting a project to implement Agroforestry Systems (AFS) were able to make the process their own and add changes to the model previously designed by technicians. Therefore, the nomenclature used by these women farmers carry with them the description of practices and species that could otherwise become invisible or be lost. Meanwhile, their knowledge and use of technical terms and nomenclatures incorporated into the language norm of standard Portuguese enables them to engage in a more horizontal conversation with technicians, researchers, and development projects in their territory.



The report includes an extensive section on how the women farmers build soil fertility. From their perspectives on agroecosystems and the conduction of chemical and chromatographic analysis, we were able to outline an extensive landscape of how these women build the soil. Different indicators provided different kinds of perception. All instruments selected for analysis were taken into consideration when assessing these women's soil fertility, considering that each instrument has something to say about the soil, while none should be considered more significant than the others.

Juana Labrador (2008) underscores the fact that, in soil science, there is not a consensus on what "quality soil" would mean. Whenever pursuing this definition, the conclusion is that "quality" will always refer to a context and it is always conditioned to the way that soil will be worked on. It would be difficult, therefore, to accurately apply the multiple functionalities of the "soil quality" concept. In this survey, far from considering the inaccuracy of the concept as a problem, we aimed to understand what each woman farmer understands by quality and, based on that, we formulated on what the analyses would tell us.

The farmer Ne, for example, has a positive perception about one of her crop areas, which is currently under fallow because it's an area of "dark" earth (terra "preta") with a history of good production of certain kinds of plants. Our chromatographic analysis of this area is very positive, as we have found a well-structured, living soil. Meanwhile, the chemical analysis showed relatively low pH, which could be considered a limiting factor for production, due to its high acidity. Nevertheless, in reality, when these women manage their agroecosystems based on this perceptive knowledge on "what" to plant in each area, low pH may not necessarily represent a limiting factor for production.

This has been a particularly rich finding over the course of this survey, because it shows that agroecology conducted by women carries with it the wisdom that challenges the discourse of hegemonic agrarian science, which treat certain types of management as inescapable, such as the recurring use of limestone in areas of acidic soil. In this sense, we may argue that the agroecology conducted by these women is based on a profound knowledge about building soil fertility and with a deeply close relationship with plants and natural cycles. In this kind of agriculture, "what" is grown "where" and "when" are extremely important variables, and they are only managed satisfactorily by women with such knowledge. The result is a way of carrying out agriculture that is concerned with natural processes, as it is included in the organic pace of other beings; one that significantly reduces the use of inputs and is much less harmful for other natural resources, such as water.



Through the action research method, this study introduced the farmers to the Soil Chromatography technique as a possibility of providing a broader picture of soil life. While it will become more consistent as it is repeatedly conducted over time, the conversation that started around this process (definition of collection area) and the results drawn from it (collective observation of patterns of colors and shapes that usually indicate well-managed and living soils, or even nuance in the evolution of soil health and patterns of compacted soil, such as the sample from the house yard) also aimed at increasing these women farmers' horizontality, exchange of perceptions, autonomy, and control of diagnostics and projects drawing from there.

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