



AGROECOLOGY, SLOW FOOD AND SUSTAINABLE DEVELOPMENT GOALS (SDGs): RESILIENCE OF AGRO-FOOD SYSTEMS, COMBAT HUNGER, AND LOCAL GOVERNANCE

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ABSTRACT

The Sustainable Development Goals (SDGs), transcending their prescribed targets and actions, propose a critical reflection on global food production and consumption patterns. These inquiries foster the promotion of resilient agri-food systems, with Agroecology identified as a pragmatically viable alternative for achieving the advocated goals. The scope of this article is to discuss these intersections, demonstrating that simple actions such as valuing local products, as advocated by Slow Food, can strengthen relationships and networks around food, promoting food security, preservation of knowledge, practices, traditions, and biodiversity, as well as the sense of belonging, improvement of quality of life, sustainable development, and local governance. Methodologically, this research is qualitative, adopting a bibliographical approach and employing a literature review to contextualize and reflect the problem, anchored in the Agroecology domains, SDGs, and the paradigm proposed by the Slow Food movement. This study substantially contributes to understanding the intricate relationships between the SDGs, agri-food systems, and Agroecology. By emphasizing the importance of seemingly simple practices, such as valuing local products, the article highlights the imperative of holistic and sustainable approaches to achieve broader sustainable development goals guided by the principles of “well-being.”

Palavras-chave:

Agenda 2030
Sustentabilidade
Bem Viver
Segurança Alimentar
Biodiversidade

AGROECOLOGIA, SLOW FOOD E OBJETIVOS DE DESENVOLVIMENTO SUSTENTÁVEL (ODS): RESILIÊNCIA DOS SISTEMAS AGROALIMENTARES, COMBATE À FOME E GOVERNANÇA LOCAL

RESUMO

Os Objetivos de Desenvolvimento Sustentável (ODS), transcendendo suas metas e ações prescritas, propõem uma reflexão crítica sobre os modos de produção e consumo alimentar global. Essas indagações fomentam a promoção de sistemas agroalimentares resilientes, sendo a Agroecologia identificada como uma alternativa pragmaticamente viável para a realização dos objetivos preconizados. O escopo deste artigo é discutir sobre tais interseções mostrando que ações simples como a valorização dos produtos locais, como preconizado pelo Slow Food, podem fortalecer as relações e redes em torno do alimento promovendo a segurança alimentar, a preservação dos saberes, práticas, tradições e biodiversidade, bem como a concepção de pertencimento, a melhoria da qualidade de vida, o desenvolvimento sustentável e a governança local. Sob uma perspectiva metodológica, a presente investigação se caracteriza como qualitativa, adotando uma abordagem bibliográfica e valendo-se da revisão de literatura como meio de contextualização e análise reflexiva do problema, ancorada nos domínios da Agroecologia, ODS e no paradigma proposto pelo movimento Slow Food. Em síntese, este estudo proporciona uma contribuição substancial para o entendimento das intrincadas relações entre os ODS, os sistemas agroalimentares e a Agroecologia. Ao realçar a importância de práticas aparentemente singelas, como a valorização dos produtos locais, o artigo destaca a imperatividade de abordagens holísticas e sustentáveis para atingir metas mais abrangentes de desenvolvimento sustentável, pautadas pelos princípios do bem viver.

INTRODUCTION

The 2030 Agenda of the United Nations (UN) and the SDGs have been the subject of debate in academia and society, as they constitute a set of objectives, goals, and actions essential for the transformative changes we envision for a fairer and more inclusive world. Composed of seventeen SDGs and one hundred and sixty-nine targets, with the motto: “leaving no one behind”, it encompasses the efforts of 193 member countries of the United Nations to adapt and implement public policies and actions to meet the proposed goals (VALADARES & ALVES, 2019; IPEA, 2019; UN, 2015).

Extreme poverty and the fight against hunger were already a cause for concern before, for example, the eight Millennium Development Goals (MDGs) created in 2000 during the Millennium Summit. Then, with the advent of the SDGs, the themes were broadened, and the commitment extended to all sectors of global society: public and private companies, NGOs, governments, political leaders, activists, and civil society (UN, 2015).

The SDGs, therefore, aim to create an integrative agenda that includes environmental sustainability and social concerns such as poverty eradication, gender inclusion, sustainable economic growth, environmental preservation, climate action, and good health, addressing all countries (VILALTA *et al.*, 2018; PAKKAN *et al.*, 2023). Regarding SDG 2 - Zero Hunger and Sustainable Agriculture, the discussion undoubtedly includes Agroecology and various movements that share the same premises and principles (STROPARO, 2023; 2021).

Agroecology is characterized by multidimensionality and agri-food resilience (FRANCIS *et al.*, 2003; PEETERS & WEZEL, 2017; STEIN & SANTINI, 2022; WEZEL *et al.*, 2018). Agroecology is also responsible for restoring local self-sufficiency, conserving and regenerating agrobiodiversity and producing healthy food with low inputs (ALTIERI, 1995, 1989a, 1989b; ALTIERI & NICHOLLS, 2020; ALTIERI & TOLEDO, 2011; PEETERS & WEZEL, 2017a, 2017b; STROPARO & FLORIANI, 2022a, 2023; TOMICH *et al.*, 2011; WEZEL & SOLDAT, 2009). Economically, agroecology has been identified as an alternative for overcoming global food insecurity, safeguarding biocultural heritage, adding value to products, and promoting local development (STROPARO, 2023; STROPARO & FLORIANI, 2022a, 2022b; VAN DER PLOEG, 2021; VAN DER PLOEG *et al.*,

2019).

Along the same lines, there is the Slow Food movement, whose guiding principle is that food should be “good, clean and fair”, which implies more conscious choices, preference for local products, observance of the method of cultivation, which should respect biodiversity and be purchased at prices that adequately remunerate farmers (STROPARO, 2021). It also promotes sustainable agri-food systems by connecting quality food producers with consumers through events and consumer initiatives and encouraging networks to promote and value local products (SLOW FOOD BRASIL, 2007; 2017; STROPARO, 2021).

The emerging research problem stems from the growing homogenization of global agri-food systems, driven by standardized production and consumption practices. This condition represents a threat to agricultural, cultural, and ecological diversity, compromising the resilience of food systems, as the hegemony of conventional production models, often disconnected from sustainable principles, contributes to the loss of local crop varieties, traditional practices and, consequently, food biodiversity (GRAIN, 2021; REISMAN & FAIRBAIRN, 2020 ; McMICHAEL, 2017; CAROLAN, 2017; TRICHES & SCHNEIDER, 2015 ; FLORIANI & FLORIANI, 2010).

The justification for this study is based on the urgent need to explore concrete alternatives, such as agroecology and the valorization of local products, as an urgent response to mitigate the adverse impacts resulting from the aforementioned growing homogenization of agri-food systems. In addition, the fact that indicators related to poverty and hunger have been found and are worsening accentuates the need to address these issues comprehensively.

Thus, the article aims to discuss these intersections by showing that simple actions such as valuing local products, as proposed by Slow Food, and promoting agroecology as a resilient agri-food system can contribute to fighting hunger, achieving food security and improving nutrition, as well as promoting sustainable, inclusive agriculture that is fully in line with the principles and goals of the SDGs.

In this context, the promotion of resilient and sustainable agri-food systems aligned with the SDGs and which promote territorial governance is a *sine qua non* for the realization of “Buen Vivir” (Well-being in English), enshrining the need to seek not only material prosperity but also harmony and

balance in human relations, with nature, and in local communities.

METHODOLOGY

The methodology adopted in this study is characterized by qualitative research with a bibliographical approach. It uses a literature review to deepen reflections on the problem in question, focusing on Agroecology, the Sustainable Development Goals (SDGs), and the Slow Food movement.

In the methodological process, searches were conducted in various international journal databases, such as *Emerald Insight*, *Science Direct*, and *Web of Science*. The descriptors used included “Agroecology”, “Slow Food”, “Sustainable Development Goals” and “Sustainable”. As standard practice, duplicate items were excluded from the research portfolio. In addition, articles published at scientific events and texts focused exclusively on business or industrial approaches, which were not relevant to the scope of the research, were excluded.

In addition, the methodology included consulting institutional websites, particularly those related to the Slow Food movement. This approach aims to ensure a comprehensive perspective based on the most relevant and reliable sources available for research.

RESULTS AND DISCUSSIONS

Sustainable development can be conceptualized as meeting the needs of the present without compromising the ability of future generations to meet their own needs (CAIADO *et al.*, 2017; CAPORAL & COSTABEBER, 2002; LICHTFOUSE *et al.*, 2009, SACHS, 2009; SACHS & VIEIRA, 2007).

Discussions on Sustainable Development have become a dispute with multiple discourses that sometimes oppose and sometimes complement each other (NASCIMENTO, 2012). Beyond these complexities and discussions is the urgency of implementing measures to mitigate hunger and extreme poverty through public policies, social movements, and/or organized civil society. Whatever the approach, the actions undoubtedly involve sustainable agri-food systems and the urgent implementation of actions related to the 2030 Agenda and the SDGs.

A sustainable agri-food system is one in which

a variety of sufficient, nutritious, and safe food is available at an affordable price for everyone, and no one goes hungry or suffers from malnutrition (HLPE, 2019; FAO, 2019).

Promoting resilient agri-food systems involves public policies to encourage sustainable food production and the promotion of a more natural, healthy, and balanced diet. In other words, awareness-raising actions, financial incentives, and structural support, such as setting up networks to sell local products, need to cover the entire food chain.

In addition, there is the problem of hunger and food and nutritional insecurity (FNS), which, according to the findings of the survey carried out by the Brazilian Food Sovereignty and Security Research Network (PENSSAN Network) and published in the document entitled “II National Survey on Food Insecurity in the Context of the COVID-19 Pandemic in Brazil”, which points out that more than 125.2 million Brazilians were not sure if they would have enough to eat shortly and lived with some degree of food insecurity between 2021/2022, representing an increase of 7.2% compared to 2020 (REDE PENSSAN, 2022).

In this context, initiatives such as the promotion of agroecology, not just as a mode of production but as a way of life whose premise is care for the environment, agrobiodiversity and life in all its forms and meanings (FRANCIS *et al.*, 2003; WEZEL *et al.*, 2018), presents itself as a viable alternative for implementing the SDGs, notably SDG 2- “Zero Hunger” (ENGLISH & CARLSEN, 2019; HERRMANN & RUNDSHAGEN, 2020; LEAL FILHO *et al.*, 2022; TIBA, 2023).

In this respect, studies proposing such alternatives and pointing to solutions for effectively combating hunger must address knowledge gaps, boosting innovation and improving food production. Slow Food, in turn, goes beyond the aspects of buying and selling networks, which in itself would be very important. Slow Food is a philosophy of life that goes beyond agroecology. It means taking a political stance on responsible consumption, fighting for GM-free territories or modes of production that include agroecological practices and respecting the knowledge and plurality of rural areas, promoting a resilient food system in such a way as to strengthen the solidarity economy and sustainable development. It’s about making your food whenever possible. It’s about discovering flavors and valuing knowledge. It means promoting urban development through integration with rural development in

unison. In short, it's about encouraging sustainable consumption and production (SCP) (SLOW FOOD BRASIL, 2007, 2017; STROPARO, 2021, GRIGGS *et al.*, 2013).

Slow Food presents itself as “a grassroots movement, organized in a network, with local action and global coordination, present in more than 160 countries and with more than 1600 local action nuclei” (SLOW FOOD, 2023b). The Slow Food movement is a social movement whose premise is that food should be “good, clean and fair for all”: GOOD: Good quality, fresh, pleasant, tasty and healthy food, the fruit of local biodiversity, food culture and the work of farmers, artisans and chefs. It's not good if it's ultra-processed.

In this way, we can see that the movement is broader than simply proposing healthy, local food. It is an activist movement that goes beyond hunger and healthy eating and encompasses related issues

such as the environment, sustainability, culture, and the self-sufficiency of small agroecological farmers.

Therefore, agroecology and the Slow Food movement have many points of convergence because they both advocate good living as a premise, whether by producing healthy food that respects and safeguards agrobiodiversity or by proposing sustainable development that favors the local, traditions and self-sufficiency.

At the same time, and in a non-exclusive way, we have the 2030 agenda, which has, among its goals, hunger and the fight against poverty as work fronts. For the SDGs to be implemented, governments must promote public policies and actions aimed at globalization and sustainability. Areas like innovation, clean and accessible energy, sustainable cities and communities, peace, justice, and effective institutions are examples of engagement. Below is a table detailing the 17 SDGs and their areas of coverage:

Table 1. Definitions of the 17 Sustainable Development Goals (SDGs)

SDGs	OBJECTIVES
1. No poverty	End poverty in all its forms, everywhere.
2. Zero hunger and sustainable agriculture	End hunger, achieve food security and improved nutrition, and promote sustainable agriculture.
3. Good health and well-being	Ensuring a healthy life and promoting well-being for all ages.
4. Quality education	Ensure inclusive, equitable, and quality education and promote lifelong learning opportunities for all.
5. Gender equality	Achieve gender equality and empower all women and girls;
6. Clean water and sanitation	Ensure availability and sustainable management of water and sanitation for all.
7. Affordable and clean energy	Ensure access to affordable, reliable, sustainable, and renewable energy for all.
8. Decent work and economic growth	Promote sustained, inclusive, and sustainable economic growth, full and productive employment, and decent work for all.
9. Industry, Innovation, and Infrastructure	Building resilient infrastructure, promoting inclusive and sustainable industrialization, and fostering innovation.
10. Reduced inequality	Reducing inequalities within and between countries.
11. Sustainable cities and communities	Making cities and human settlements inclusive, safe, resilient, and sustainable.
12. Responsible consumption and production	Ensure sustainable production and consumption patterns.
13. Climate action	Take urgent action to combat climate change and its impacts.
14. Life below water	Conservation and sustainable use of oceans, seas, and marine resources for sustainable development.
15. Life on land	Protect, restore, and promote the sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, halt and reverse land degradation, and halt biodiversity loss.
16. Peace, justice, and strong institutions	Promote peaceful and inclusive societies for sustainable development, provide access to justice for all, and build effective, accountable, and inclusive institutions at all levels.
17. Partnerships for the goals	Strengthen the means of implementation and revitalize the global partnership for sustainable development.

Source: ONU, (2019)

Each SDG has 169 targets. Although the 17 SDGs are indivisible and integrated, and it is impossible to treat them in isolation, our focus is on SDG2, whose objective is to “end hunger, achieve food security and improved nutrition and promote sustainable agriculture” (IPEA, 2019).

The United Nations (UN) 2030 Agenda

establishes eight goals directly linked to SDG 2. For Brazil, although there was agreement on the scope and applicability of all of them, it was necessary to adjust the original wording with minor changes. The targets to which Brazil is committed, related to SDG 2, are:

Table 2. SDG 2 targets - Brazil

GOALS	DESCRIPTION
2.1	By 2030, eradicate hunger and ensure access for all people, particularly the poor and people in vulnerable situations, including children and the elderly, to safe, culturally appropriate, healthy and sufficient food all year round.
2.2	By 2030, eradicate forms of malnutrition related to undernutrition and reduce malnutrition related to overweight or obesity. Anticipate the achievement by 2025 of the internationally agreed targets on chronic and acute malnutrition in children under five years of age. Ensure food and nutrition security for adolescent girls, pregnant and lactating women, older people, and traditional peoples and communities.
2.3	By 2030, increase the agricultural productivity and income of small-scale food producers, particularly women, family farmers, and traditional peoples and communities, to produce for self-consumption and guarantee the social reproduction of these populations, as well as their socio-economic development, through secure and equitable access: i) land and traditionally occupied territories; ii) technical assistance and rural extension, respecting culturally transmitted practices and knowledge; iii) specific lines of credit; iv) local and institutional markets, including public purchasing policies; v) encouraging associations and cooperatives; and vi) opportunities for adding value and non-agricultural employment.
2.4	By 2030, guarantee sustainable food production systems through research, technical assistance, and rural extension policies, among others, aimed at implementing resilient agricultural practices that increase production and productivity while helping to protect, recover, and conserve ecosystem services, strengthening the capacity to adapt to climate change, extreme weather conditions, droughts, floods, and other disasters, progressively improving the quality of land, soil, water, and air.
2.5.1	By 2020, ensure the conservation of the genetic diversity of native and domesticated species of plants, animals, and microorganisms important for food and agriculture by adopting ex situ, in situ, and on-farm conservation strategies, including germplasm banks, community seed houses or banks, breeding nuclei, and other forms of conservation properly managed at local, regional, and international levels.
2.5.2	(Brazil): By 2020, guarantee the fair and equitable sharing of benefits from using genetic resources and associated traditional knowledge, as agreed internationally, ensuring food sovereignty and food and nutrition security.
2.A	(Brazil): Increase investment, including by strengthening international cooperation, in infrastructure, research and technical assistance, and rural extension, in the development of technologies and the stock and availability of genetic resources of plants, animals, and microorganisms, including creole varieties and wild relatives, to increase the capacity for environmentally sustainable agricultural production, prioritizing traditional peoples and communities, family farmers, small and medium producers, adapting new technologies to traditional production systems and considering regional and socio-cultural differences.
2.B	Correct and prevent trade restrictions and distortions in world agricultural markets, including through the parallel elimination of all forms of export subsidies and all export measures with equivalent effect, following the mandate of the Doha Development Round and taking into account, at the national level, the principle of food sovereignty and food and nutrition security.

Source: Adapted from VALADARES; ALVES (2019); IPEA (2019)

With the COVID-19 pandemic and the damaging effects of the SARS-CoV-2 virus, there was a delay in implementing actions, and efforts were insufficient (BOTO-ALVAREZ & GARCIA-FERNANDEZ, 2020; FONSECA *et al.*, 2020). Furthermore, all these actions require time and a high investment in financial resources. An estimated \$2.5 trillion in annual funding is needed, especially for developing countries (ZHAN & SANTOS-PAULINO, 2021; LEAL FILHO *et al.*, 2022).

SDG 2 aims to end hunger, improve nutrition, and promote sustainable agriculture. To this end, it starts from the premise that agri-food systems need to be sustainable by strengthening local relationships and networks and promoting food security, the preservation of knowledge, practices, traditions, and biodiversity, as well as strengthening the concept of belonging, improving quality of life, sustainable development, and local governance.

In the meantime, it should be emphasized that to ensure development in its broadest sense, as well as to promote territorial governance, goals, and actions need to be linked to the three dimensions of sustainable development - economic, social, and environmental, and be subject to monitoring, review, and adjustment (if necessary). To this end, a set of indicators developed by the *Inter-Agency Expert Group on SDG Indicators (IAEG-SDG)* can be used (UN, 2019). Therefore, the United Nations (UN) Statistical Commission and the Inter-Agency and Expert Group drew up a map of indicators to assess the SDGs' effectiveness (IAEG-SDGs - Decision 46/101). A global framework of indicators has been developed to monitor the progress made on each of the 169 targets set out in the 17 SDGs.

Given the heterogeneity of countries, with cultural, economic, social, environmental, etc. differences, the UN approved an initial global framework of indicators for the 2030 Agenda on July 6, 2017. It contained 232 indicators on which consensus was reached. Subsequently, revisions and refinements changed it to 231 unique indicators.

Another barrier is the applicable methodologies since many countries do not have cataloged data to monitor all the proposed indicators. In this way, the indicators were categorized into three groups: Tier 1, Tier 2, and Tier 3. Each of these groups assesses the degree to which data is already

available or needs to be created to monitor progress toward objectives and targets. Therefore, the global indicator framework contains 130 indicators in Tier I, 97 in Tier II, and 4 with several levels (different indicator components are classified in different levels).

Although Brazil doesn't have many proposed indicators, statistical data can help measure environmental, economic, and social issues, as highlighted in the document "Accompanying the 2030 Agenda for Sustainable Development" (UNDP, 2021; UN, 2021).

Finally, states and municipalities must monitor the indicators that are aligned with the goals and SDGs, especially in the fight against hunger, which is the subject of this essay. Adapting the Agenda to the local level is one of the biggest challenges for the SDGs, as it is at the grassroots level that public policies are implemented, civil society is involved, and the problems that afflict the most vulnerable and needy populations are tackled.

In addition to the COVID-19 pandemic, which has created chaos and necessitated urgent actions related to the health and economy of vulnerable populations, there is a need to reconsider the roles of government, companies, public policies, organized society, and joint/collective actions. Resilience also lies in the ability to organize oneself to face the vulnerabilities involved in changing the mindset toward sustainable development that encompasses social and environmental issues across the board.

The fight against hunger, therefore, requires urgent, integrated actions that are in line with the premises that govern the SDGs. These actions need to be monitored in terms of their effectiveness so that they can be adapted and continuously improved to provide rapid assistance to vulnerable and food-insecure populations.

CONCLUSIONS

- The study aimed to discuss the intersections between Agroecology, Slow Food, and the SDGs, showing that actions such as valuing local products, as proposed by Slow Food, can strengthen relationships and networks around food, promote food security, preserve knowledge, practices, traditions,

and biodiversity, as well as the concept of belonging, improve quality of life, sustainable development, and local governance.

- Agroecology, the Slow Food movement, and the SDGs are interconnected elements that play a vital role in promoting the resilience of agri-food systems, fighting hunger, and strengthening local governance worldwide. These approaches share a common vision of a more sustainable and fair food system.
- On the other hand, actions to implement SDG 2, which aims to combat hunger, have not yet proved sufficient and require ongoing efforts and significant financial resources to achieve more effective results.
- It should be noted, in this respect, that the solutions to the many problems covered by the SDGs are not simple. Partnerships and cooperation involving developed and developing countries, the establishment of public policies that cover the different areas and vulnerabilities, and civil society engagement in promoting fairer, more inclusive, and equal development for all are needed.

AUTHORSHIP CONTRIBUTION STATEMENT

STROPARO, T. R.: Conceptualization, Methodology, Visualization, Writing – original draft; **FLORIANI, N.:** Formal Analysis, Funding acquisition, Methodology, Supervision, Writing – review & editing.

DECLARATION OF INTERESTS

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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