Social Action as an Instrument for Implementing SDG12: Southern Brazil

Chapter · February 2023

DOI: 10.1007/978-3-030-91188-1_85-1

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Leila Dal Moro, Luciana Londero Brandli, Alcindo Neckel, and Dieisson Pivoto

Contents

Abstract

An increase in consumerism and the use of plastic severely affect the faunal diversity of the planet due to the lack of proper disposal techniques. Inserted in the discussion of SDG 12, ensure sustainable consumption and production patterns, this chapter aims to analyze strategies and the environmental impact of the use of reusable bags in direct sales systems between farmers and consumers, through literature review and success case. The SDGs were addressed by the UN in the 2030 Agenda with goals and indicators that contemplate society and the environment. One month later, this action resulted in approximately 20% less use of plastic bags at the producer's fair. It has brought a vision of sustainability to the activity, and in parallel to this, it broadened the farmers' and consumers' knowledge about production and consumption. The social action also disseminated the importance of using returnable bags.

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W. Leal Filho et al. (eds.), *SDGs in the Americas and Caribbean Region*, Implementing the UN Sustainable Development Goals – Regional Perspectives,
https://doi.org/10.1007/978-3-030-91188-1_85-1

Keywords

Social action · Sustainable Development Goals · Sustainable production and consumption · Returnable bags

Introduction

The union of scientific knowledge with the needs of the population is essential to help public authorities and civil society to make effective decisions in terms of policies and actions to improve the quality of life and conservation of the environment (Neckel et al. 2020; Charreire and Langlais 2021; Dal Moro et al. 2021). In this context, through knowledge and intensive research work, higher education institutions promote learning and critical engagement approaching global challenges (Berchin et al. 2018; Lima et al. 2021). These institutions have a great social responsibility in promoting the population's learning (Pedersen 2017; Berchin et al. 2018). Consequently, there is an immense need for research discussing the urgency of measures and actions to explore and reach the SDGs (Olabi et al. 2022). New investigations to understand and manage the impacts of local actions on a global level could be developed (Leal Filho et al. 2018; Kynčlová et al. 2020; Nishitani et al. 2021; Partzsch et al. 2021).

The sustainability challenges are linked, but they are not limited to climate change, loss of biodiversity, and food wastage (Aditika et al. 2022). They cover local to global levels (Kozar et al. 2019; Dal Moro et al. 2021). Different countries are making several efforts to promote the selective collection and reuse, recycle, and replace plastic (Bui et al. 2022). Australia, for example, has installed several drinking fountains in its cities to reduce the use of plastic bottles while providing free access to high-quality water (Global Enviroment Facility 2017).

Through these initiatives sustainability-oriented, it is also possible to verify positive changes in consumption behavior through information programs that promote awareness in society, eco-labeling, reuse, and public purchases with ecological bags (Barbale et al. 2021; Wang et al. 2021). Rising consumers' awareness can affect sustainable circularity in the economy and can effectively change their behavior (Akkalatham and Taghipour 2021; Wang et al. 2019).

However, the prolonged life of some products reduces the environmental impact on the consumption pattern (Zamani et al. 2017). The consumer is who decides to replace a product (Hong et al. 2021). That is why knowledge and motivation drive substitution and become an effective strategy to preserve the environment, thus acquiring sustainability (Van Nes and Cramer 2006; Singh et al. 2021; Dal Moro et al. 2021). Consumers hardly care about sustainable products but rather look for products with lower prices (De Canio and Martinelli 2021; Sánchez-Bravo et al. 2021). This way, even with the change in purchasing behavior for ecologically correct products and other additional efforts, there is still a concern about this behavioral performance of the consuming population over time (De Canio and Martinelli 2021; Sánchez-Bravo et al. 2021; Singh et al. 2021; Wang et al. 2019).

It is relevant to mention the promotion of circular economies at regional level (Silvestri et al. 2020; Chen et al. 2021). In some cases, industries and other organizations exchange their waste and its by-products to be reused, resulting in social, economic, and environmental benefits for both parties (Steenmans 2021). Sustainable consumption is also achieved with the circular economy because it is considered an effective way to achieve Sustainable Development Goals (Silvestri et al. 2020; Chen et al. 2021).

The concern about the generation of plastic waste is increasing worldwide, and the European Union seems to be moving fast to achieve a plastic-free environment (Pimentel Pincelli et al. 2021; Andeobu et al. 2021). Several sectors, including agriculture, generate this waste (Koul et al. 2022). Bags and bottles of fertilizers, for example, create big problems if improperly disposed (Andeobu et al. 2021; Debnath et al. 2021; Koul et al. 2022).

The increased use and mismanagement of plastic has become a dangerous practice for the environment (Kedzierski et al. 2020; Akan et al. 2021). Some materials like plastic bottles can be used for numerous purposes (Siragusa and Arzyutov 2020; Yaddanapudi et al. 2021). In parallel to this great concern with consumption and the generation of waste, there are other challenges concerning sustainable production (Liu et al. 2021). For this reason, supporting the development of small-scale farms is recommended (Dal Moro et al. 2021). This success will depend on strategic alliances, which will implement actions aimed at collective sustainability aimed at preserving the environment (Partzsch et al. 2021; Olabi et al. 2022).

Inserted in the discussion of SDG 12, ensure sustainable consumption and production patterns, this chapter aims to analyze strategies and the environmental impact of the use of reusable bags in direct sales systems between farmers and consumers, through literature and field data. The SDGs were addressed by the UN in the 2030 Agenda with goals and indicators that contemplate society and the environment. This important global pact was signed by 193 member countries of the UN that committed themselves to promote sustainable development with practical initiatives until 2030 (United States 2015).

The family farming is an important tool within the SDGs that contributes to food security (Berchin et al. 2019; Dal Moro et al. 2021). This tool is based on the opportunity to market fresh food and contributes to the food security of the regions (Berchin et al. 2019; Singh et al. 2021). Also, it favors an increase in farmers' income and allows them to have a better quality of life in the countryside (Singh et al. 2021). Production and marketing through ecological producer's fair contribute to the consumption of regional and healthy products (Brandli et al. 2019; Yurui et al. 2021).

Generally, in producer's fair, products from family farming are the foundation food sources in a country (Schnurr and Dowd-Uribe 2021). This activity has a significant role in supplying and feeding millions of people worldwide considering the number of people has grown rapidly over the past 50 years (Ghosh et al. 2019). Food production is an activity that can be carried out not only in rural areas but also in and around cities, strengthening local trade, and favors the income generation of

farmers and the preservation and diversity of urban environments (Sroka et al. 2019; Yurui et al. 2021).

The food production and its commercialization at the producer's fair favor society needs concerning the environmental, social, and economic aspects (Loureiro et al. 2016). However, it is necessary to establish actions to change society behavior to minimize negative impacts on the environment and social inequalities (Loureiro et al. 2016). Producer's fair are important distribution channels for municipalities because they value family farming (Ndlovu et al. 2021). It is a sector of great economic, social, and environmental importance that offers consumers fresh and affordable products (Sroka et al. 2019; Yurui et al. 2021). At producer's fair, there is diversity, fresh food, which is usually organic and affordable (Ndlovu et al. 2021). The chapter developed by Morel et al. (2015) shows that the majority of the seek a lower price and contact with farmers. Through practical actions, it is possible to recognize the strong interdependence between economic, social, environmental, cultural, and spatial aspects and the need for a holistic view in the regional development process (Ndlovu et al. 2021).

Although researchers have been researching to favor SDG 12, practical and implemented studies still lack to contribute effectively to the 2030 Agenda. Consequently, it carried out actions to promote returnable bags, plastic reduction, and the population empowerment concerning relevant themes directed to sustainable development.

Transforming actions in the food system are crucial to contribute to the achievement of the SDGs. These actions are relevant in food systems to assist other SDGs as well. The SDG 13 actions that reduce emissions, for example, have positive impacts on SDG 12 (Campbell et al. 2018; Olabi et al. 2022). This chapter presents, in addition to the literature, case study in southern Brazil.

The Successful Case of Sustainable Bags at Carazinho, Brazil

The municipality of Carazinho sits in the north of the state of Rio Grande do Sul-Brazil. It has approximately 60,000 inhabitants and is in a region where agribusiness is one of the main major income sources (Fundação de Economia e Estatística 2015). The municipality was chosen as the object of study because after 10 years, it resumed its Farmer's Fair in 2018 and today it is a great source of income for family farmers.

The project *Conduzir* participants were farmers of the producer's fair; consumers; local entities such as unions, Grain, Dairy, and Credit Cooperatives; and public agents such as the Secretariat of Agriculture. It is relevant to mention that society supported the project through sponsorship, advertising, and diffusion. The structure of the fair includes healthy foods produced with family labor.

Through contact with public officials, farmers, and consumers at the producer's fair, the partnership to implement the social action was established. This action promoted the market economically, socially, and environmentally. It aimed at meeting production and sustainable consumption, promoting the awareness of the actors involved. This social action was born out of the actors and the University interest in making the producer's fair more sustainable.

The expectation was to disseminate and engage the parties involved and to promote the understanding of the marketers that were part of this project. The action sought to raise awareness of the actors involved in the role they play in sustainable production and consumption at the producer's fair and also to create sustainable actions in favor of the environment and check the participation of the actors involved in the market.

The sequence of activities from the presentation of the social action proposal to the dissemination of impacts was carried out through a report. This report is presented to the agents involved, such as the Secretary of Agriculture and President of the producer's fair, questionnaires to farmers, discussions, presentation of the project for companies to obtain sponsorships, diagnostics to measure the quantity of bags used before and after the implementation of the project, and finally, dissemination of the results and positive impacts of the project on social networks and scientific events. The social action had a solid structure of objectives, meetings, and actors involved. So, it was possible to perceive the engagement and participation of the local community and public authorities (Bellandi et al. 2021).

The producer's fair has rural and urban farmers who sell their products at *Feira da Praça* on Saturday mornings. And once a month, the producer's fair is held at night at Passo Fundo University – Campus Carazinho – project that became a reality in partnership with the Secretary of Agriculture, ASCAR Emater, and farmers of the market.

Salient features of the farmers' market are:

- The food sold is fruit, vegetables, honey, cookies, cakes, pasta, and processed meats, among others.
- Each stall is identified, valuing the origin of the food.
- There is a strong interaction between farmers and consumers at the local.
- The food sold is produced with family labor.
- Some products are originated from urban agriculture.
- Some several young people and women contribute to the production and marketing of food.
- There is mutual help with the marketing of food among marketers.
- There is no competition but helpfulness between marketers.
- Marketing at the producer's fair considers the local product, the appreciation of agro-industries, the reduction of rural exodus, income, and care for the environment.
- Plastic bags are used to deliver the food sold at the producer's fair.

Given these observations made, the implementation of the social action occurred through training, the fabrication of returnable bags, the event of their delivery, and their socio-environmental impact.

Activities and the presentation of the bags graphic material took place at the training course held with the farmers and the public entities. On the defined date, a presentation about sustainable actions, global impacts, SDGs, production, and consumption, among other relevant topics, was made. Also, the participants carried out

debates and presentations of case studies. The farmers reported some experiences involving their properties.

Among the debates and exhibitions of the producer's needs and expectations, it was possible to perceive the importance of having a producer's fair to trade products. Some of the needs mentioned were an adequate environment for farmers and customers with a parking lot, restrooms, covered area, sidewalk, and easy access for people with disabilities.

The importance of the local public power participation to promote and support the activity was another factor mentioned by the farmers. The producer's fair has been reengaged, and today, there is a growth in the quantity and diversity of products. Food production should double to meet the food demands of around billions of people by 2050. This increase will need to be sustainable to achieve resilient intensification (Laborde et al. 2020).

Thus, it is necessary to provide discussions and create projects in favor of society and the environment. In project Conduzir, all stakeholders participated in the activities and generated great questions about sustainability and justifications for its implementation. Besides, the need for attention to natural resources was among the main issues addressed in the project. The depletion and contamination of natural resources, the deterioration of environmental quality, and the degradation of ecosystems lead to a reconsideration of production and consumption patterns. For most individuals, the human being's lifestyle is unsustainable. It is necessary to rethink society's activities with practical and immediate actions reducing consumption, reusing, and recycling (Ulanowicz 2020).

The project took place in the central square next to the producer's fair to raise awareness of the actors involved and to deliver the bags. The number of plastic bags reduced at the market and the dissemination of knowledge of those involved in the project concerning the SDGs, in particular the SDG 12, were measured.

As a transforming social action at the producer's fair, we sought the use of returnable bags and the importance that this initiative would bring. Diagnostics of plastic bags used were carried out at the producer's fair using a monthly average per farmer. The number obtained was an average of 1740 plastic bags dispensed to consumers monthly.

The excessive use of plastic bags and mismanagement in terms of their ultimate disposal is a major global concern. While providing solutions at the global stratum is unfeasible, generating awareness at the local scale regarding the harmful effects of plastic on the environment can foster global sustainability. The present project therefore aimed at replacing plastic bags with returnable ones at the farmers' market.

The bag consists of a large, resistant, and easy-to-wash raffia material. It was also chosen in green, matching the uniform and gazebos of the fair. The elaboration of the bags' layout considered the partners and the project's name and local sponsors, highlighting the SDG 12. Facing the decision to make the action at the producer's fair reality, it became known that the production, distribution, and consumption of food remain unsustainable, fragile, and vulnerable. However, to educate farmers to use fewer pesticides, the consumers to consume locally, reduce the effects of climate change, ensure more and better access to food, and reduce waste efforts are made (Borsari and Kunnas 2019).

By delimiting the contributions of the project *Conduzir* to the goals of SDG 12, it was possible to detail and mention another benefit that the work provided. The action developed also aimed at sensitizing society in other municipalities of the region and the world to initiatives to benefit ~~of~~ people and the environment.

The event to deliver the returnable bags to the producer's fair took place in January 2020. On that occasion, along with the street market, several parallel educational activities were carried out aimed at sustainability.

Some of these activities were a clothesline of dreams with actions in favor of sustainable production and consumption; the placement of cubes of the SDGs with their respective goals; interaction with children through drawings and paintings in didactic material; and the exchange of experiences between farmers and consumers, which happened through dialogue on how planting and harvesting are carried out, as well as how processed products such as sausages, honey, and jellies are packed and labeled.

Three hundred and fifty returnable bags were delivered to marketers and sold for R$ 10.00 each. On the first day of the producer's fair, 47 bags were sold, and the amount would be used to buy more lots of bags. This way the project continues and plastic reduction increases.

It was possible to perceive the commitment and interest of the consumers to contribute to the environment. This project is only a first step for the Municipality, the producer's fair, and consumers.

On the date of the event, during the delivery of returnable bags to the community at the producer's fair, it was possible to analyze how much consumers sought this sustainable alternative and adhered to the project continuously. At the event, farmers and the other stakeholders exchanged knowledge with consumers and materials were also taken to disseminate information about the SDGs. For that, a line of knowledge containing sustainable actions to assist in the goals of the SDGs was prepared. This material instigated the curiosity of consumers and the possibility of new implementations on the place.

The approximate use of plastic bags, per producer's fair, was measured one month before the project and one month after. These numbers were obtained from the municipal Secretariat of Agriculture. The main result of this practical action was the plastic reduction, and people could notice this effect. The project also served as an economic factor for farmers because it reduced the need to buy lots of plastic bags to deliver their products.

The reduction noticed was not only of the bags but consequently of the waste generated by the activity of the producer's fair. With 350 fewer plastic bags generated in a month, if obtained the cost reduction, and less plastic wastage. The population, when engaged, becomes an important factor for practical initiatives concerning the reduction of plastic.

In just 1 month of implementation (five meetings), there was a reduction of approximately 20% in plastic bags that do not impact the environment, the oceans, and animals. The returnable bags were also used for other purposes, such as shopping in supermarkets and stores in the municipality.

Sustainable consumption is linked to the use of goods and services that meet the population's basic needs. It provides a better quality of life while reduces the

exploitation of natural resources and toxic materials. It is important to reduce the generation of waste and the emission of pollutants during the product's life cycle so that future generations are not at risk (Ministério do Meio Ambiente 2011).

It's relevant to mention that the population's purchasing power and freedom, especially the wealthier ones, contribute to unsustainable lifestyles. Thereby, this situation contributes to serious environmental problems such as the generation of plastic. In this sense, efficient practices in waste management go far beyond reuse and recycling. They can happen, for example, through the replacement of materials and the possibility of making shared use systems available with fewer environmental impacts (Mont 2004). Efforts must be made to solve plastic wastage problems in agriculture while identifying appropriate and quick ways to manage and minimize negative impacts on the environment (De Lucia and Pazienza 2019).

In project *Conduzir,* the results obtained are in line with sustainable initiatives and ecological strategies to reduce the environmental impact of some products and their frequency of substitution (Van Nes and Cramer 2006).

The impacts of the action support the following pillars of sustainability: (i) training farmers and consumers to achieve the goals of a local project (social); (ii) reducing plastic bags (environmental); and (iii) marketing promotion of the producer's fair (economic) (Sodiq et al. 2019).

In addition to the sustainability pillars, it is possible to mention impacts aimed at urban and rural food production, distribution, and consumption. Besides, another contribution is the reduction of plastic and the training of the actors involved. But it is also important to train people to avoid wasting raw materials, water, energy, and emissions, contributing to a cleaner production process.

Global projects and initiatives aimed at avoiding wastage and the distribution of safe, fresh, and healthy food open the door to various discussions such as the search for food security. Besides that, public health issues and environmental problems resulting from the production process and food wastage contributed to discussions around the topic (Ribeiro et al. 2017). Producer's fairs are healthier options, are easy to access, and have a huge diversity of food. However, they still need initiatives to contribute to sustainable development.

In this context of production and food consumption that involves the SDG 2 and 12, it is apparent that the 2030 Agenda also seeks human rights for all, balancing the three dimensions of sustainable development. It also seeks to strengthen universal peace, maintain equality, and enhance the protection of the planet. Consequently, there is a strong relationship between each SDGs since their objectives are interconnected (Trindade and Leal 2017; Leal Filho et al. 2018).

This relationship between SDG 12 and the other SDGs generates a cycle of mutual contribution. To implement these goals, it is necessary to increase agricultural productivity, improve food security, reduce poverty, and build resilience to climate change (Campbell et al. 2018).

The interconnection between SDG 12 and other Sustainable Development Goals is seen. Through SDG 1 (Poverty Eradication), the social action contributed by promoting the producer's fair, mainly by promoting and distributing food at low prices and with easy access. SDG 2 (Sustainable Agriculture) motivated farmers to produce and

commercialize agroecological foods. SDG 5 (Gender Equality) empowered women farmers with knowledge at the producer's fair. Finally, through SDG 17 (Partnerships and means of implementation), partnerships and participation of public authorities and civil society were signed. In this sense, with the project carried out, it was possible to contribute directly to the following targets: 12.5 by 2030, substantially reduce the generation of waste through prevention, reduction, recycling, and reuse and12.8 by 2030, ensure that people, everywhere, have relevant information and awareness about sustainable development and lifestyles in harmony with nature.

Final Considerations

This work aimed to contribute to the Sustainable Development Goals through a successful case that culminated in the insertion of returnable bags at a producer's fair. A decisive factor to the use of returnable bags was the civil society, public authorities, farmers, and consumers' participation. They collaborated to the implementation of the returnable bags project and the continuity of the social action.

The training and broadening of knowledge about environmental issues and the event valuing the actors involved and the sponsoring companies were the major contribution of this chapter. Another contribution of the chapter was the importance of strengthening distribution channels. There was an approximate plastic reduction of 20% with the implementation of the social action at the producer's fair. And with the continuity of the project, this index will increase every month. As a suggestion for future work, the implementation of this action in other fairs is recommended, as well as the awareness of other agents involved in the Project.

Cross-References

- ▶ 2030 Agenda and SDG Implementation in Brazil: Local Governance by Subnational and Civil Society Agents
- ▶ Innovative Approaches in Smallholder Farming Systems to Implement the Sustainable Development Goals

Declaration of Competing Interest The authors declare that they have no known competing financial interests or personal relationships that could have influenced the work reported in this paper.

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