



The Role of Social Entrepreneurs in Transforming Yemen's Agricultural Landscape

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ABSTRACT

Social entrepreneurship in Yemen offers innovative solutions to agricultural challenges amidst economic and social crises. By integrating sustainability and community empowerment, the program addresses issues such as land degradation, climate change, and food security, and fosters local economic resilience and self-reliance. This research aims to analyze the role of social entrepreneurship in transforming Yemen's agricultural sector, addressing economic challenges, environmental degradation, and social vulnerability due to conflict. This research method uses a descriptive-analytical approach. The data collection technique used is a literature study conducted by collecting data from various written sources such as books, scientific journals, articles, research reports, and relevant policy documents. The data analysis technique applied in this research is descriptive qualitative analysis. Social entrepreneurship plays a crucial role in transforming Yemen's agricultural sector, addressing economic challenges, environmental degradation and social vulnerability due to conflict. Initiatives such as organic farming, cooperative management, and the adoption of innovative technologies sustainably increase agricultural productivity. In addition, social entrepreneurship supports the digitalization of agriculture through programs that provide access to real-time information and energy-saving technologies. For example, the Barq Foundation helps farm management, reduces operational costs, and improves food security. The study concludes that social entrepreneurship strengthens sustainable development and food security in Yemen.

Keyword: Entrepreneurship Role, Social Entrepreneurship, Agricultural Landscape, Yemen

1. Introduction

Social entrepreneurship is an innovative approach that integrates social goals with business strategies to create sustainable impact. In Yemen, which is facing an economic and social crisis due to prolonged conflict, social entrepreneurship offers new hope, especially in the agricultural sector. According to Dees (2001) in his book *The Meaning of Social Entrepreneurship*, social entrepreneurship is “the process of finding innovative solutions to pressing social problems.” In the Yemeni context, this approach can be an effective strategy to increase agricultural productivity, strengthen food security and

build the economic sustainability of rural communities.

The agricultural sector plays a crucial role in Yemen, both as a major contributor to the economy and as a source of livelihood for the majority of the population. However, the sector faces major challenges, such as soil degradation, lack of access to technology, and the impacts of climate change. In *Social Enterprise: At the Crossroads of Markets, Public Policies and Civil Society* (2009), Kerlin asserts that social entrepreneurship “empowers local communities by introducing practices that combine economic and environmental sustainability.” As such, social entrepreneurship in the agricultural sector could be a relevant solution to address these issues.

Amidst these challenges, several social entrepreneurship initiatives have emerged to bring about positive change in the Yemeni agricultural sector. These initiatives involve technological innovation, community empowerment and sustainable resource management. For example, organic farming practices, management of farmer cooperatives, and utilization of information technology have helped increase farming efficiency and yields. Through this approach, social entrepreneurship not only supports productivity but also strengthens the independence of local farmers.

In addition to the economic impact, social entrepreneurship also has a significant contribution to the strengthening of social relations and community resilience. Dees (2001) in his book emphasizes that “social entrepreneurship aims not only to create economic value, but also to build social solidarity and sustainability.” These values are particularly relevant in efforts to address the social vulnerabilities experienced by Yemeni communities due to conflict and poverty.

The purpose of this study is to analyze the role of social entrepreneurship in transforming the agricultural sector in Yemen, especially in the face of challenges such as economic instability, environmental degradation, and social vulnerability due to prolonged conflict. The research also aims to identify and evaluate social entrepreneurship initiatives that have managed to make a real impact in the agricultural sector, as well as reveal the strategies used to create sustainable solutions. By understanding the contributions and innovative approaches applied by social entrepreneurs, this research is expected to provide useful insights for policymakers, businesses and local communities to strengthen the agriculture sector as a pillar of food security and economic development in Yemen.

2. Research Method

The research method used in this study is a literature review with a This research utilizes a descriptive-analytical approach to explore the role of social entrepreneurship in transforming the agricultural sector in Yemen. The main objective is to provide an in-depth understanding of the impact of social entrepreneurship initiatives on agricultural practices, food security, and empowerment of rural communities in Yemen. This approach enables a comprehensive analysis of the economic and social transformation facilitated by social entrepreneurship. The research will focus on the main challenges faced by social entrepreneurs in the agricultural sector and the strategies they employ to overcome

them, while evaluating the results achieved in improving food security and economic independence of rural communities.

In this research, the data collection technique used is a literature study conducted by collecting data from various written sources such as books, scientific journals, articles, research reports, and relevant policy documents. The data analysis technique applied in this research is qualitative descriptive analysis, which aims to classify and interpret data obtained from various literature sources that have been collected.

3. Results and Discussion

Transforming Agricultural Practices through Social Entrepreneurship

Organic Farming Initiative in Yemen

Organic farming in Yemen has emerged as a solution to address environmental degradation and social issues faced by the agricultural sector. In his book *Organic Farming* (2002), Lampkin emphasizes that organic farming plays an important role in improving soil quality and supporting ecosystem sustainability through natural management. Organic farming initiatives in Yemen integrate traditional techniques with modern organic farming principles, resulting in practices that are not only efficient but also environmentally friendly. This approach allows farmers to reduce reliance on expensive and environmentally damaging chemicals, while sustainably increasing agricultural productivity.

The success of this initiative can be seen through the training programs provided to local farmers to use natural compost and crop rotation as strategies to increase yields. According to Horne and McDermott in *The Next Green Revolution* (2001), these approaches have proven effective in increasing agricultural yields without relying on expensive synthetic chemicals. Such training enables farmers to understand the importance of healthy and sustainable soil management, which in turn improves food security at the local level. In addition, organic farming also provides economic benefits, as the products produced have added value that can be sold to local and international markets, creating new market opportunities for Yemeni farmers.

Furthermore, organic farming in Yemen also promotes biodiversity and improves soil health. This practice utilizes local resources in an efficient and environmentally friendly way, which is very suitable for the conditions of smallholder farmers in Yemen. Dubey (2011) revealed that organic farming not only improves soil quality, but also creates farming systems that are more resilient to climate change and food crises. The global trend towards organic farming is also reflected in Yemen's development policies, which increasingly recognize the importance of sustainable agricultural practices. As stated by Egelyng et al. (2008), this policy aims to support an environmentally friendly agricultural sector and encourage the transformation to more sustainable agricultural practices.

However, the biggest challenge in implementing organic farming initiatives is establishing an

effective institutional framework to manage conflicts between stakeholders and ensure the success of the initiative. Indriana et al. (2016) stated that the importance of establishing an institutional framework that can manage these conflicts to ensure the long-term success of organic farming programs. These conflicts often arise due to differences in interests between the farmers, government, and international agencies involved. On the other hand, Yemen's agricultural sector continues to face setbacks due to war and ineffective policies, which contribute to the food crisis and rural impoverishment, as described by Basha (2022). Nonetheless, organic farming initiatives continue to offer new hope for the recovery of the agricultural sector and improved food security in Yemen.

Management of Rasfef Agricultural Cooperative

Rasfef Agricultural Cooperative has been an important platform for farmers in Yemen to collectively increase their capacity. According to Birchall in *The Co-operative Advantage* (2014), cooperatives can be a very effective tool to address market access and resource challenges for smallholder farmers. Through these cooperatives, farmers gain access to modern farming tools, training, as well as market information that was previously difficult to reach. In other words, the presence of this cooperative has made it easier for small farmers to carry out their activities creatively, innovatively, and the selling value of their products in the market as expected, has a high price. This policy has many positive impacts, one of which is the welfare of farmers that has been praised can be realized as early as possible.

In addition, these cooperatives also play an important role in negotiating better prices for farmers' crops. Birchall (2014) emphasizes that cooperatives can strengthen the bargaining power of smallholders in local markets, who are often marginalized in the trade of agricultural produce. By focusing on collectivity, Rasfef cooperative members were able to significantly increase their income. This encourages more farmers to join cooperatives, as they can benefit from better price negotiations as well as access to a wider market.

Micro savings and loan programs managed by cooperatives are an effective solution for farmers who need capital to develop their businesses. Cooperatives not only help farmers with technical and economic capacity building, but also introduce them to sustainable practices. Altman (2014) states that cooperatives can improve members' ability to compete in the market, which in turn improves their economic performance. For example, agricultural cooperatives can stimulate the local economy by creating jobs and improving agricultural infrastructure, as argued by Golmohammadi (2018). In addition, these cooperatives encourage sustainable agricultural practices by equipping farmers with the necessary skills to access markets more efficiently, as described by Ashby et al. (2009). Collective action within the cooperative also encourages innovation and adaptation to changing market demands, which contributes to the long-term viability of the cooperative itself, as described by Sljukic (2007).

Rassef Agricultural Cooperative also has significant historical value in the context of Yemeni agriculture. Rassef Farm represents an important legacy of agricultural practices in Yemen, particularly during the Rasulid period (13th to 15th centuries). The Rasulid era was characterized by political stability and agricultural innovation that enabled the introduction of new crops and improved farming techniques. The agricultural practices of the time were recorded in various texts, such as *Milh al-Malâha*, which details the types of crops, soils and irrigation methods used, as described by Varisco (1991, 2010). This legacy provides a strong basis for the Rassef agricultural cooperative to maintain and develop sustainable agricultural practices and strengthen the food security of the local community.

Technology Innovation in the Agricultural Sector

Barq Foundation's Role in Agriculture Digitalization

Barq Foundation has played an important role in integrating digital technology to improve the efficiency of the agricultural sector in Yemen. Digitalization has given farmers access to invaluable information, such as weather predictions, market prices, and the best farming techniques. Through technology-based applications, Barq Foundation helps farmers to manage their agricultural activities more efficiently and accurately. Real-time access to weather information allows farmers to plan their farming activities more precisely, which can reduce the risk of crop failure often faced due to unexpected weather changes.

In addition, the app developed by Barq Foundation makes it easy for farmers to access the market directly without going through intermediaries. This allows farmers to get better prices and increase their income. According to Kim (2023), the adoption of digital tools in the agricultural sector can increase efficiency and productivity, by enabling better data-driven decision-making. Digital technology not only supports productivity, but also enables farmers to deal with major challenges, such as water issues that are often a major bottleneck in Yemen's agricultural regions (Bahn et al., 2021).

While the potential of digital agriculture is considerable, challenges such as economic, social, and ethical dimensions must be addressed to ensure fair access and transparency (Finger, 2023) (Bahn et al., 2021). These challenges must be addressed to ensure successful and equitable implementation. The Barq Foundation helps overcome these barriers by encouraging collaboration between stakeholders and implementing public policies that support digital innovation. In addition, the foundation emphasizes the importance of training programs to equip farmers with the necessary skills to effectively utilize digital technologies. This is important to increase their competitiveness in the agricultural sector and ensure the sustainable development of the agricultural sector in Yemen (Yekimov et al., 2022).

Resource Optimization with Appropriate Technology

The use of appropriate technology is one of Barq Foundation's main focuses in overcoming limited resources in Yemen. Hazeltine (1999), in *Appropriate Technology for Rural Development*, asserts that technology that suits local conditions can provide practical solutions for rural communities, especially in the agricultural sector. One of the innovations introduced by Barq Foundation is a solar-powered water pump. This technology utilizes renewable energy that is not only environmentally friendly, but also cost-effective. This is particularly helpful for smallholder farmers in hard-to-reach areas, as the electricity grid in Yemen is often unstable. Fraenkel (1986), in *Water Lifting Devices*, states that technologies such as solar-powered water pumps allow farmers to access water consistently, which in turn supports an increase in their agricultural yields.

In addition to reducing dependence on fossil fuels, the use of appropriate technology also provides Yemeni farmers with a sustainable solution to the challenges of climate change. By relying on solar energy, farmers can save operational costs, increase efficiency, and strengthen food security. The implementation of solar-powered water pumps has proven to increase farmland productivity, especially in remote areas that previously faced difficulties in accessing water. This technology helps farmers manage their land more effectively, resulting in increased yields.

In addition, other initiatives such as Husk Power Systems show how technology can be adapted to meet local needs. This technology converts agricultural waste into energy, thus not only helping to meet energy needs in rural areas, but also managing waste more efficiently. Patel et al. (2014) emphasizes that the application of technologies such as these can open up opportunities for sustainable development that supports the welfare of farmers while preserving the environment.

Impact of Social Entrepreneurship on Social and Economic Resilience

Impact of Social Entrepreneurship on Social and Economic Resilience

Social entrepreneurship has had a significant impact on strengthening communities in Yemen Putnam (2000). Of course, there are many impacts obtained by farmers. However, throughout the research that has been carried out, here are some significant impacts obtained by farmers. in *Building Social Capital in the Community* states that community-based initiatives increase social solidarity and trust between members. Collective training programs conducted by various social initiatives in Yemen have created a space for farmers to share knowledge and experience. This is particularly important in the context of Yemen's protracted conflict, where solidarity is an asset to maintain social stability. In addition, strengthening the community also leads to an increased sense of ownership of the programs, as described by Brinckerhoff (2000) in *Social Entrepreneurship: The Art of Mission-Based Venture Development*, which emphasizes that the success of social initiatives depends on the active participation of the community.

Trust between community members, according to Fukuyama (1995) in *Trust: Social Virtues and the Creation of Prosperity*, can strengthen social stability and accelerate economic development. In Yemen, farming communities have created cooperative networks that support the sustainability of social initiatives, improve farmers' welfare and promote social recovery. Social entrepreneurs act as catalysts for change, facilitating dialogue between communities and government structures and enabling collaborative initiatives that meet local needs (Aini et al., 2023). These successes reinforce social resilience built through cooperation and participation.

Empowering women in Yemen through social entrepreneurship has also increased their involvement in the economic sector. Despite possessing strong entrepreneurial skills, women often face barriers such as lack of training and support, which hinders their potential for success (Ahmad & Xavier, 2011). However, social entrepreneurship initiatives help address pressing issues such as poverty, unemployment, and limited access to education and healthcare, which greatly contribute to more sustainable social and economic resilience (Hayadin et al., 2024).

Contribution to Food Security and Economy

Food security in Yemen has improved thanks to social entrepreneurship initiatives that introduce innovative farming methods. In *Agri-Culture: Reconnecting People, Land and Nature* (2002), Pretty emphasizes that sustainability-based approaches not only increase crop yields but also maintain environmental quality. The program has enabled local farmers to produce more food in an environmentally friendly way, creating a sustainable solution to the challenge of food security.

On the economic side, social entrepreneurship initiatives have also made a major contribution by opening up wider market access. The combination of increased productivity and better market access has created economic stability among Yemeni farmers. According to Dixon in *Farming Systems and Poverty* (2001), economic resilience built through social entrepreneurship is an important foundation for sustainable development in rural areas, allowing people to access new economic opportunities and improve welfare.

Small agricultural projects play a very important role in food security, as about 61.3% of agricultural projects in Yemen are small-scale, utilizing 97% of agricultural land. These projects are not only important for local food production, but can also be supported by social enterprises to improve crop yields and sustainability (Saleh, 2024). Social enterprises also play a role in creating alternative food systems that promote food sovereignty, by integrating local resources and knowledge to improve food availability and accessibility (Costantini et al., 2019). By improving the business climate and targeting investments in food security, social entrepreneurship can promote economic growth and resilience in the agricultural sector (Breisinger et al., 2010).

4. Conclusion

Social entrepreneurship plays an important role in transforming the agricultural sector in Yemen, especially in the face of challenges of economic instability, environmental degradation and social vulnerability due to prolonged conflict. Through initiatives such as organic farming, cooperative management and the adoption of innovative technologies, social entrepreneurship can sustainably increase agricultural productivity. These practices help farmers reduce dependence on expensive and damaging chemicals, strengthen competitiveness in the market, and increase yields efficiently. It also strengthens community solidarity by creating economic opportunities and enhancing local socio-economic resilience.

In addition, social entrepreneurship supports the digitization of the agricultural sector through programs that provide access to real-time information and energy-efficient technologies. For example, the adoption of technology by foundations such as Barq Foundation eases farm management, reduces operational costs, and improves food security amid difficult economic conditions. Thus, this study concludes that social entrepreneurship significantly contributes to the transformation of Yemen's agricultural sector, strengthens sustainable development, and offers a model that can be adopted to support food security and economic well-being in regions in crisis.

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