

SWEET SORGHUM ECOTHEOLOGY: A PHENOMENOLOGICAL STUDY ON THE ROLE OF WOMEN LOCAL FOOD ACTIVISTS IN LAMONGAN TO ACHIEVE THE SDGS

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Abstract: *This study examines the potential of Sorghum (*Sorghum bicolor* L.) in advancing Sustainable Development Goals (SDGs), specifically food security (SDG 2) and climate action (SDG 13). Despite its resilience to drought and carbon sequestration capabilities, market challenges often deter farmers from its cultivation. This research explores a contrasting phenomenon led by a female activist in Lamongan, Indonesia, who successfully developed innovative downstream products from sorghum. Adopting a qualitative phenomenological approach, the study investigates the ecotheological expressions manifested in the activist's lived experience and resilience. Findings reveal that her persistence is driven by a profound ecotheological ethics manifested in three forms: a spiritual conviction to steward the earth and nourish the community; innovative practices designed to maximize the plant's holistic "blessings"; and communal engagement to propagate these benefits. The study concludes that the internalization of spiritual-ecological values serves as a critical driver for sustainable small-scale agriculture and provides an authentic grassroots model for achieving the SDGs. Furthermore, the results highlight that strategic support from academic, governmental, and research institutions acts as a vital accelerator for such local initiatives.*

Keywords: *Ecotheology, Sorghum, Sustainable Development Goals (SDGs), Phenomenology, Food Security, Women Local Food Activists*

INTRODUCTION

The achievement of the Sustainable Development Goals (SDGs), especially Goal 2, namely 'No Hunger', is now facing major challenges and has been regressed since



2020¹. The multidimensional crisis triggered by conflict, economic shocks, and the pandemic has hampered the progress that has been made. One of the main factors exacerbating this condition is climate change, which directly threatens food security and significantly hampers efforts to achieve SDG 2². The close link between climate action (SDG 13) and food security (SDG 2) confirms that addressing the impacts of climate change is a crucial prerequisite in the global fight against hunger³.

Sorghum (*Sorghum bicolor*) is a climate-resilient food crop that is increasingly recognized for its potential in supporting the Sustainable Development Goals (SDGs) for SDG 2 and SDG 13. As a source of food, feed, and bioenergy, sorghum offers solutions to the challenges of food security, climate change, and sustainable economic development, particularly in arid and marginal areas⁴. In the field of food security (SDG 2) Sorghum is a staple food for more than 500 million people in more than 30 countries, mainly in Sub-Saharan Africa and South Asia. Its diverse nutritional content, including proteins, fiber, and bioactive compounds, supports balanced nutrition and public health⁵. In the field of adaptation to the environment (SDGs 13) Sorghum is highly tolerant of drought, high temperatures, and poor soils, making it suitable for farming on marginal land and contributing to climate change adaptation and reducing the risk of crop failure. Sorghum can be used for bioethanol, biogas, and biomaterials, supporting the renewable energy transition and circular economy. The added value of by-products also strengthens the local economy⁶. Farmer Empowerment and Social Inclusion: Local variety development, product innovation, and supporting policies (e.g., tax incentives, research, marketing) can increase smallholder incomes and strengthen community economic resilience⁷.

Sweet sorghum is suitable for cultivation in Indonesia, especially as a cereal that is resistant to dry land but produces various products from 1 whole plant. The grain can be used as a substitute for low-gluten rice, the stems produce a syrup to replace cane sugar which can then function as bioethanol, and the plant can be a better carbon absorber than rice⁸.

¹ Walter Leal Filho et al., "The Central Role of Climate Action in Achieving the United Nations' Sustainable Development Goals," *Scientific Reports* 13, no. 1 (2023): 20582.

² Fabio Sporchia et al., "Zero Hunger: Future Challenges and the Way Forward towards the Achievement of Sustainable Development Goal 2," *Sustainable Earth Reviews* 7, no. 1 (2024): 10.

³ Prudence Atukunda et al., "Unlocking the Potential for Achievement of the UN Sustainable Development Goal 2--'Zero Hunger'--in Africa: Targets, Strategies, Synergies and Challenges," *Food & Nutrition Research* 65 (2021): 10–29219.

⁴ Muhammad Khalifa and Elfatih A B Eltahir, "Assessment of Global Sorghum Production, Tolerance, and Climate Risk," *Frontiers in Sustainable Food Systems* 7 (2023): 1184373.

⁵ Ali Khoddami et al., "Sorghum in Foods: Functionality and Potential in Innovative Products," *Critical Reviews in Food Science and Nutrition* 63, no. 9 (2023): 1170–86.

⁶ Muaz Ameen et al., "Sorghum's Potential Unleashed: A Comprehensive Exploration of Bio-Energy Production Strategies and Innovations," *Bioresource Technology Reports* 27 (2024): 101906.

⁷ Laura M Pereira and Corinna Hawkes, "Leveraging the Potential of Sorghum as a Healthy Food and Resilient Crop in the South African Food System," *Frontiers in Sustainable Food Systems* 6 (2022): 786151.

⁸ Tessema Tesfaye Atumo and Tewodros Ayalew, "Elevated Carbon Dioxide Effect on Radiation, Nutrient and Water Use Efficiency of C3 and C4 Crops: A Review," *Nutrient and Water Use Efficiency of C3 and C4 Crops: A Review*, 2023.



With the potential of sweet sorghum to support the SDGs, several regions of Indonesia have been used as land for sweet sorghum planting trials and developing the harvested products, namely in East Nusa Tenggara⁹, East Java, namely Jombang, Sampang Madura, Lamongan, Pasuruan¹⁰. However, this product has not been recognized for its potential by the community at large and is not very liked by farmers, so there has been no local potential for its impact on people's lives. For example, in the Keyongan Area, the existence of sweet sorghum land in the Keyongan area can be a hope for the people of Keyongan to improve their lives. However, there are findings that farmers are less interested in planting Sorghum and do not understand the business aspects of Sorghum¹¹. The lack of popularity of Sorghum in the community makes the demand for sorghum products small even though it has many benefits and potential.

But behind these difficulties, Mrs. Ida, an activist and innovator of Sorghum-based food from Sidorejo village, Sugio District, Lamongan Regency, created the brand "Suerr". From the rice field village which is 23 km from the center of Lamongan regency, it makes various innovative products made from Sorghum harvested from its own fields. A farmer, housewife and soldier's wife not only cultivate but also conduct research and development of various products from sorghum such as noodles, soy sauce, flour, sugar, crackers, and various other products. In addition, Mrs. Ida is also looking for target markets because of the lack of popularity of sorghum products and the price is still relatively high. This is not an easy thing to do for someone who grew up in a community environment that on average trades outside the region as a livelihood choice. Based on his activities and experiences, the researcher intends to explore the ecological expression manifested from his struggle through phenomenological research as well as the factors that accompany his strength as an activist of sorghum products.

METHOD

This study uses a qualitative approach with phenomenological design. This research was chosen to understand the meaning, motivation, and essence of the participants' lived experiences in depth. The participant was a female sorghum activist in Sidorejo Village, Sugio District, Lamongan Regency. He was chosen because of his uniqueness as a local citizen, farmer, but has the resilience and innovation to cultivate sorghum. The data collection process was carried out with in-depth interviews, directly

⁹ C Winarti et al., "Sorghum Development for Staple Food and Industrial Raw Materials in East Nusa Tenggara, Indonesia: A Review," in IOP Conference Series: Earth and Environmental Science, vol. 443, 2020, 12055.

¹⁰ Irvan Adhin Cholilie et al., "Sorghum Crackers (Sorghum Bicolor L.) as an Effort in Utilizing Food Material of Local Wisdom in Lamongan City," Gontor AGROTECH Science Journal 6, no. 3 (2020): 283–97; Sulistyawati Sulistyawati et al., "Genetic Diversity of Local Sorghum (Sorghum Bicolor) Genotypes of East Java, Indonesia for Agro-Morphological and Physiological Traits," Biodiversitas Journal of Biological Diversity 20, no. 9 (2019); Dyah Roeswitawati, Jabal Tarik Ibrahim, and others, "Agronomic Character of Several Local Genotypes of Sorghum (Sorghum Bicolor L.) at East Java," in IOP Conference Series: Materials Science and Engineering, vol. 532, 2019, 12023.

¹¹ Anita Dwi Asri, "Minat Petani Dalam Berusahatani Sorgum (Sorghum Bicolor L.) Di Desa Keyongan Kecamatan Babat Kabupaten Lamongan" (UPN Veteran Jawa Timur, 2022); MAF'IDATUL ILMI EVI, "EFISIENSI PENGGUNAAN FAKTOR PRODUKSI SORGUM (Sorghum Bicolor L.)(Kasus Di Desa Keyongan Kecamatan Babat Kabupaten Lamongan)" (UPN VETERAN JAWA TIMUR, 2022).



observing the daily activities of participants in processing sorghum in January 2025. As well as analyzing product photos, notes, or media coverage (if any) about participants. Data analysis was carried out by transcription of interview results. Read the entire transcript to gain a general understanding. Identify significant key statements. Group these statements into emerging themes. Synthesize themes to describe the essence of the participant's experience.

RESULT

a. Spiritual Beliefs: Sorghum as a Mandate to Care for the Earth and Community.

Mrs. "I" is a woman who has a high spirit to be empowered. After getting married she sold small snacks, opened an embroidery sewing business, taught in public schools for 9 years as an honorary teacher, oyster mushroom cultivation, until during the pandemic she was interested in focusing on sorghum-based food. There is a statement by Mrs. "I" which is the main trigger for her to be active in sorghum, starting with socialization from the government and utilizing the land after the rice harvest.

"Kula niku lak ngertine sorgum nggih kawitane teko wonten acara sosialisasi teng balai desa. Nopo niku namine, penyuluhan ngoten lho, teko dinas pertanian. Dinas Pertanian mengalno varietas Bioguma. Lha nggih pas acara niku, sakliyané dijelasne manfaate nopo mawon, kula nggih langsung dikandani, 'mangke lek ajeng nyobi nandur, bibite pun wonten teng koperasi'. Dados nggih mboten kangelan nggoleki, pun dituduhi panggonane." (Wawancara dengan Bu I, 22 Januari 2024).

(Translation: "I knew about sorghum from the beginning of a socialization event at the village hall. What is the name, you know, counseling, from the agriculture office. The Agriculture Office introduced the Bioguma variety. Well, yes, during the event, in addition to explaining what the benefits are, I was also immediately told, 'later if you want to try planting, the seeds are already in the cooperative'. So yes, there is no trouble looking, the place has been shown.")

She received information that this sorghum plant is not only economically useful, but also can provide benefits during dry periods, harvest times are not too long, and starting from garbage grains to stalks can be used as food.

"Sing paling kula senengi teko sorgum niku, tanduran niki tahan panas, Bu. Dadi pas mongso ketigo ngoten niku lho, wektu liyané angel banyu, de'e niki tetep kuat. Mboten kakean njaluk banyu tapi hasile tetep sae." (Wawancara dengan Bu I, 22 Januari 2024).

(Translation: *What I like most about sorghum, this plant is heat-resistant, Mom. So during the dry season, you know, when others have difficulty with water, he remains strong. Not most of them ask for water, but the results are still good.*)

"Lek nandur sorgum niku itungane cepet, mboten ngenteni dangu-dangu. Kurang luwih telung sasi ngoten pun isok dipanen. Dadi sakwise panen pari, lemah e saget langsung ditanduri, mboten nganggur suwe." (Wawancara dengan Bu I, 22 Januari 2024).

(Translation: *If you plant sorghum, it is a quick calculation, do not wait long. It will take approximately three months to harvest. So after the rice harvest, the land can be planted immediately, not idle for a long time.*)



"Niki sing paling istimewa, Bu. Sorghum niku mboten onok sing kebuang blas. Wijine diolah dadi glepung panganan, batange niku lho tesih saget diperes dadi gulo utowo legene. Dadine niku tanduran siji, manfaate teko pucuk sampek bonggole." (Wawancara dengan Bu I, 22 Januari 2024).

(Translation: This is the most special thing, Mom. The sorghum is not wasted at all. The seeds are processed into food flour, you know, the stems can still be squeezed into sugar or sap. So it's one plant, the benefits from end to base.)

Mrs. "I" also stated that her main motivation is to be loyal to sorghum. He hopes that people will consume products that are low in gluten. According to him, gluten is not good for health. This is an interesting finding for the researcher because he lives in a village surrounded by rice fields. Many of his neighbors benefit as traders and sellers of pecel catfish outside the area. He just needs to follow in the footsteps of his neighbor as a seller of pecel catfish instead of being an activist of sorghum, a commodity that is still not widely known to the public and must go through the struggle of product development until it can be consumed by the public.

b. Innovation Practices: Maximizing the Blessings of Sorghum Plants

Mrs. "I" also explained that she experimented independently with sorghum cultivation and maximized the blessings of sorghum plants through the innovation of various processed products. Various processed products that have been produced and marketed widely through online platforms are shown in Figure 1 which include crispy choux, cereal drinks, ciki, rengginang, soy sauce, noodles, and so on.



Figure 1. "Suerr" Products Innovations from Sorghum.

He told how the process of RnD sorghum products is carried out, one of which is in noodle products. At first, sorghum noodles were made from sorghum flour only, but it turned out that the results were very hard, then he got information from Professor BRIN to mix sorghum flour with corn flour. The result is chewier and tastier.

"Lek masalah nggawe mie niki lho, Bu, nggih onok critane. Kawitane niku kula nyobi nggawe teko glepung sorgum tok, mboten kula campuri nopo-nopo. Lha kok tibakno hasile niku atos nemen, Bu, dadi kaku ngoten. Alhamdulillah-ipun, kula niku lajeng dientuki ilmu teko salah sijine Profesor saking BRIN. Ngendikane, sorgum niku saene dicampur kalih glepung jagung. Lha pas kula cobi niku, lha dalah... hasile langsung benten. Mienipun luwih kenyal-kenyal empuk, rasane nggih luwih sedep. Alhamdulillah cocok akhire." (Wawancara dengan Bu I, 22 Januari 2024).

(Translation: If you have a problem making these noodles, you know, ma'am, there is a story. At first, I tried to make it from sorghum flour only, I didn't interfere with anything. How come it turns out that the results are so hard, ma'am, so stiff. Thankfully, I then got knowledge from one of the Professors from BRIN. He said, sorghum should be mixed with cornmeal. Well, when I tried that, you know... The results were immediately different. The noodles are more chewy and tender, and the taste is also better. Alhamdulillah, it finally fitted.)

c. Communal Relations: The Mission to Spread the Goodness of Sorghum

In spreading the goodness of sorghum, he explained it through social media and listed its benefits on the packaging. On Instagram, he is not only a means of education to the public, but also uses this method to market his products to the appropriate market. He also often opens training classes for anyone who wants to learn sorghum management. Unair and ITS students have been participants in sorghum training.

"Nggih, carane supados tiyang-tiyang niku sami ngertos kasaenane sorgum niki, kula manfaaten sosmed, Bu. Teng Instagram, teng Facebook ngoten. Lha nggih teng bungkus produke niku lho, mboten polos, tapi nggih kula serati manfaate nopo mawon, supados tiyang langsung moco." (Wawancara dengan Bu I, 22 Januari 2024).

(Translation: Yes, the way to make those people know the goodness of sorghum, I use social media, ma'am. On Instagram, on Facebook it is. Well, on the product packaging, you know, it's not innocent, but yes, I wrote down what the benefits are, so that people can read it right away.)

"Alhamdulillah, sing sinau mriki niku mboten warga sekitaran. Lare-lare mahasiswa teko Unair, teko ITS Surabaya niku nggih nderek pelatihan teng mriki. Kula nggih nderek seneng, lare pinter-pinter purun sinau." (Wawancara dengan Bu I, 22 Januari 2024).

(Translation: In fact, thank God, those who study here are not local residents. The students from Unair, from ITS Surabaya, have participated in the training here.)



She is also diligent in participating in events held by the government to market his sorghum. The result is support from the Lamongan government agriculture office, BRIN, and private institutions that donate various factory equipment for noodle processing and flour sieving. The agriculture office involved Mrs. "I" products as souvenirs during regional visits and often included Mrs. "I" in exhibitions related to local food or healthy food in various regions.



Figure 2. "Suerr" IKM Food Processing Based on Sorghum.



Figure 3. Sorghum Noodle Making Tools Grant from the Government.



DISCUSSION

a. Ecotheological Ethics as a Fighting Force

The results of the study show that Mrs. "I"'s resilience and fighting power as a sorghum activist are not solely driven by economic motives. Although the economic aspect certainly plays a role, the main driver is a deep ecotheological ethic, which is manifested in its beliefs, practices, and social relations. These findings confirm that values and beliefs can be a strong foundation for sustainability actions^{12,13}. The three themes found—spiritual beliefs, innovation practices, and communal relationships—are closely intertwined and form a whole whole.

Mrs. "I"'s spiritual belief that managing sorghum is a "mandate" to take care of the earth and nourish the community is the foundation of her struggle. This belief is in line with the Islamic theological concept that places man as a caliph (guardian or representative of God) on earth, who has the responsibility (amana) to protect creation¹⁴. This view transformed agricultural activities from mere production activities into a spiritual and ethical act¹⁵.

These beliefs are then actualized through innovative practices to "maximize the blessings" of sorghum plants. His efforts in conducting independent product research and development (R&D), such as when he invented the sorghum noodle formula, are a manifestation of the principle of not wasting God's gifts and making full use of resources, from the grain to the stem. The practice of innovation is a means to realize gratitude and responsibility for the mandate, an ethos that contrasts with the culture of excessive consumerism that has been criticized in ecotheology discourse¹⁶.

In the end, spiritual beliefs based on trust and realized through this innovation encourage communal relations as a mission to "spread the goodness of sorghum". Mrs. "I" does not keep her knowledge to herself, but actively shares it through social media and training classes. This action reflects an Islamic ethic that encourages the spread of benefits and knowledge to others, which is in line with the goal of Islamic education to form individuals who contribute to society. Thus, spiritual faith becomes fuel, innovation becomes a means, and communal relations become the goal of its movement, which as a whole forms a living ecotheological practice at the grassroots level.

b. Islamic Ecotheology at the Grassroots Level.

¹² A Maksum et al., "Ecotheology: Environmental Ethical View in Water Spring Protection," *Ethics in Science and Environmental Politics*, 2023, <https://doi.org/10.3354/esep00205>.

¹³ Yuyun Affandi et al., "Da'wah Qur'aniyah Based on Environmental Conversation: Revitalizing Spiritual Capital Ecotheology, Environmentally Friendly, Gender Responsive," *Pertanika Journal of Social Sciences and Humanities*, 2022, <https://doi.org/10.47836/pjssh.30.1.09>.

¹⁴ Awal Fuseini and John Lever, "Sustainable Livestock Agriculture from Islamic Perspective," *Cab Reviews: Perspectives in Agriculture, Veterinary Science, Nutrition and Natural Resources* 16 (2021): 1–11, <https://doi.org/10.1079/pavsnr202116026>.

¹⁵ Pratama Yudha Pradheksa et al., "Environmental Ethics in the Spiritual Perspective of Hinduism, Buddhism, and Islam," *Peradaban Journal of Religion and Society*, 2023, <https://doi.org/10.59001/pjrs.v2i2.93>.

¹⁶ Aulia Rakhmat, "Islamic Ecotheology: Understanding the Concept of Khalifah and the Ethical Responsibility of the Environment," *Academic Journal of Islamic Principles and Philosophy* 3, no. 1 (2022): 1–24.



The findings of this study provide concrete examples of the application of Islamic ecotheological theory. Islamic ecotheology is a framework that integrates the teachings of faith with environmental ethics, emphasizing that protecting nature is part of a religious obligation¹⁷. The struggle of Mrs. "I" reflects several key concepts in Islamic ecotheology:

1. **Tawhid** (Keesaan): A belief in the oneness of God that implies the unity of all creation. By looking at every part of the precious sorghum plant, Mrs. "I" practices the view that nature is a manifestation of the greatness of God (Ayatollah) that deserves respect, not an object of exploitation.
2. **Khalifah** (Stewardship) and **Amanah** (Trust): This concept emphasizes the responsibility of humans as stewards of the earth. Mrs. "I's" statement about the "mandate to take care of the earth" is a direct expression of this role, where humans are entrusted to manage nature according to the will of the Owner, namely God¹⁸. Her movement is not about conquering nature, but managing it wisely.
3. **Mizan** (Balance): The principle of natural balance that must be maintained. Mrs. "I's" choice to plant sorghum—a drought-tolerant plant—in the post-harvest rice field shows an intuitive understanding of the importance of maintaining ecosystem balance and not imposing will on nature. In addition, Mrs. "I" wants to fight for sorghum cultivation not only because of government support but also because she wants people to consume healthy foods that are low in gluten.

Mrs. "I" movement is in line with the findings that faith-based grassroots movements have great potential in increasing public awareness and participation in environmental issues¹⁹.

b. The Role of Women in Agriculture and Food Security

This study underlines the central role of women as innovators and guardians of wisdom in the local food system. Instead of following the more established business path in her neighborhood (selling pecel catfish outside her village), Mrs. "I" chose a more difficult path with unpopular commodities. This choice positions her as an agent of change, in line with the women's empowerment approach that is also a focus in the programs of Muslim organizations in Indonesia²⁰. By opening training classes to reach academics (Unair and ITS students), he positioned himself as a knowledge hub, surpassing the traditional image of a farmer.

c. Authentic Model of SDGs Achievement

The movement led by Mrs. "I" can be seen as a model for achieving the Sustainable Development Goals (SDGs) that are authentic, community-based (bottom-up), and sustainable. Currently, the achievement of SDGs targets, especially SDG 2, is stagnating

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¹⁷ Muhammad Amiruddin, Masiyan M Syam, and Jamaluddin Arsyad, "Teologi Lingkungan Dalam Al-Qur'an Perspektif Ibrahim Abdul Matin," *Al-Mau'izhoh*, 2024, <https://doi.org/10.31949/am.v6i2.8558>.

¹⁸ D R Imran Hayat et al., "THE ROLE OF ISLAMIC ENVIRONMENTAL ETHICS IN THE ALLEVIATION OF CLIMATE CHALLENGES AND THE PRESERVATION OF ECOSYSTEM," *Russian Law Journal*, 2023, <https://doi.org/10.52783/rj.v1i11s.1967>.

¹⁹ M Lutfi Mustofa, M Fauzan Zenrif, and Ahmad Barizi, "Towards an Islamic Ecotheology: Indonesian Muslim Organizations in Climate Mitigation and Adaptation Efforts," *Problemy Ekorożwoju* 20, no. 2 (2025): 21–31.

²⁰ Mustofa, Zenrif, and Barizi.



due to global "polycrises" such as pandemics and climate change²¹. Mrs. "I" activities specifically contribute to:

- SDG 2 (No Hunger): By promoting sorghum, a nutritious and climate-resilient local food crop, he contributes to diversification and food security at the community level²².
- SDG 13 (Climate Change Management): The option of growing drought-resistant sorghum is a form of direct adaptation to climate change. This action confirms that climate action is very closely related to the issue of food security²³.

The Bu "I" model shows how initiatives driven by religious values can be aligned with the global development agenda. Its intrinsic (spiritual) source of motivation has the potential to make this model more resilient and sustainable in the long run than top-down programs that often rely on external funding.

The study implies the importance of identifying and supporting "local champions" like Mrs. "I". Support from BRIN and the agriculture office has proven to be an important accelerator. Future policies should focus not only on large-scale socialization programs, but also on the empowerment of individuals who have strong intrinsic motivations.

There is a need to further examine the role of spirituality and religious ethics as drivers of agricultural resilience. This study paves the way for deeper ethnographic research on "applied ecotheology" in various communities, an area that sits at the crossroads between religion, education, and sustainability²⁴.

Large organizations such as NU and Muhammadiyah, which already have ecological awareness programs, can raise stories like Mrs. "I" as a model of best practice. This will be an effective way to translate theological concepts of the environment into inspiring, real, actionable actions²⁵.

This research has several limitations. First, it is a single case study that focuses on the experiences of one individual. While providing in-depth insights, the findings cannot be generalized to all local food activists in Indonesia. Second, the analysis relies heavily on the participants' narratives regarding their motivations. Future research could complement it with longer participatory observations or interviews with other stakeholders for data triangulation.

²¹ Sporchia et al., "Zero Hunger: Future Challenges and the Way Forward towards the Achievement of Sustainable Development Goal 2"; Atukunda et al., "Unlocking the Potential for Achievement of the UN Sustainable Development Goal 2--'Zero Hunger'--in Africa: Targets, Strategies, Synergies and Challenges."

²² Sporchia et al., "Zero Hunger: Future Challenges and the Way Forward towards the Achievement of Sustainable Development Goal 2."

²³ Filho et al., "The Central Role of Climate Action in Achieving the United Nations' Sustainable Development Goals."

²⁴ Sally Windsor and Olof Franck, *Intersections of Religion, Education, and a Sustainable World* (Springer Nature, 2025).

²⁵ Mustofa, Zenrif, and Barizi, "Towards an Islamic Ecotheology: Indonesian Muslim Organizations in Climate Mitigation and Adaptation Efforts."



CONCLUSION

This phenomenological study concludes that the internalization of spiritual-ecological values is a crucial driving factor behind the resilience and innovation of a woman sorghum activist in Lamongan. Its fighting power does not come from economic motives alone, but from an ecotheological ethic that is manifested in three interrelated dimensions: the spiritual belief that sorghum farming is a mandate to care for the earth and nourish the community, the practice of innovation as a way to maximize the blessings of each part of the plant, and communal relations as a mission to spread the benefits of sorghum.

The practices carried out by the participants serve as a tangible example of an authentic grassroots model in achieving the Sustainable Development Goals (SDGs), particularly SDG 2 (No Hunger) and SDG 13 (Addressing Climate Change). This model demonstrates that bottom-up approaches, driven by the values of local wisdom and spirituality, have strong sustainability potential. The study also confirms that strategic support from stakeholders such as the government, research institutions (BRINs), and universities serves as an essential accelerator that strengthens local initiatives. Based on this study, further research can be conducted in the form of Action Research to expand the positive impact of the efforts made by Mrs. "I" to innovate and improve the SDGs. Efforts are needed from various parties and stakeholders to support these kinds of Small and Medium-Sized Enterprises, so that their products can be recognised worldwide.

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