

CONVERTING AGRICULTURE FROM A CURSE TO A BLESSING CATHOLIC ORGANIC RICE FARMERS IN INDONESIA

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Abstracts:

Since the 1960s, Indonesia has pursued Green Revolution routes that rely on agrochemical methods to increase rice yields. As soil quality declines and costs of artificial fertilizer and hybrid seeds rise, some farmers have adopted organic rice farming methods. Several studies of this trend have been published, but only a few have explored the role of religion in this gradual move to organic farming. This ethnographic study of eight Catholic farmers in Yogyakarta Special Region/Daerah Istimewa Yogyakarta (DIY), Central Java Province, and East Nusa Tenggara Province/Nusa Tenggara Timur (NTT) reveals that while increasing costs of inputs are a factor in conversion, religious perspectives on food and the environment also played a role. The study utilizes the constructivism-interpretivism paradigm and the concept of 'Religion in everyday life' by Nancy Ammerman. The interview reveals that religion is present in faith in God(s), a sense of interconnectedness, a sense of purpose, emotion, spiritual narrative, embodiment, and virtues. Given the highly religious

character of Indonesia, this pilot study indicates the need for further research on the role of religion in agricultural development, particularly in the move towards more ecological farming.

Keywords:

agriculture, everyday religion, Christianity, Indonesia.

INTRODUCTION

In the 21st century, people increasingly adopt a healthy lifestyle as they become aware of the negative impact of modern agriculture on humans and the environment. According to a 2005 report by the Indonesian Department of Agriculture, global demand for organic products increased by 20% annually from the 1980s to the 2000s, prompting farmers to transition from conventional to organic farming practices.¹ The reasons why farmers convert to organic farming vary, including economic benefits,² the presence of supporting institutions³, human and environmental health⁴, and moral obligation

In 2020, the Indonesian Organist Alliance/Aliansi Organis Indonesia (AOI)⁵ found 273 journal articles in Indonesia about organic farming or topics related to organic farming. The first three central

¹ Dept of Agriculture, "4 Tahun Go Organic 2010," *Sub Direktorat Pengelolaan Lingkungan Direktorat Pengembangan Usaha OratJenderal Bina Pengolahan Dan Pemasaran Hash I Pertanian Departemen Pertanian Jakarta*, 2005,

[http://repository.pertanian.go.id/handle/123456789/14119%0Ahttp://repository.pertanian.go.id/bitstream/handle/123456789/14119/4 Tahun Go Organic 2010.pdf?sequence=1&isAllowed=y](http://repository.pertanian.go.id/handle/123456789/14119%0Ahttp://repository.pertanian.go.id/bitstream/handle/123456789/14119/4%0ATahun%20Go%20Organic%202010.pdf?sequence=1&isAllowed=y). p. iii

² D Yadi Heryadi and Betty Rofatin, "Faktor-Faktor Yang Mempengaruhi Keputusan Konversi Ke Pertanian Organik," in *Perdagangan Komoditas Pertanian Di Era Industri 4.0: Peluang Dan Tantangan*, ed. Agus Yuniawan Isyanto (dkk.), 1st ed. (Fakultas Pertanian Universitas Galuh, 2019), 57–62. p. 60-61

³ Hana Indriana, Fredian Tonny, and Nurmala K. Pandjaitan, "Kelembagaan Dalam Sistem Pertanian Padi Sehat," *Sodality: Jurnal Sosiologi Pedesaan* 6, no. 3 (2014): 220–38, <https://doi.org/10.22500/sodality.v6i3.8018>. p. 237

⁴ Matthias Koesling, Ola Flaten, and Gudbrand Lien, "Factors Influencing the Conversion to Organic Farming in Norway," *International Journal of Agricultural Resources, Governance and Ecology* 7, no. 1–2 (2008): 78–95, <https://doi.org/10.1504/ijarge.2008.016981>. p.93

⁵ Arief Rifali and Dr. Wahyudi David, *SPOI STATISTIK PERTANIAN ORGANIK INDONESIA*, ed. Arief Rifali and Dr. Wahyudi David (Bogor: Aliansi Organis Indonesia, 2019).p. 49.

themes are socio-economic (25%), environmental (23%), and general organic farming (18%). The remaining articles cover transformation and regulation, cultivation, consumers, seeds, and pest control. Studies on farmers converting to organic agriculture typically focus on economics, farming technique, institution, environment, and health factors. Research on the role of religion in conversion has not yet developed. This study aims to fill this gap by investigating two questions: Why farmers transition their agricultural model from conventional to organic agriculture? Does religion play a role in conversion and in shaping their agriculture?

Willer et al.⁶ express optimism about the shift towards organic agriculture. The statistics reveal that the global organic land has expanded from 11 million hectares in 1999 to 72.3 million hectares in 2019, present in 187 countries and making up 1.5% of all farmland. The organic market value increased from 15.1 billion euros in 2000 to 106.4 billion euros in 2019, with the USA, Germany, and France leading in this field. There are 3.1 million organic producers worldwide, with Asia at 51%, Africa at 27%, Europe at 14%, and Latin America at 7%. According to the AOI⁷ 2019, Indonesia had 251,630 hectares of organic agricultural land to grow horticulture, cash crops, and grains. This area has increased by over 300% since 2010, when it was only 71,114 hectares. The demand for organic rice has also grown, leading more farmers to convert their land. This increase is reflected in the growth of wet rice fields (sawah) from 2,970 hectares in 2010 to 53,974 hectares in 2018. The number of organic rice farmer groups has also increased from 48 in 2010 to 139 in 2018, but there is no available data on the number of farmers involved in this conversion.

⁶ Helga Willer et al., *The World of Organic Agriculture Statistics and Emerging Trends 2021*, 1st ed. (Bonn: Research Institute of Organic Agriculture FiBL, Frick, IFOAM-Organic International, 2021). p. 20-30.

⁷ Rifali and David, *SPOI STATISTIK PERTANIAN ORGANIK INDONESIA*.p.7,9, 16.

Providing food for the citizens is a constitutional duty for any government. The task encourages Indonesian presidents, from the old to the reformation regime, to prioritize agricultural development in national development strategies. Sukarno, Indonesia's first president, emphasized the crucial role of food in determining the life and death of Bangsa Indonesia.⁸

Sukarno's administration implemented policies to increase food production and improve distribution. Despite these efforts, food shortages persisted, worsened by the global famine of the 1960s. In 1960, Indonesia was the world's biggest rice importer.⁹ While rice imports were essential for Indonesia's survival, the House of Representatives viewed them as politically unfavorable and a national embarrassment, contradicting the country's agrarian identity.¹⁰

According to Wiryo,¹¹ after Sukarno, the New Order regime fulfilled the constitutional duty to provide food by implementing the Green Revolution, which started in 1968. The new method is known as modern or conventional agriculture. Conventional agriculture promotes patented seeds, chemical fertilizers and herbicides, irrigation, mechanization, and commercialization. It changes traditional to modern agriculture, moving agriculture from a simple system based on locality and subsistence to a complex global food system involving global politics and economics. Wiryo adds that the Green Revolution in Indonesia has successfully boosted grain production; for example, between 1969/71 and 1989/1990, production doubled from 482.4 million tons to 847.4 million

⁸ Sukarno, "Soal Hidup Atau Mati," in *Pangan Rakyat: Soal Hidup Atau Mati 60 Tahun Kemudian*, ed. Anna Fariyanti et al., 1st ed. (Bogor: Departemen Agribisnis, FEM-IPB dan PERHEPI, 2012), 1–18. p.1

⁹ Henry Bernstein et al., "Forum : Fifty Years of Debate on Peasantries , 1966 – 2016," *The Journal of Peasant Studies* ISSN: 45, no. 4 (2018): 689–714, <https://doi.org/10.1080/03066150.2018.1439932>. p. 2

¹⁰ Nawiyanto, "The Politics of Food and Food Security During Indonesia's Old Order (1945-1965)," *Lembaran Sejarah* 10, no. 1 (2017): 65–73, <https://journal.ugm.ac.id/lembaran-sejarah/article/view/23653>. p. 66

¹¹ P Wiryo, "Makanan Enak Dalam Kaleng: Neoliberalisme Dalam Sektor Industri Pangan," in *Neoliberalisme*, ed. I Wibowo and Francis Wahono, 1st ed. (Yogyakarta: Cindelas Pustaka Rakyat Cerdas, 2003), 193-4.

tons. Erianto¹² notes that in 1984, Indonesia achieved self-sufficiency by producing 25.8 tons of rice, meeting the national demand of 25 million tons. This achievement received recognition from the World Food and Agriculture Organization (FAO) in 1985, and a year later, on July 21, 1986, President Soeharto received an FAO award for it. The successful food production established social-political stability. However, Arifin¹³ argued that rice self-sufficiency ended after 1985, as policies favoured industry and service sectors, leading to structural marginalization of agriculture. The regime perceived small-scale agriculture as unproductive because of its low productivity. The marginalization encourages farmers to leave villages for urban jobs and accelerates the land conversion to the non-agricultural sector.

Julintono¹⁴ explains that the New Order regime implemented agricultural liberalization policies in addition to the Green Revolution by applying a trade-based food security approach to access food in the global market. This trade-based approach resulted in social, economic, cultural, and political issues, often neglecting farmers' interests in favor of multinational corporations and affluent countries like the United States and the European Union. Trade-based food security makes Indonesia rely on food imports. According to White,¹⁵ Indonesia has been a rice importer for the last 100 years, except in 1985.

Agricultural institutions and multinational corporations play a significant role in shaping Indonesia's politics and environment. While these entities contribute to the growth of the economy and the urban middle class, they also negatively affect rural areas and the environment.

¹² Dwi Erianto, "Kebijakan Perberasan: Dari Orde Lama Hingga Reformasi," KOMPAS, 2022, <https://www.kompas.id/baca/paparan-topik/2022/02/25/kebijakan-perberasan-dari-orde-lama-hingga-reformasi>.

¹³ Bustanul DR Arifin, *Pembangunan Pertanian Paradigma Kebijakan Dan Strategi Revitalisasi*, 1st ed. (Jakarta: Grasindo, 2005).p.11-12

¹⁴ F.J Juliantono, *Pertanian Indonesia Di Bawah Rezim WTO* (Banana, 2007). p. 162-167

¹⁵ Ben White, "Meneliti Masalah Petani Dan Pangan Pada Tingkat Lokal: Pengantar Studi Kemandirian Pangan AKATIGA," *Jurnal Analisis Sosial* 19, no. 1 (2015): 1–10. p.2

Geertz¹⁶ argues that this phenomenon, which he names agricultural involution, was ahead of its time, starting during the colonial era.

Following the 1998 reforms, the government, experts, and non-governmental organizations (NGOs) initiated an alternative to building an independent agricultural system called people-based food sovereignty. It included revitalizing traditional ecological farming. In 2001, the government, under President Susilo Bambang Yudhoyono, launched the Go Organic 2010 Program, aiming to develop industry-based organic agriculture. The aim was for Indonesia to become one of the world's top organic food producers by 2010.¹⁷ In 2014, President Joko Widodo implemented another strategy, the Development of 1,000 Organic Farming Villages, to meet local and international demand for organic food.¹⁸ Both programs aim to enhance economic growth by participating in the global market.

Globalization goes against the principles of organic farming, such as locality and fairness. In response to the globalization trend, the International Federation of Organic Agriculture Movements (IFOAM) established the principles of organic agriculture in 2008, which serve as a standard and guideline for policy-making and the organic agriculture movement. These principles prioritize health, ecology, fairness, and care.¹⁹ Aji et al.,²⁰ argue that Indonesia's organic agriculture policies are not in alignment with these four principles. For example, the centralized strategy hinders the fairness principle. The strategy prioritizes global market interests, which benefit intermediary traders, agricultural input

¹⁶ Geertz, *Agricultural Involution: The Processes of Ecological Change in Indonesia*, 1963, p. 143.

¹⁷ Dept of Agriculture, "4 Tahun Go Organic 2010." p.3

¹⁸ Penguatan sistem pertanian organik Indonesia menuju berkembangnya desa pertanian organik & menguasai pasar organik dunia, Kementerian Pertanian Direktorat Jenderal Tanaman Pangan, <https://tanamanpangan.pertanian.go.id/detil-konten/berita/21>, accessed 25 July 2023

¹⁹ (<https://www.ifoam.bio/why-organic/shaping-agriculture/four-principles-organic>, accessed 10 June 2023).

²⁰ Gutomo Bayu Aji, Vanda Ningrum, and Stevanus Wangsit, "Reorientasi Kebijakan Pertanian Organik Sesudah 'Go Organic 2010' Dan 'Program Seribu Desa Pertanian Organik' Di Indonesia," 2019. p.5

industries, and certification bodies rather than farmers. Rifali and David²¹ add that focusing on market demands diminishes the value of organic practices into pragmatism and re-entraps organic farmers into capitalism.

Amid the complexity of agricultural development issues, such as food security, productivity, economics, food politics, environmental degradation, and globalization, some farmers switched from conventional to organic farming. This study examines why farmers switch from conventional to organic farming and explores the role of religion in their decision-making process and its impact on their agricultural practices. The results indicate that farmers convert for various reasons, including human and environmental health, economics, independence, morality, and spirituality. By applying the concept of 'religion in everyday life,' the study suggests that religious beliefs are intricately woven into these factors.

METODOLOGY

To connect religion to organic agriculture, this study uses the analytical framework of everyday religion developed by Nancy T. Ammerman, particularly her works *Studying Everyday Religion* (2007)²², *Sacred Stories, Spiritual Tribes: Finding Religion in Everyday Life* (2014)²³ and *Studying Lived Religion Contexts and Practices* (2021).²⁴ The study also draws on the insights of other scholars, including Meredith McGuire.

²¹ Rifali and David, *SPOI STATISTIK PERTANIAN ORGANIK INDONESIA*. p.23-26

²² Nancy T. Ammerman, "Studying Everyday Religion: Challenges for the Future," ed. Nancy T. Ammerman (Oxford: Oxford University Press, 2007), 219–34.

²³ Nancy T. Ammerman, *Sacred Stories, Spiritual Tribes: Finding Religion in Everyday Life* (New York: Oxford University Press, 2014), <https://doi.org/10.1177/0094306115579191d>.

²⁴ Nancy T. Ammerman, *Studying Lived Religion Contexts and Practices*, 1st ed. (New York University Press, 2021).

Scholars specializing in everyday religion often avoid defining and conceptualizing religion due to its inherent limitations. McGuire²⁵, for example, argues that definition and conceptualization, constructed mainly by religious authority, entail boundaries excluding practices and expressions that do not fit accordingly. The assumption behind the constraints is that religion is "a unitary, organizationally defined, and relatively stable set of collective beliefs and practices." Religious institutions can establish doctrines to encompass believers' beliefs and practices. Flaskerud et al.²⁶ argue that religious doctrines can sometimes cause tension between the institutions that uphold them, the cultures where they are practiced, and the needs of individuals who follow them.

According to Rakodi,²⁷ religion is a complex reality with several elements, including beliefs, practices, rituals, symbols, doctrines, institutions, religious leaders, mysticism, and spirituality. As religion is subject to change and relativity, it best serves people when it is dynamic and flexible. According to McGuire, ordinary people focus more on making religion relevant, meaningful, and helpful to meet practical needs such as healing, condolence, or success rather than orthodoxy. They syncretize or hybridize religions and cultures, often unsystematically and less theologically. Their effort covers various religious expressions, including folk beliefs and rituals, which religious authorities may judge as unaligned with orthodoxy, irrational, and superstitious.

Ammerman²⁸ highlights that humans' daily activities are primarily ordinary and mundane, governed by science, market, state policy, or individual preferences, and seemingly unrelated to religion. To fully

²⁵ M. B McGuire, *Lived Religion: Faith and Practice in Everyday Life* (Oxford University Press., 2008).p. 186.

²⁶ Ingvild Flaskerud and Oddbjorn Leirvik, "The Study of Islam between University Study and Lived Religion: Introductory Reflections," *Islam and Christian-Muslim Relations* 29, no. 4 (2018): 413–27, <https://doi.org/https://doi.org/10.1080/09596410.2018.1521561>.p. 417.

²⁷ Carole Rakodi, "A Framework for Analysing the Links between Religion and Development," *Development in Practice* 22, no. 5–6 (2012): 634–50, <https://doi.org/10.1080/09614524.2012.685873>.p. 640.

²⁸ Ammerman, *Studying Lived Religion Contexts and Practices*.p. 2-5,8.

recognize religion's presence in daily life, Ammerman suggests expanding our understanding of religion beyond official doctrines and accept that religion also exists in unofficial settings, such as markets, kitchens, hospitals, offices, and environments. Ammerman²⁹ continues that everyday religion refers to the religious practices in everyday life, focusing on what ordinary people, not religious experts or leaders, do in their daily lives and how they do it. Religious practices are activities that intertwine, directly or indirectly, with the presence of a spiritual reality, often associated with the Divine, powerful beings, or Transcendence. Ammerman expands the concept of transcendence to an alternative reality beyond oneself, such as humanity.

Ammerman³⁰ identifies three clusters where spirituality may manifest: theistic, extra-theistic, and ethical. Each has unique characteristics, but the three clusters are interconnected, allowing for the exchange of values. Religion is tied to the Divine figure(s) in the theistic cluster. In the extra-theistic cluster, religion takes on various forms of transcendence that do not necessarily involve theistic images. Transcendence includes a reality beyond the human realm and is more important than oneself. The experience of transcendence manifests in the sense of awe, awareness of being connected with others, and a belief in individual self-purposiveness. The third cluster, ethical spirituality, is present in all clusters and emphasizes the importance of living a virtuous life. Engaging with the world through good deeds is what matters.

It is crucial to acknowledge that informants might not express their religious experiences in the same terms as experts. They developed their spiritual expressions and reflections when dealing with agricultural

²⁹ Ammerman.p. 19.

³⁰ Nancy T. Ammerman, "Finding Religion in Everyday Life," *Sociology of Religion: A Quarterly Review* 75, no. 2 (2014): 189–207, <https://doi.org/10.1093/socrel/sru013>.p. 30-37.

experiences. What is significant for informants is how religion shapes their farming activities meaningfully.

The study examines eight Catholic rice farmers: two from Kulon Progo district in Yogyakarta Special Region/Daerah Istimewa Yogyakarta (DIY), two from Purworejo districts in Central Java, and four from Ruteng District in the East Nusa Tenggara Province/Nusa Tenggara Timur (NTT). All informants were, directly or indirectly, engaged with the Sekretariat Pelayanan Tani dan Nelayan-Hari Pangan Sedunia/SPTN-HPS (The Secretariat of Farmers and Fishermen Services-World Food Day) located in Yogyakarta, established by the Catholic Church in Indonesia, in 1992. It is commonly known as SPTN. The informants have been practicing organic farming for more than ten years. We used snowball sampling to locate and select the informants.

The research was conducted from July 2022 to January 2023 using an ethnographic approach. Data was gathered through in-depth interviews conducted in Indonesian and Javanese, followed by transcription, categorization, and interpretation. From Ammerman's three clusters, we suggest that religion can take various forms, such as faith in God(s), a sense of interconnectedness, life purpose, virtues, embodiment, emotion, aesthetics, and narrative. We used them as categories through which we interpreted the data. In interpreting the data, we utilized the constructivism-interpretative paradigm, which allows us to uncover the data, reflect on the hidden meaning, and present contextually appropriate results. The concept of everyday religion helps us to accommodate the complexities of the informants' religious practices and their significance in their farming. Triangulation and bias-clarification techniques were employed to ensure the interpretation's credibility. Our interpretations were cross-checked with other related studies to ensure cohesive justification.

RESULT AND DISCUSSION

Various factors influenced the informants to adopt organic agriculture. Our interpretation, derived from the informants' responses, emphasizes the significance of agricultural literacy, the impact of conventional farming on human and environmental health, economic factors, interdependence with other creatures, reliance on land, a sense of responsibility, and spiritual narratives

Access to Agricultural Literacy

Most informants encountered the SPTN staff, including the charismatic figure Rev. Fr. Utomo, in the late 1990s. Rev. Fr. Utomo used the creation story from Genesis 1 to illustrate that God created the world perfectly, but humans have deteriorated it. He suggested that conventional agriculture was a significant contributor to the deterioration. Prior to encountering the SPTN, the informants were unaware of the detrimental impacts of conventional agriculture.

The informants began applying modern farming in the 1980s when the government intensively implemented the Green Revolution. They received subsidies for fertilizer and seeds, resulting in a significant increase in crop yields. Their increased yield aligned with national trends. According to Wiryono,³¹ between 1969 /1971 and 1988/1990, Indonesia's grain production doubled from 482.4 to 874.4 million tonnes. However, it entails several impacts. The informants noticed that soil became harder to plough and water took longer to soak. Their skin was stiff, itchy, and burnt from working the soil. They also noticed that worms, frogs, leeches, and snakes decreased in their fields while the intensity of pest outbreaks increased and new pests emerged. They admitted that the yield would

³¹ Wiryono, "Makanan Enak Dalam Kaleng: Neoliberalisme Dalam Sektor Industri Pangan." p.193-194

level and even decrease without increasing the amount of fertilizer. In NTT province, fertilizer supply was often delayed due to its distance from its factory in Java. However, all informants did not connect those experiences to conventional agriculture. "I had never known that the damage caused by chemical inputs to the environment was so severe. I felt sad and guilty because I contributed to destroying the nature that God creates beautifully," said Tarsisius, an informant from Ruteng NTT.

Up to the 2000s, their only source of information was the agricultural extension workers (*penyuluh pertanian*). Informants depended on *penyuluh pertanian* to learn about crop cultivation, pest management, and other relevant subjects. The encounter with the SPTN allowed informants to learn more about agriculture and environment. The SPTN provided detailed information on conventional and organic agriculture and answered their questions transparently, including the benefits and disadvantages of both farming methods. Informants understand the adverse impact of conventional agriculture on their environment, health, economy, and culture. The improved agricultural literacy, the desire to be responsible for healing the damaged environment and concern to health issues encouraged them to convert to organic farming.

In 1999, the SPTN sent Sutomo to attend an organic farmers' conference in Thailand to broaden his knowledge on agriculture. The following year, the SPTN sent Sutomo and Herni (an informant from DIY) to a farmers' conference in the Philippines. The SPTN sent Tarsisius from Ruteng, NTT, to attend a three-month organic farming training at Agatho Farm in Cisarua, West Java, in 2008, as well as another training in Java. Three of them became pioneers in organic agriculture in their area. They admitted that meeting with experts and other organic farmers nationally and internationally boosted their self-confidence. For example,

Herni claims that farmers are the most important citizens because "We feed people."

While conventional agriculture made farming convenient by providing easy access to seeds, fertilizers, and pesticides, informants lost their ability to produce these essential inputs independently, unlike their ancestors. Even penyuluh pertanian, are no longer able to do so. Margareta recalled that penyuluh pertanian relied on chemical insecticides in stores when pest outbreaks occurred. When the government reduced subsidies, some informants often experienced financial constraints. When they did not have money to buy agricultural inputs such as seeds and fertilizer, they did not plant. "No money, no planting," says Margareta from Ruteng, NTT.

As farmers relied on patented seeds from stores, local seeds and traditional knowledge to produce seeds disappeared. Before the Green Revolution, Indonesia was home to more than 8,000 different types of rice. However, the homogenized approach replaced these varieties with a select few patented seeds, including IR5 and PB5. The government confiscated local seeds to ensure farmers planted the recommended rice varieties.³² Later, when Sutomo, an informant from Purworejo Central Java, wanted to plant a local rice variety, he had to obtain it from farmers who already practiced organic farming in other districts.

Regarding access to information, Wirzba³³ argues that the proponents of conventional agriculture, including governments and multinational corporations (MNCs), often withhold information about its short-and long-term effects, depriving farmers of comprehensive information. Government policies prioritize economic growth over

³² Bernsten et al., 1982 cited in Johan Iskandar and Budiawati Supangkat Iskandar, "Ethnoekologi, Biodiversitas Padi Dan Modernisasi Budidaya Padi: Studi Kasus Pada Masyarakat Baduy Dan Kampung Naga," *Jurnal Biodjati* 3, no. 1 (2018): 47, <https://doi.org/10.15575/biodjati.v3i1.2344>.p. 48

³³ Norman Wirzba, "Why Agrarian Matters-Even To Urbanites," in *The Essential Agrarian Reader: The Future of Culture, Community, and the Land*, ed. Norman Wirzba (The University Press of Kentucky, 2003), 56–153.p. 22-23

people's and the environment's interests, while experts often unintentionally miss consequences because they cannot calculate them due to time lag. A study by Robin ³⁴ shows that Monsanto, one of the significant agro-input corporations, hold information from the public. Evidence shows that its chemical inputs negatively affect social welfare, human and environmental health, and the economy, but Monsanto deliberately conceals this information. Instead, Monsanto hides the adverse effects behind its motto of providing abundant and healthier food through sustainable ecological agriculture.

Shiva³⁵ argues that globally, conventional agriculture leads to environmental degradation, health problems, debt-ridden farmers, input dependence, and cultural loss. Central to environmental degradation is topsoil erosion. According to organic agriculture advocate Wes Jackson,³⁶ topsoil is the most fundamental component of agriculture, referred to as a 'lifeblood'. Topsoil makes the land arable. It takes 300-1000 years to create one inch of topsoil in natural conditions, and using organic inputs takes 30 years. Shiva³⁷ adds conventional agriculture destroys 75 percent of the world's arable land and contributes 40 percent of climate distress. Maria Helena Somedo from the Food and Agriculture Organization (FAO) said in 2019 that the world has lost one-third of arable land due to erosion. If the trend continues, topsoil could vanish within 60 years.³⁸

³⁴ M. M. Robin, *The World According to Monsanto: Pollution, Corruption, and The Control of Our Food Supply* (New York: The New Press, 2014). kindle, p. 414-49

³⁵ Vandana Shiva, *Staying Alive: Women, Ecology, and Development* (North Atlantic Books, 2016).p. 126

³⁶ Wes Jackson, 1980, cited in Mark E Graham, "Trends in American Agriculture," *The Journal for Peace and Justice Studies* 14, no. 1 (2004): 65–130. p.110

³⁷ Shiva, *Staying Alive: Women, Ecology, and Development*. P. 138-139

³⁸ Madhur Sarma, Outlook, An interview with Philip Lymbery, the author of *Future Depends On Ending Industrial Farming That's Killing Our Soil: 'Sixty Harvests Left'*, <https://www.outlookindia.com/international/future-depends-on-ending-industrial-farming-that-is-killing-our-soil-sixty-harvests-left-author-philip-lymbery-news-274720>, accessed 26 July 2023

The Land is our Mother. We are Brothers and Sisters

"Soil is our mother who feeds us. If we do not respect our mother, we are ungrateful children", says Astuti, an informant from Kulon Progo, DIY. Astuti adds that using chemicals in farming is like a child poisoning his mother. All informants are familiar with the concept of Earth as a nurturing mother, known as Ibu Pertiwi. According to Merchant,³⁹ the idea of land being a nurturing mother is a common theme in various cultures worldwide. Merchant suggests that the image of land as a mother is crucial in shaping humans' attitudes and actions toward nature. It can serve as a cultural constraint.

Aside from perceiving land as mother, Margareta and Dedi, informants from Ruteng NTT, perceive natural beings, both living and non-living, as brothers and sisters. The Franciscan priests⁴⁰ from their parish introduced the worldview of kinship relationships. Dedi does not name other creatures as pests, insects, or weeds. Instead, he says, "I don't see them as enemies... everything around us is all good, nothing harms us. They are part of us, and they also want to live. They need to eat. What I plant, some is for them." He continues that when humans embrace life as a gift from God, so do other creatures. Dedi adds that farmers often get disturbed when they find creatures on their land. Their immediate response is to eliminate them without calculating their potential harm. Removing insects from a field is impossible since they are a natural part of the environment. Dedi and other informants accept creatures' presence as long as they do not harm the yield. Sharing crops with them helps to

³⁹ Carolyn Merchant, *The Death of Nature Women, Ecology, and the Scientific Revolution*, First (London, Singapore, Sydney, Tokyo, Toronto: Harper & Row, Publisher, San Francisco, 1983). p.3

⁴⁰ The Ordo Fratrum Minorum (O.F.M.), known as Franciscan Priests, is a Catholic religious order, founded in 1209 by Francis of Assisi. They have worked in Ruteng, since 1956.

maintain the environmental balance. They apply natural pesticides only when pests pose a potential threat to their crops.

The informants observe that when farmers use chemicals to kill pests, the outbreak temporarily stops, but its intensity increases, followed by the emergence of new insects. Their observation aligns with studies showing that applying pesticides to eliminate pests leads to the emergence of new pests and the extinction of their natural predators. The new pests may appear soon after applying pesticides, at the end of the planting season, or in the following year. Its outbreak can be more harmful than the initial pest.⁴¹ To handle pests, informants apply various methods, including applying natural pesticides, prayer, and synchronous or rotation planting.

All informants produce natural pesticides to manipulate pests' life cycles or expel them from their fields. "It will not kill them," says Margareta. The principle of kinship and not killing are compatible. Margareta says, "We are all brothers and sisters, so we have to live side by side and care for each other, not to kill or be killed..." The informants acknowledge that they cannot create life; therefore, they do not have the right to kill. They believe each creature serves a purpose in the ecosystem, and their extinction results in an ecological imbalance. Martana, an informant from Purworejo, explained that the extinction of fireflies due to chemical insecticides has resulted in the loss of a valuable ally. Fireflies consume flies and mites, helping to control the pest population. When addressing crop failures, informants do not attribute it solely to pests. Various factors, such as droughts, floods, wind, and weather, can also contribute to losses. As farming involves many uncontrollable factors, Sutomo believes farming's safety depends not solely on human effort.

⁴¹ Retno Adriyani, "Usaha Pengendalian Pencemaran Lingkungan Akibat Penggunaan Pestisida Pertanian," *Jurnal Kesehatan Lingkungan* VOL. 3, no. 7 (2006): 95–106.p. 98.

When he observes the pests' presence, "I walk around the fields saying the rosary, asking God to protect the paddy", he says. Informants from Kulon Progo use different strategies to handle pests, such as planting corn, sweet potatoes, and peanuts around their fields to feed rats, and synchronous planting and rotation. Synchronous planting and rotation successfully disrupt the pest's life cycle.

Organic agriculture reflects the harmonious relationship between informants and nature. It embodies, for example, in prayers and offerings. Both play a role in informants' agriculture, from preparation to harvesting. The informants embrace seeds as the beginning of life. They pray over the seeds before being seeded. Occasionally, they bring the seeds to the Church to be blessed by a priest, and other times, they pray individually at their houses. Some informants sprinkle holy water they obtain from the Church. They will not consume the seeds even if they face famine because eating the source of life is taboo. They pray over paddy whenever they go to the fields and talk to them like humans.

Before harvesting, informants from DIY and Central Java perform a *wiwitan*, an offering materialized in rice, vegetables, eggs, incense, and flowers. Occasionally, they add chicken. They pray over the offering and put it in several places in their rice fields. Following the *wiwitan*, they select some stalks and bring them home, symbolizing the carrying home of Dewi Sri, the rice goddess. Informants from NTT do not perform ancestral rituals but begin the harvest with prayer. A mother of one informant offers native chicken eggs and betel nuts to thank ancestral spirits who help to secure the field.

Javanese farmers, according to Subroto,⁴² perceive rice as the reincarnation of the Goddess Sri and water as the reincarnation of the

⁴² Ph Subroto, *Sistem Pertanian Tradisional Masyarakat Jawa Tinjauan Secara Arkeologis Dan Etnografis*, 1st ed. (Departemen Pendidikan dan Kebudayaan Direktorat Jendral Kebudayaan Proyek Penelitian dan Pengkajian Kebudayaan Nusantara (Javanologi), 1985).p. 76-77

God Vishnu. The seed takes on new life when it is buried and meets water. The encounter brings about rebirth, and thus, agriculture is seen as a continual cycle of death and rebirth. This perspective encourages farmers to respect seed, earth, and water. Subroto contends that agricultural practices and rituals reflect farmers' deep relationship and reliance on the land. The relationship fosters a sense of responsibility for the environment, leading to virtues of care and gratitude.

The informants observe that most of their fellow farmers have stopped performing the agricultural ritual. One of Martana's neighbours admitted that such a ritual is considered heretic. However, Martana disputes that these practices had been passed down for generations long before people embraced Christianity or other world religions. Martana says practicing rituals is to thank God and nature and preserve tradition. Ammerman⁴³ admits that world religions and traditions sometimes are in tension. World religions claim to be valid sources of teachings and often marginalize cultural and spiritual expressions as irrational and superstitious. Ammerman argues that culture plays a crucial role in shaping religious practices. Therefore, allowing adherents to articulate their faith in their cultural context is reasonable. She adds that when people view rituals and traditions as having spiritual significance and use them to relate to the sacred, they engage with religion.

God's Salvation Begins at the Table

According to Sutomo, good health is linked to healthy food and is a sign of God's salvation. "God's salvation begins at the table," he says. Sutomo contends that healthy individuals can fulfill their societal roles joyfully, thereby embodying and promoting hope and optimism. Sutomo

⁴³ Ammerman, *Sacred Stories, Spiritual Tribes: Finding Religion in Everyday Life*. p. 191

sees that producing, selling, serving, and consuming healthy food are salving acts because they promote health. Food, health, and salvation is religion's concern. Fernandez⁴⁴ points out Ayurveda as an example. From an Ayurvedic perspective, the path to salvation lies in practicing healthy living, which involves consuming nourishing food. Food defines all aspects of human life, including mental and physical health. Learning from the Ayurvedic perspective, Fernandez states that "A healthy body will practice and preach healthy thoughts, which in turn will reform the soul and thus will help reach salvation."

Health is a significant factor for informants to embrace organic agriculture. They recognize that some neighbours are sick or die at a younger age due to cancer, diabetes, kidney problems, and stroke. Christin, an informant from Kulonprogo DIY, shares that after more than a year of unsuccessful medication, her doctor prescribed her organic foods, which restored her health. "Healthy food is a medicine," she said. Due to health concerns, informants also grow organic vegetables alongside rice. All informants consider themselves healthy. They rarely see doctors or take medications. They claim that a healthy body increases immunity, helping to fight viruses and bacteria that cause illness. As nutritious food is vital to maintaining health, it implies that health is connected to agriculture. Regarding body and environment, Sutomo says that his body is not separate from the environment but a part of it. He argues that consuming contaminated food is equal to polluting the environment. His perspective contrasts with modern philosophy, which views humans as distinct from nature.⁴⁵

⁴⁴ Lawrence Fernandez, "Philosophy, Religion and Dietary Practices," *Jeevadhara* XLVVV, no. 283 (2018): 26–36.p.33

⁴⁵ Shiva, *Staying Alive: Women, Ecology, and Development*.p. 39

According to McGuire,⁴⁶ separation is also evident in how humans perceive health and religion. Religion concerns physical, psychological, and spiritual health, but modern mentality separates health from religion and materiality from spirituality. Modern people tend to associate religion with the mind and spirit, neglecting the significance of the body. McGuire argues that, in reality, the body is an essential dimension of religion, especially regarding health, birth, and death. The body makes faith humanly expressed and experienced. Ragamalika⁴⁷ also argues that religious dietary rules in Bhagavad Gita reflect religion's embodiment in the physical dimension. The Bhagavad Gita emphasizes that the food one consumes significantly impacts one's physical, psychological, and spiritual well-being. Food affects health and vitality, influences emotions, and shapes faith.

From the perspective of the theology of food, Montoya⁴⁸ explains that "...eating not only brings about physiological or biological change; it is also a means of psychological, affective, and even spiritual transformation." He asserts that humans can experience religious experiences on a physical level, such as through the sense of taste. Food serves as a vessel to experience God, exemplified in Psalm 134: "Taste and see how good the Lord is." The passage highlights God's palatability for human tongues. Wirzba⁴⁹ adds that food is the most intimate instrument for Christians to materialize their faith, as demonstrated in the Eucharist. In the Eucharist, God dissolves God's self into food and drink to nourish all creatures. The Eucharist represents God's kindness, modesty, and

⁴⁶ McGuire, *Lived Religion: Faith and Practice in Everyday Life*. p. 97,118-120

⁴⁷ Annam Ragamalika, "Reading Mrs LC's Table: Stories about Kasasth Food and Culture as a Micro Narrative," *Jeevadhara* XLVIII, no. 28337-48 (2018).p.45

⁴⁸ Angel F. Mendez Montoya, *Theology of Food: Eating and the Eucharist* (A John Wiley & Sons, Ltd., 2009). Kindle, p.1, 68

⁴⁹ Norman Wirzba, *The Paradise of God: Renewing Religion in an Ecological Age* (New York: Oxford University Press, 2003), <https://doi.org/10.1093/0195157168.001.0001>. p. 13

selflessness. It is humans' vocation to acknowledge and testify to God's intention.

Food can become an entry point to develop a spiritual food culture against modern food culture that degenerates food as mere fuel for energy supply. To achieve those ideals, McGann⁵⁰ suggests that religions and traditions that treasure eating, food sharing, hospitality, and caring rituals are crucial to this process.

Converting a Curse to a Blessing

Sutomo links his decision to convert to organic farming with salvation (keselamatan). "God has saved me; then I want to participate in God's salvation work. As a farmer, the way is through agriculture." He was struck by Rev. Fr. Utomo's statement, "Chemical inputs make agriculture no longer a blessing but a curse for the environment." Chemical fertilizers degrade the soil, and pesticides kill the living beings. Sutomo converted to organic agriculture because it "cares, does not cause diseases, and promotes justice." Justice for humans and non-humans is a prominent reason Sutomo and other informants shift to organic agriculture.

All of informants began by revitalizing the soil. The SPTN informed them that soil is not just a medium for planting; instead, it defines the plants. They sacrificed time, money, labour, and productivity to heal the soil. In addition to revitalizing the soil, the informants learned to make natural fertilizers, pesticides, and seeding through trial and error. The neighbours weighed the challenges with a doubt that farming would only be successful with chemical inputs. Some mocked them as crazy people because they chose inconvenient farming.

⁵⁰ Mary E McGann, *The Meal That Reconnects Eucharistic Eating and the Global Food Crisis*, 1st ed. (Liturgical Press Academic, 2020).preface, p. x-xi

Convenience tempted many organic farmers to return to conventional farming. Some informants are the only remaining members of their initial groups. Martana's experience described here reflects that of other informants. In 1998, in Purworejo District, where Martana lives, a farmers' group consisting of 26 persons began to apply organic farming. Over the years, they returned to conventional agriculture because of impatience in learning, costly, intensive labour, and decreasing yield. Martana is the only one left of the groups.

Regarding the yields, except for Sutomo, all informants experienced reduced yields in the first two years. Christin even did not harvest anything for five planting seasons. To respond to the neighbours' ridicule, she said, "... I don't give up... Neither do I feel disappointed. I keep learning, learning and learning..." Then, from the sixth planting season forward, her yield productivity levels with her neighbours. Sometimes, her productivity is higher.

Informants seek information on seedings, fertilizer and pesticide making, and marketing. They learn from various sources, such as fellow farmers, experts, books, and social media. They use natural materials found in their surroundings and develop their technique of making fertilizers, which results in variations of fertilizers and pesticides. They are receptive but selective to new technology. For example, they are open to new planting methods but careful in planting new rice varieties. When they agree to grow a new type of rice, they prefer seeds from other organic farmers than from penyuluh pertanian or stores. They acknowledge that rice has unique characteristics. For example, a type of rice that produces high yields in one area may not yield the same results when grown in other locations. Thompson⁵¹ argues that learning is necessary for farmers

⁵¹ Paul B Thompson, *The Agrarian Vision: Sustainability and Environmental Ethics* (Lexington, Kentucky: The University Press of Kentucky, 2010).p. 161

to cope with the changing nature. It calls farmers to "... constantly experimenting, constantly on the lookout for new approaches, new forms of feedback from nature". Learning fosters creativity, and Thompson considers creativity to be a farming virtue. Jackson⁵² adds that learning is an ongoing process that demands perseverance and patience.

Inspired by the Eucharist, Berry⁵³ contends that farming involves breaking the body and shedding the blood of Creation. Farming becomes a sacrament when it is done with knowledge, love, skill, and reverence. On the other hand, if done ignorantly, greedily, clumsily, and destructively, it becomes a desecration. Berry convinces that the Eucharist is a source of inspiration for farmers to transform their farming from desecration to sacrament. Desecration, for example, is revealed in violent acts such as forcing the land beyond its capacity. An example of violence to land is the government strategy, IPO 400, which aims to produce rice four times a year. The informants consider it unjust because it does not allow land and humans to have a break. The informants contend that land must rest for at least a month to allow it to recover.

In reflecting on agriculture's problems, Jackson⁵⁴ distinguishes problems in and of agriculture. The issues of topsoil, biodiversity, climate change, pest resistance, water pollution, low productivity, poverty, injustice, health-related food, and food security are examples of problems in agriculture. Jackson agrees that all are legitimate and need solutions. However, he argues that the main agricultural problem is a problem of agriculture, related to the absence of the moral and spiritual dimension of agriculture. Most agricultural initiatives deal with the problem in agriculture rather than the problem of agriculture. The

⁵² Wes Jackson, "The Agrarian Mind Mere Nostalgia or A Practical Necessity?," in *The Essential Agrarian Reader: The Future of Culture, Community, and the Land*, ed. Norman Wirzba (The University Press of Kentucky, 2003), 189–206.p.189

⁵³ Thomas Berry, *The Dream of The Earth (Vol.2)* (San Francisco: Sierra Club Books, 1988).p.11

⁵⁴ Wes Jackson, *Nature as Measure The Selected Essays of Wes Jackson* (Counterpoint, 2011).p.1-7

emphasis on profit in modern agriculture leads farmers to treat agriculture as an industry, ignoring agriculture's moral and spiritual aspects.

Conventional agriculture relies on technology and treats its factors, including living beings, as components, much like industrial practices. To respond to such a view, Schumacher⁵⁵ offers a different perspective, stating that agriculture fundamentally differs from industry. Agriculture works with living beings and adopts a worldview that all beings have innate value. On the other hand, industry focuses on non-living things and often disregards the value of living beings. Shiva⁵⁶ contends that industrialism is inherently violent. She points out that even the names of Monsanto's chemical products, like Roundup, Avenge, Prowl, Pentagon, and Machete, suggest a war-like attitude. Berry⁵⁷ adds that ignoring the innate value of living beings violates their fundamental rights to exist, habitat, and fulfil their purpose in the world.

When the root of agricultural problems is the problem of agriculture, that is, the absence of the sacred from agriculture, religion can contribute to solving the problem. Nasr⁵⁸ asserts that to enlighten modernity in its ways and find a holistic solution, humans need not more sophisticated technology but spirituality. Drawing inspiration from Nasr's insight, agricultural technology needs spirituality to achieve sustainable and just agriculture.

⁵⁵ EF Schumacher, *Small Is Beautiful A Study of Economics s If People Mattered*, Sixth (London: The Anchor Press Ltd, 1976).p.97-98, 101-103

⁵⁶ Vandana Shiva, "Globalization and The War Against Farmers and the Land," in *The Essential Agrarian Reader: The Future of Culture, Community, and the Land*, ed. Norman Wirzba (The University Press of Kentucky, 2003), 166-88.p. 167-168

⁵⁷ Thomas Berry, *The Sacred Universe: Earth, Spirituality, and Religion in the Twenty-First Century* (Columbia University Press, 2009).p. 133

⁵⁸ Seyyed Hossein Nasr, *Man and Nature: The Spiritual Crisis in Modern Man* (Harpercollins, 1990). p.5

The Intention is Land. Economic is the Effect

The informants share that converting to organic farming is to heal the land rather than make profits. They admit that starting organic farming requires patience and perseverance and is costly, with no assurance of a good yield. They argue that farmers who prioritize profits over the well-being of the land may lack the determination required for successful organic farming. Yet, when the land is healthy, economic profits naturally follow, evident in increased productivity, higher prices, and reduced input costs. For example, Martana's land produced 11 tons during the second planting season in 2022, higher than the national average of 8 tons. The informants sell organic rice locally without possessing a certification. They prioritize the quality of their produce and establish a personal connection with their customers. The taste, fragrance, and freshness of their rice confirm the quality of their product, and so far, they have not received customer complaints. The informants collaborate with customers to determine an appropriate price, unlike non-organic rice, where the government sets a fixed price range. This autonomy gives the informants a sense of freedom.

A study by Koesling et al.⁵⁹ in Norway shows that economic prospects, human and environmental health, and philosophical reason play an important role in farmers' decision to convert to organic farming. Koesling et.al categorize converters into two groups: pragmatic and committed converters. Pragmatic organic farmers switch to organic farming for economic reasons rather than health or ethical reasons. They prioritize financial goal by keeping agricultural expenses low. They also value the sense of independence. However, when profits are discontinued, they easily return to conventional farming. On the other

⁵⁹ Koesling, Flaten, and Lien, "Factors Influencing the Conversion to Organic Farming in Norway." p.48, 92-93

hand, committed organic farmers are rooted in the principles of organic farming: health, ecological balance, justice, and care. They prioritize philosophical beliefs over economic factors and are ready to take risks with their income. However, the willingness to risk some income does not imply that, in the long run, they do not expect a higher income. The committed organic farmers perceive organic farming as a social and political movement. Koesling et.al find that most of them are pioneers. Framing the practices of the informants from the Koesling's study, informants are considered committed organic farmers. They value economic profit, but it is not their primary priority.

Conventional farmers admire organic farming for its land quality, high productivity, and independence. Despite the benefits, they are not interested in adopting this method. Sutomo argues that many farmers today follow government instructions, wait for assistance, and are overly dependent on synthetic inputs. It results in a loss of independence and creativity. The informants have consistently promoted organic agriculture, even if only a few listens. Sutomo finds inspiration in John the Baptist, who tirelessly preached about God's salvation in the desert, even when few listened. To maintain their spirit, the informants firmly believe that organic farming carries justice for all..

CONCLUSION

The informants converted from conventional to organic agriculture for various reasons, such as improved agricultural knowledge, concerns for human and environmental health, a desire for independence, moral considerations, economic factors, and religious beliefs. However, religion's role in this transition is not always expressed in the ways commonly understood or anticipated. Ammerman's concept of everyday religion offers a framework for understanding how religion influences the informants. The framework consists of several categories, including faith

in God(s), a sense of interconnectedness, a sense of purpose, emotion, spiritual narrative, embodiment, and virtues. It's crucial to recognize that these components are interwoven and should not be considered in isolation.

In the early stages of their conversion, religion is present in a Catholic priest and his reflection on the creation story. The priest framed the environmental degradation within the creation story, raising understanding and emotion. The understanding and emotion, in turn, encourage informants to take responsibility for healing the environment. The sacred text emphasizes God as the creator of all things, resulting in a belief that every creature has a purposeful life and that all creatures are interconnected in kinship. Religion manifests in informants' belief in the sacredness of the Earth and seeds and ancestors' spirits as guardians of their agriculture. The belief leads the informants to perform offerings that involve material symbols. Another revelation of religion is virtues such as patience, perseverance, courage, sacrifice, creativity, and just. Lastly, religion is evident in their concern for health, viewed as a physical matter and a sign of God's salvation.

This research explores the theoretical interplay between agriculture, environment, and religion from a Catholic perspective. Further studies from the perspectives of other religious groups need to be developed, especially in transitioning towards more ecological-sustainable-agriculture practices.

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