

Agrikultural System In Jorong Koto Tinggi, Baso District, Agam Regency To Support The Achievement Of SDG 2 (Zero Hunger) From An Islamic Economic Perspective

Adisti Yolanda^{1*}, Dewi Manda Angraini², Tartila Devy³, Rahmi Isriani⁴

Universitas Islam Negeri Sjech M.Djamil Djambek Bukittinggi^{*1, 2, 3, 4}

^{*1}email: adistiyolanda217@gmail.com

²email: dewimandaangraini@uinbukittinggi.ac.id

³email: tartiladevy@uinbukittinggi.ac.id

⁴email: rahmiisriani@uinbukittinggi.ac.id

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Abstract: This study analyzes the agricultural system in Jorong Koto Tinggi, Baso District, Agam Regency, in relation to the achievement of Sustainable Development Goal (SDG) 2 “Zero Hunger” from the perspective of Islamic economics. Despite abundant natural resources, most farmers still rely on traditional methods with low productivity, constrained by limited capital, low adoption of technology, limited understanding of sustainable agriculture, as well as the impacts of climate change and commodity price fluctuations. This research employed a descriptive qualitative method through observation, in-depth interviews, and documentation, with data analyzed inductively using reduction, presentation, and conclusion drawing. The findings reveal that agricultural transformation is occurring gradually; some farmers have begun to adopt modern technologies such as hand tractors, rice transplanters, and mini combine harvesters that improve efficiency

Abstrak: Penelitian ini menganalisis sistem pertanian di Jorong Koto Tinggi, Kecamatan Baso, Kabupaten Agam dalam kaitannya dengan pencapaian Sustainable Development Goal (SDG) 2 “Tanpa Kelaparan” dalam perspektif ekonomi Islam. Meskipun memiliki potensi sumber daya alam yang melimpah, mayoritas petani masih mengandalkan metode tradisional dengan produktivitas rendah, ditambah kendala keterbatasan modal, rendahnya adopsi teknologi, minimnya pemahaman pertanian berkelanjutan, serta dampak perubahan iklim dan fluktuasi harga komoditas. Penelitian ini menggunakan metode kualitatif deskriptif dengan observasi, wawancara mendalam, dan dokumentasi, serta analisis data induktif melalui reduksi, penyajian, dan penarikan kesimpulan. Hasil penelitian menunjukkan bahwa transformasi pertanian berlangsung bertahap; sebagian petani mulai memanfaatkan teknologi modern seperti traktor tangan, rice transplanter, dan

and productivity, while the majority still depend on manual tools. The main obstacles include limited capital, lack of technical training, inadequate irrigation infrastructure, and resistance to change. From the perspective of Islamic economics, agricultural management should be based on the principles of sustainability (istidamah), public interest (maslahah), and distributive justice to achieve societal welfare (falah).

Keywords: Sustainable Agriculture; SDG 2; Islamic economics.

mesin panen mini combine yang mampu meningkatkan efisiensi dan produktivitas, sementara sebagian besar lainnya masih bergantung pada peralatan manual. Hambatan utama dalam proses transformasi meliputi keterbatasan modal, kurangnya pelatihan teknis, infrastruktur irigasi yang belum optimal, dan resistensi terhadap perubahan. Dalam perspektif ekonomi Islam, pengelolaan pertanian idealnya berlandaskan prinsip keberlanjutan (istidamah), kemaslahatan (maslahah), dan keadilan distribusi guna mewujudkan kesejahteraan (falah).

Kata Kunci: Pertanian Berkelanjutan; SDG 2; Ekonomi Islam.

A. Introduction

The agricultural sector plays a vital role in supporting the national economy, especially in providing food supplies and absorbing labor in Indonesia. Historically, during the 1998 economic crisis, this sector proved to be the main pillar capable of absorbing workers affected by massive layoffs in the industrial sector (Rini Dwiastuti, 2017). As an agrarian country, the sustainability of an efficient agricultural system becomes the main foundation of national food security.

However, to this day, the majority of Indonesian farmers still rely on traditional farming systems with low productivity. Issues such as limited capital, low technology adoption, and lack of knowledge about sustainable agriculture remain major obstacles (Abdurrozzaq Hasibuan et al., 2022). Meanwhile, the modernization of agricultural tools such as tractors and harvesters has been proven to increase efficiency and yield (Bahrul Ulum Rusdi & Muh. Rusli, 2022). Therefore, the implementation of appropriate technology and environmentally friendly approaches is highly needed to support

national food security in line with Sustainable Development Goals (SDGs) Goal 2: Zero Hunger.

From an Islamic economic perspective, agricultural activities are not only oriented towards economic profit but must also consider the values of sustainability (*istidamah*), public welfare (*maslahah*), and distributive justice. This is reflected in the Qur'an (Q.S. Al-Mulk: 15), which commands humans to wisely utilize the earth and be responsible for natural resources as a trust from Allah SWT. These principles align with the ultimate goal of Islamic economics, which is achieving overall prosperity (*falah*) for all members of society.

Jorong Koto Tinggi in Baso District, Agam Regency, is one of the regions with significant agricultural potential. Supported by fertile soil and adequate water resources, this area should ideally serve as a model for implementing a sustainable agricultural system. However, reality shows that most farmers in this region still use traditional methods with fluctuating harvests ranging from 10 to 45 sacks per season, depending on climate conditions and irrigation systems (Author's Field Observation, 2024). Additionally, limited capital and lack of technical training result in low adoption rates of modern technology (Axellina Muara Setyanti, 2021).

These conditions indicate a gap between potential and reality on the ground. Therefore, this study aims to examine how the agricultural system in Jorong Koto Tinggi can be managed to support the achievement of SDG 2 (Zero Hunger) from the perspective of Islamic economics. This approach is expected to contribute to strengthening an agricultural system that is not only economically productive but also socially and environmentally just and sustainable.

B. Research Methods

This study employs a descriptive qualitative approach aimed at providing an in-depth portrayal of the agricultural system in Jorong Koto Tinggi, Baso District, Agam Regency, in efforts to support the achievement of Sustainable Development Goals

(SDG) 2, which is Zero Hunger, from the perspective of Islamic economics. This approach was chosen because it can explain the social, economic, and religious phenomena related to the agricultural system contextually through data obtained directly from the field. The research was conducted in Jorong Koto Tinggi, an area with considerable agricultural potential but where most of the community still applies traditional farming systems. The study was carried out from October 2024 to January 2025. The data sources used consisted of primary and secondary data. Primary data were obtained through in-depth interviews with farmers, local leaders (jorong officials), and community figures, while secondary data were collected from books, scientific journals, government documents, and previous research relevant to sustainable agriculture and Islamic economics. Informants were selected using purposive sampling, which involves choosing respondents based on specific considerations deemed most knowledgeable and understanding of the issues being studied. Data collection was carried out through interviews, direct observation of agricultural activities, and documentation such as notes, photographs, and archives that support the research. The data obtained were analyzed using the interactive analysis model by Miles and Huberman, which includes three stages: data reduction, data display, and conclusion drawing. To maintain the validity of the research findings, source and method triangulation were conducted by comparing data from various data collection techniques to ensure the analysis results are more valid, in-depth, and scientifically accountable.

C. Results and Discussion

The research findings in Jorong Koto Tinggi, Baso District, Agam Regency show that the majority of farmers still use traditional farming systems with simple tools such as hoes, sickles, and animal-drawn plows. This pattern results in relatively low productivity, with harvest yields ranging from 10 to 45 sacks per season depending on the size of the land and irrigation conditions. A small number of farmers have begun to adopt modern agricultural technologies such as hand tractors, rice transplanters, and

mini combine harvesters, which have proven to increase work efficiency, accelerate planting and harvesting processes, and produce higher productivity compared to manual methods. Nevertheless, the agricultural transformation in this area proceeds slowly due to limited capital, lack of technical training, inadequate irrigation infrastructure, and resistance to changing traditional methods.

These findings reveal a gap between the abundant natural resource potential and the actual agricultural output in the field. From the perspective of SDG 2, “Zero Hunger,” the agricultural conditions in Jorong Koto Tinggi still face challenges in supporting equitable and sustainable food security. This aligns with previous studies emphasizing the importance of mechanization and digitalization in agriculture to enhance efficiency and productivity, while also highlighting structural barriers that limit farmers’ access to modern technology.

From the perspective of Islamic economics, these findings reinforce that agricultural management should not only focus on increasing productivity but also consider the principles of sustainability (*istidamah*), public benefit (*maslahah*), and distributive justice (*adl*). Agriculture managed according to these values is believed to achieve prosperity (*falah*) for the community. Therefore, the transformation of agriculture in Jorong Koto Tinggi requires not only government policy support in terms of access to capital, training, and infrastructure development but also farmer awareness to integrate modern agricultural practices with Islamic values as a foundation for ethics and justice. This integration has the potential to foster a more productive, just, and sustainable agricultural system, thereby contributing to the achievement of SDG 2, “Zero Hunger.”

D. Conclusion

This study shows that the agricultural system in Jorong Koto Tinggi is still dominated by traditional practices with low productivity, although some farmers have begun adopting modern technologies such as hand tractors, rice transplanters, and mini

combine harvesters that can improve efficiency and crop yields. The agricultural transformation is slow due to limited capital, lack of technical training, inadequate irrigation infrastructure, and resistance to change. In the context of SDG 2 “Zero Hunger,” this condition reflects the suboptimal utilization of natural resource potential to support sustainable food security. Meanwhile, from the perspective of Islamic economics, agricultural management should be based on the principles of *istidamah* (sustainability), *maslahah* (public benefit), and *adl* (justice) in order to achieve prosperity (*falah*) for the community.

E. Bibliography

- Adinugraha, H. H. (2022). Dampak Alat Modern Padi Terhadap Kesejahteraan Masyarakat Di Kabupaten Batang. *Jurnal Riset Inovasi dan teknologi Kabutapen Batang* , 52-61.
- Arwani, A. (2019). Epistonologi Hukum Ekonomi Islam(Muamalah). *Religia* , 128.
- astuti, R. D. (2017). Metode Penelitian Sosial Ekonomi pertanian. Malang: UB Press.
- Buana, A. A. (2024). Dampak modernisasi terhadap sistem sosial budaya masyarakat Tani. *Jurnal riset ilmu Taknik* , 9488-9495.
- Dita, L. A., & Dkk. (2024). Rekayasa Mikrobioma Rizosfer untuk meningkatkan kesehatan Tanah dan produktivitas Tanaman Pangan Dalam Mendukubf Pertanian Berkelanjutan . *Jurnal Ilmu Budidaya tanaman* , 104-111.
- Hasibuan, A., & Dkk. (2022). Strategi Peningkatansaha Tani Padi Sawah Untuk Meningkatkan Perekonomian Masyarakat Desa . *Jurnal Pengabdian Masyarakat Bidang Sains dan Teknologi* , 477-490.
- Ismail, R., & Dkk. (2024). Sejarah perkembangan dan Revolusi Pertanian dalam Tamadun Islam Serta kaitanya dengan Zaman Modern. *Jurnal Tamaddun* , 215-234.
- kusmiadi, E. (2014). Pengertian dan Sejarah Perkembangan Pertanian. Jakarta: Raja Grafino.

- Muhammad, M., & Dkk. (1-20). Kearifan Lokal Petani padi sawah di Lembah Asri Kecamatan Weda Selatan Kabupaten Halmahera Tengah. *Jurnal Social And Culture* , 2022.
- Noviantoro, K. M., & Dkk. (2024). Company Effect"PT Semen Imasco Asiati" Terhadap Perekonomian Masyarakat Puger Kabupaten Jember. *Majalah Pembelajaran Geografi* , 18-25.
- Panunggul, V. B., & Dkk. (2023). *Pengantar Ilmu Pertanian*. Bandung: WIDINA MEDIA UTAMA.
- Pogage, S. G., & Dkk. (2021). Anaisis pengaruh Produktivitas Pertanaian dan Pendidikan terhadap pendapatan rumah tangga di Kabupaten Minahasa tenggara . *Jurnl Pembangunan Ekonomi dan Keuangan Daerah* , 54-70.
- Puspitasari, R. D. (2019). Pertanian berkelanjutan berbasis Revolusi Industri 4.0. *Jurnal Layanan Masyarakat Universitas Airlangga* , 26-28.
- Rasyid, M. H. (2022). Prinsip Keadilan dan Penerapanya. *Jurnal ekonomi Islam* , 92-102.
- Riyadi, S. (2024, Oktober 21). *Desa Dabolon*. Retrieved Januari 12, 2025, from Transformasi pertanian Tradisional Menuju Modern.
- Shodi, W. M. (2022). Model CPRV (Cost, Produktivity,Risk dan Value Added) dalam upaya Meningkatkan pendapatan Petani Indonesia. *Jurnal Hexagro* , 115- 127.
- Wattie, G. G., & Sukendah. (2023). Peran Penting Agroforestri sebagai sistem pertanian berkelanjutan. *jurnal ilmu pertanian dan perkebunan* , 30-38.
- Wijayanto, B., & Dkk. (2024). Optimalisasi Mekanisasi Pertanian Untuk Meningkatkan Efesiensi Dan Produktivitas Pertanian Indonesia . *Jurnal Penelitian Terapan Asia Untuk Pengembangan dan Pemberdayaan Masyarakat* , 209-217.
- Zakky, M., & Dkk. (2021). Untuk Kerja Pemanen padi (Oryza Sativa) kombinasi mini (mini combine harvester) perfomance of mini combine paddy harvester. *jurnal teknik pertanian lampung* , 303-308.
- Zaman, N. (2012). *Manajemen Usaha Tani*. Sumatera Barat: Yayasan Kita Menulis.