

ALTERING THE FUNCTION OF PADDY FIELDS TOWARD IRRIGATION NETWORKS IN PIDIE DISTRICT: A Study of Pidie Qanun No. 3 of 2023 and *Al-Milkiyyah* Theory

Jihan Friska Revi

Universitas Islam Negeri Ar-Raniry Banda Aceh, Indonesia

Email: jihanfriska96@gmail.com

Abstract

The conversion of paddy fields, especially in technically irrigated areas, is a critical issue in the Pidie District, Aceh Province. The Pidie District Government is addressing this challenge through the enactment of Qanun No. 3 of 2023, which aims to limit the conversion of paddy fields to preserve land for agricultural purposes. The purpose of this study is to assess the application of the Qanun from the perspective of Islamic law through the concept of *al-milkiyyah*. The research was conducted with a juridical-sociological approach, using a descriptive qualitative method. The data in this study were obtained from interviews with the Agriculture Office, as well as a documentation review of related regulations and Islamic law literature. The results show that although Qanun No. 3 of 2023 strictly prohibits the conversion of paddy fields in technical irrigation areas, its implementation still faces obstacles due to a lack of socialisation and law enforcement. The perspective of Islamic law emphasises the importance of land management, adhering to the principle of people's *maslahat*, which ensures that restrictions on land conversion align with Sharia values. This research concludes that restrictions on land use change not only preserve the sustainability of agricultural land but also fulfil the objectives of Sharia in maintaining community welfare.

Keywords: *Al-Milkiyyah*, Land Use Change, Technical Irrigation Network, and Qanun,

Abstrak

Konversi sawah, terutama di daerah yang dilengkapi irigasi teknis, merupakan masalah kritis di Kabupaten Pidie, Provinsi Aceh. Pemerintah Kabupaten Pidie menanggapi tantangan ini melalui penerbitan Qanun No. 3 Tahun 2023, yang bertujuan untuk membatasi konversi sawah guna menjaga lahan untuk keperluan pertanian. Tujuan penelitian ini adalah untuk mengevaluasi penerapan Qanun tersebut dari perspektif hukum Islam melalui konsep al-milkiyyah. Penelitian ini dilakukan dengan pendekatan yuridis-sosiologis, menggunakan metode kualitatif deskriptif. Data dalam penelitian ini diperoleh melalui wawancara dengan Dinas Pertanian, serta tinjauan dokumen peraturan terkait dan literatur hukum Islam. Hasil penelitian menunjukkan bahwa meskipun Qanun No. 3 Tahun 2023 secara ketat melarang konversi sawah di daerah irigasi teknis, implementasinya masih menghadapi hambatan akibat kurangnya sosialisasi dan penegakan hukum. Perspektif hukum Islam menekankan pentingnya pengelolaan tanah, dengan mematuhi prinsip maslahat masyarakat, yang memastikan bahwa pembatasan konversi tanah selaras dengan nilai-nilai Syariah. Penelitian ini menyimpulkan bahwa pembatasan perubahan penggunaan tanah tidak hanya menjaga keberlanjutan lahan pertanian tetapi juga memenuhi tujuan Syariah dalam menjaga kesejahteraan masyarakat.

Kata kunci: Perubahan Penggunaan Tanah, Jaringan Irigasi Teknis, Qanun, Al-Milkiyyah.

INTRODUCTION

The main factor in the empowerment of an agricultural society is the availability of land, especially agricultural land. However, along with the development and growth of the population, the land function changes from agriculture to housing.¹ In addition, changes in agricultural land are also influenced by a decline in income, so that the impact of land management is not functioning productively. Then, land use change is also influenced by the need for physical development, such as the construction of arterial roads and other public facilities, including markets, terminals, and offices.²

The conversion of rice fields not only affects the owner but also has a wide-ranging impact on all levels of society. Government regulations must safeguard efforts to control land conversion and protect productive

¹ Anne Casson et al., *Large-Scale Plantations, Bioenergy Developments and Land Use Change in Indonesia* (CIFOR, 2014).

² Chairul Fahmi, "THE DUTCH COLONIAL ECONOMIC'S POLICY ON NATIVES LAND PROPERTY OF INDONESIA," *PETITA: JURNAL KAJIAN ILMU HUKUM DAN SYARIAH* 5, no. 2 (2020), <https://doi.org/10.22373/petita.v5i2.99>.

agricultural land through the law. Still, in practice, it was found that the application of the law in regulating the conversion of agricultural land was not practical. Existing agricultural land continues to be converted into housing, shops, buildings, and offices, among other uses.

Irrigation is an action aimed at conserving water, regulating its discharge, and controlling water flow to support agriculture. The types of irrigation include swamp irrigation, surface irrigation, pump irrigation, underground water irrigation, and pond irrigation.³ It is also a key factor in rice productivity in rice fields, where irrigation serves as a primary source of water for growing rice. As a result, the success of rice paddies is significantly influenced by the availability of water for irrigation. The role of irrigation is to increase the productivity of rice fields, enhance soil management, and ensure a stable water supply.⁴

The primary interest (irrigated land) has now become a place of residence for residents, not only as a place to live, but can also be established as irrigated land. Changes from agricultural land are also often used as an alternative to provide space for other sectors; industrial development and housing are not uncommon at the expense of agricultural land. On the other hand, land use change is not always a bad thing; with the existence of change or a change in function, people can create new livelihoods, such as shops that can be used for trading and the like, which in turn open up new opportunities. At this time, farmers began to notice that the water flowing in their rice fields was minimal, particularly in the Pidie area, where agriculture is a predominant activity.⁵

Rules governing the use of irrigation in Indonesia encompass several aspects related to the management and utilisation of irrigation. Here are some of the rules, among others, including Government Regulation No. 77 of 2001, which stipulates that the use of irrigation must be carried out effectively and efficiently to maintain its function and ensure it remains operational correctly. Then, the Regulation of the Minister of Public Works and Public Housing

³ Priyonugroho, Anton. "Analysis of irrigation water demand" (case study on irrigation area of keban water river in four lawang district). Diss. Sriwijaya University, 2014.

⁴ Faisal Fauzan and Ariq Azzaki, "ANALYSIS OF PAMSIMAS REVENUE FROM CLEAN WATER MANAGEMENT IN THE PERSPECTIVE OF MILK AD-DAULAH: : A Study in Abdy District, Indonesia," *JURISTA: Jurnal Hukum Dan Keadilan* 6, no. 2 (2022): 2, Asia, Europe, Middle East, Indonesia, Malaysia, <https://doi.org/10.1234/jurista.v6i2.31>.

⁵ Ria Achmadiyah, "Transaksi Rekayasa Pajak Pada Transfer Pricing Menurut Hukum Islam," *Maliyah* 03, no. 02 (2013).

Number 14 of 2015 related to increasing the role of the Minister of Public Works and Public Housing in the management of irrigation systems. Furthermore, the Minister of Public Works and Housing Regulation Number 12 of 2015 states that the use of irrigation water must be carried out by dividing, providing, and using irrigation effectively and efficiently, while maintaining the function of the irrigation network. Law Number 17 of 2019 stipulates that the management of water resources, including irrigation, must be conducted in consideration of the interconnectedness of watersheds and regional functions, and that standard procedures and criteria for irrigation management must be established.⁶

In the overall regulation, the use of irrigation in Indonesia must be carried out effectively and efficiently, and the function of the irrigation network must be maintained to ensure it continues to function correctly. The rules also emphasise the importance of considering watershed linkages and regional functions in water resources management, including irrigation use.⁷

The regulation of irrigation use in Indonesia has been regulated through several Government Regulations and Laws. Here are some examples of rules related to the use of irrigation. Government Regulation No. 20/2006, related to irrigation, states that the use of water flow from irrigation refers to the use of water from tertiary plots for irrigating agricultural land when necessary. Regulation of the Minister of Public Works and Public Housing Number 14, Regulation of the Minister of Agriculture /OT.140/12/2012, regarding Guidance and Empowerment of Water User Farmer Associations, stipulates that irrigation arrangements include the division, provision, and use of irrigation water, as well as the allocation of irrigation for agricultural purposes. Law No. 7/2004 on Water Resources regulates various matters concerning the management of water resources, including the development and management of irrigation systems. Government Regulation No. 42/2008 on Water Resources Management states that water resources management includes the

⁶ Muhamad Azhar, "Omnibus Law sebagai Solusi Hiperregulasi Menuju Sonkronisasi Peraturan Per-Undang-undangan di Indonesia," *Administrative Law and Governance Journal* 2, no. 1 (2019): 170-78, <https://doi.org/10.14710/ihis.v%vi%i.6671>.

⁷ Dinas Pertanahan Aceh, "TIM KOORDINASI PENYELESAIAN SENGKETA DAN KONFLIK PERTANAHAN ACEH FASILITASI PENYELESAIAN PERMASALAHAN HAK GUNA USAHA DI KABUPATEN KOTA," 2021, <https://pertanahan.acehprov.go.id/berita/kategori/pertanahan/tim-koordinasi-penyelesaian-sengketa-dan-konflik-pertanahan-aceh-fasilitasi-penyelesaian-permasalahan-hak-guna-usaha-di-kabupaten-kota>.

development and management of irrigation systems, as well as the supervision and management of irrigation water. Regulation of the Minister of Public Works No. 08/PRT/M/2010 on the Organisation and Administration of the Ministry of Public Works stipulates that the use of irrigation water must be carried out effectively and efficiently, and take into account the public interest and the environment. In several regulations, the use of irrigation is stated as an essential activity to support agriculture. It must be carried out effectively and efficiently, taking into account both public interest and environmental considerations.⁸

Regulations governing land for irrigation in Indonesia are outlined in several rules, including Government Regulation No. 20/2006 on Irrigation and the Minister of Public Works and Housing Regulation on the Establishment of Irrigation Network Boundary Lines. Here are some essential points related to land for irrigation. Irrigation is a method of balancing and regulating water to support the agricultural sector, which encompasses various types, including swamp irrigation, surface irrigation, pump irrigation, and underground water irrigation. The irrigation system provides irrigation infrastructure, irrigation institutions, management, and human resources. An irrigation area is land that receives clean water from a network used for irrigation. An irrigation network is a canal that is used to provide part of the irrigation water. This provision emphasises that irrigation operations are carried out effectively and efficiently to increase agricultural productivity.

In this case, land conversion has become a necessity for the community to convert rice fields into new residential areas that are in higher demand among urban residents. In this case, landowners have the priority to change their land area to one with a different function than rice fields. A process of land change from a specific form of use to another, such as a change from undeveloped to built-up land.⁹

The socialisation carried out by the Pidie District Government to prevent land use change in technical irrigation networks involves stipulating that each sub-district has BTP (Biodiversity and Traditional Plant) from the agency. However, the Pidie District Government has made a prohibition.

⁸ Imaduddin Murdifin et al., "Environmental Disclosure as Corporate Social Responsibility: Evidence from the Biggest Nickel Mining in Indonesia," *International Journal of Energy Economics and Policy* 9, no. 1 (2019), <https://doi.org/10.32479/ijeep.7048>.

⁹ Alamsyar, Al. "The impact of conversion of paddy field function on food security in Sigi Regency." *Agrotekbis: Journal of Agricultural Sciences* (e-journal) 10.1 (2022): pp 176-185.

However, some people still violate the rules by building structures such as kiosks close to irrigation channels.¹⁰

Efforts made by the Pidie District Government to ensure the technical irrigation network functions optimally include directing the community to participate in gotong royong when they plan to plant rice again. At the same time, the general government conducts operational maintenance (OP). Agriculture has no authority because the construction of irrigation networks will affect the community. The community takes care of its land, allowing all rice fields to be managed optimally.

The Agriculture Office ensures that every land irrigated by the irrigation network is not changed to land use by the owner, under Qanun Number 3 of 2023 concerning Protection of Sustainable Food Agricultural Land from any socialisation that the Pidie District Government has set, the community still does not comply with the rules that have been set.

Table 1: Land use change in 2022-2023

No.	Name of Region	Technical Irrigation Area	Rice field area changes function
1.	Kembang tanjung	989.87 hectares	1 hectare
2.	Mila	932.59 hectares	2 hectares
3.	Glumpang Baro	890.29 hectares	3 hectares
4.	Glumpang Tiga	1,318.17 hectares	25 hectares
8.	Keumala	1,337.07 hectares	1 hectare
9.	Pidie	1,056.59 hectares	1 hectare
12.	Bate	634.28 hectares	4 hectares
13.	Grong- Grong	292.88 hectares	2 hectares
14.	Padang Tiji	2,141.48 hectares	27 hectares
15.	Sakti	1,915.17 hectares	1 hectare

Data Source: Data Updating of Paddy Field Area, Pidie Regency, Year 2023.

Based on the data in the table above, land use change in Pidie Regency, particularly in rice fields, continues to occur, especially in technical irrigation areas, which will reduce the productive rice fields. The Pidie District Government must be swift to deal with this problem because it will result in the reduction of rice fields, which are the mainstay of the Acehnese people, to

¹⁰ Interview with Ikhsan, SP Sub Coordinator of Irrigation and Agricultural Land at the pidie agriculture office

fulfil the need for rice as the staple food of the community.¹¹

Pidie has a significant dependence on rice fields, because this chain provides the availability of rice as well as a vast number of jobs that absorb labour, both in the agricultural network, such as sharecroppers, farm labourers, to the next cycle, namely the rice processing industry which provides a lot of labour in the *rice milling* sector, both *rice milling* factories to rice machines.¹²

The Pidie Agriculture Office has imposed a ban on land conversion in the Keumala area; however, many people continue to violate the established rules. This data shows that, although Pidie is not an urban area, land use change still occurs, which can lead to a reduction in the number of productive rice fields, despite the government's efforts to build technical irrigation facilities. Directly, these changes will result in counterproductive action because they are not in line with the provisions and government policies that aim to maintain a high level of effectiveness in the use of community rice fields. If the Pidie agriculture office cannot stem this change in the function of rice fields, it will have a negative impact. Then the dilemma of unemployment, food shortages, and poverty cannot be resolved.¹³

Based on the above explanation, agricultural businesses are still highly needed in Aceh, especially in Pidie District, which is renowned for its fertile land and excellent technical irrigation infrastructure. The conversion of paddy fields in Pidie District will threaten many sectors, particularly the technical irrigation network in this district, which has been built by the government. This study is needed to further analyse the reality of land use change, as the author has formatted the title: Pidie District Government Regulation on Restrictions on the Change of Function of Rice Fields on Technical Networks in Pidie District, according to Pidie Qanun No. 2 of 2023 and Al-Milkiyyah.

¹¹ Chairul Fahmi, *Hukum dan Fenomena Sosial* (Aceh Justice Resource Centre, 2015), Banda Aceh, //ruangbaca-fsh.ar-raniry.ac.id%2Findex.php%3Fp%3Dshow_detail%26id%3D3123%26keywords%3D.

¹² Interview with Ikhsan, SP Sub Coordinator of Irrigation and Agricultural Land at the pidie agriculture office / on 13 may 2024

¹³ Juhri Kurniawan, *SISTEM PEMBIAYAAN ULANG (REFINANCING) SYARIAH PADA LEMBAGA PEMBIAYAAN PASCA BERLAKUNYA QANUN ACEH NOMOR 11 TAHUN 2018 BERDASARKAN AKAD BAI' WA AL-ISTI'JAR* (Suatu Penelitian Pada Adira Finance Syariah Blang Pidie), 2022.

RESEARCH METHODS

This study employs a sociological-legal methodology that integrates the examination of relevant legal norms with the prevailing social context. This methodology was selected to analyse the execution of Pidie Regency Regulation No. 2 of 2023 regarding the Protection of Sustainable Agricultural Land, specifically in restricting alterations in the function of rice fields within technical irrigation systems, and correlating it with the principle of *al-milkiyyah* in Islamic jurisprudence. The research employed is descriptive-analytical, aimed at detailing the conditions of changes in the functionality of productive rice fields, identifying the causes, and evaluating the alignment of field activities with relevant rules. This study was conducted in Pidie Regency, Aceh Province, focusing on sub-districts that have undergone changes in land use within technical irrigation zones, as documented in the 2023 Pidie Regency Rice Field Area Updating Data.

The utilised data sources comprise both primary and secondary data. Primary data were acquired through comprehensive interviews with officials from the Pidie District Agriculture Office, sub-district and village authorities, farmers, landowners, and community leaders, supplemented by field observations to assess the physical state of the land and irrigation systems, as well as the development of structures on former rice fields. Secondary data was acquired through a documentary analysis of legal regulations, including Pidie Qanun No. 2 of 2023, Law No. 41 of 2009, Government Regulation No. 20 of 2006, and additional regulations, Islamic legal literature pertinent to *al-milkiyyah*, agricultural statistics from the Central Statistics Agency (BPS) and affiliated organisations, along with relevant prior research outcomes.

The data gathering methods comprised interviews to investigate informants' perspectives and experiences, field observations to assess the real conditions at the research site, and documentation analysis to acquire written data and pertinent archives. The data analysis was performed qualitatively in three phases: data reduction through the filtration of information relevant, data presentation via narratives, tables, and diagrams, and conclusion formulation by juxtaposing field findings with applicable legal provisions and the principles of *al-milkiyyah*, thus evaluating the efficacy of Qanun Pidie No. 2 of 2023 in restricting alterations in the function of rice fields within the technical irrigation network.

RESULTS AND DISCUSSION

A. General Description of Pidie Agriculture Office and Krueng Baro Pidie Technical Irrigation Network

The Agriculture and Food Service Office is a local government organisation responsible for managing the agriculture, food, and sometimes fisheries sectors in a particular region. It is generally under the control of a regional head, such as a regent or governor, and serves as the implementer of government policy in these areas. The main tasks of this agency include managing agricultural infrastructure and facilities, counselling, developing agricultural products, and monitoring food distribution.

The primary focus of the Agriculture and Food Service Office includes formulating technical policies, implementing government policies in the agriculture and food sector, and evaluating and reporting on performance. In addition, these offices often have specialised fields or units that handle certain aspects such as horticulture, plantations, livestock cultivation, and animal health. Its organisational structure is designed to support the effective execution of these tasks.¹⁴

One of the significant challenges facing the agency is maintaining food security and the sustainability of the agriculture sector amidst climate change, urbanisation, and shifting land use. Programmes include farmer training, agricultural technology development, and irrigation system management. In addition, the agency is often involved in programmes to increase local food production and develop superior commodities to support the regional economy.¹⁵

Overall, the Department of Agriculture and Food plays a role not only in the technical aspects of agriculture but also in maintaining the balance of the ecosystem, ensuring a sufficient and quality food supply, and supporting the welfare of farmers and communities. Collaboration with the private sector and other organisations is often done to achieve these goals.¹⁶

¹⁴ Colin Carter and Sandro Steinbach, *The Impact of Retaliatory Tariffs on Agricultural and Food Trade*, (Cambridge, MA), ahead of print, National Bureau of Economic Research, May 2020, <https://doi.org/10.3386/W27147>.

¹⁵ Arifin Abdullah, "KAJIAN YURIDIS SUMBER-SUMBER HUKUM," *Al-Iqtishadiyah: Jurnal Hukum Ekonomi Syariah* 2, no. 2 (2021), <https://doi.org/10.22373/iqtishadiyah.v2i2.1409>.

¹⁶ Department of Agriculture and Food. (2024). Overview of the Department of Agriculture and Food.

Pidie's agriculture and food office is one of the local government organisations responsible for operating the agriculture and food sector in Pidie Regency. The Pidie agriculture and food office is located at Jl. Prof. A. Majid Ibrahim, Cot Teungoh, Kec. Kota Sigli, Pidie Regency, Aceh. One of the programmes carried out is the management of irrigation systems. Some irrigation networks in Pidie are Krueng Baro Irrigation Area, Rajui Irrigation Area, and Keliling Dam. In this research, the author focuses on the Krueng Baro Technical Irrigation Network as the object of study.

Krueng Baro Irrigation Area (D.I.) is a technical irrigation system in Pidie Regency to increase food crop productivity in the Region. This area, located in Keumala District, has an agricultural land area of 11,950 hectares. To support the existence of D.I, there needs to be a sound irrigation system. Kr. Baro was built from 1979 to 1984 and operated for many years to ensure sustainability. To enable D.I Krueng Baro to continue supporting food security in Aceh Province as a whole and Pidie District in particular, an effective irrigation network management system is required. This system will include a programme of Operation and Maintenance (O&M) activities, rehabilitation of irrigation networks, and planning of Operation and Maintenance Real Needs (AKNOP) analysis.¹⁷

Figure 3.1. Main Condition of the Main Network of Irrigation Area Kr. Baro

No	Daerah Irigasi/ Lokasi	Luas		Saluran/ Bangunan	Panjang/ Jumlah	Kondisi Saluran dan Bangunan													
		Baku	Fungsional			Baik				Rusak Ringan				Rusak Sedang		Rusak Berat		Kondisi Bangunan	
						(m)	(Ha)	(m)	(%)	(m)	(%)	(m)	(%)	(m)	(%)	(m)	(%)	(m)	(%)
1.	Krueng Baro/ Pidie	18.118	18.118	Sal. Primer	8.879 m	7.103,2	80	444	5	444	5	887,900	10						
				Bang pd Sal. Primer	54 m									43	80	10,8	20		
				Saluran Sekunder	68.200 m	54.560	80	3.410	5	3410	5	6820	10						
				Bang. pd Sal. Sekunder	152 bh									122	80	30,4	20		

Source: Ministry of PUPR Directorate General of Water Resources Balai Wilayah Sungai Sumatera I, 2023

Based on the data, it can be seen that the main condition of the leading network of Krueng Baro Keumala technical irrigation area is detailed in terms

¹⁷ Nofrizal, Azmeri, & Meilianda, E. (2019). Handling the Krueng Baro Irrigation Network in Pidie Regency through the Real Needs of Operations and Maintenance (AKNOP). *Journal of Engineering and Planning Archives*, 2(4), 333-340.

of area, channel/building, length/number, good channel condition, lightly damaged, moderately damaged, and severely damaged, as well as good and damaged building conditions.

B. Regulation of Pidie Qanun No. 3 of 2023 on Restrictions on the Change of Function of Paddy Fields on Technical Irrigation Networks

Regulation is a provision designed to control a group, institution, or organisation that is intended to achieve a specific mission within a community.¹⁸ The purpose of the formation of a regulation is to control or regulate an element of society with certain restrictions. The regulation is applied to all aspects of the general public and businesses.¹⁹

The rice field area irrigated by Baro Kanan Irrigation is 8,927 ha. The origin of water as the primary source is obtained from the Krueng Baro river flow. Currently, there is a sediment in the primary flow canal. This is influenced by the Tyrolean-shaped structure of the building, which causes sediment from the building to be carried by the water flow in the irrigation canal towards the mud bag.²⁰ The change in land use had an impact on the implementation of irrigation in rice fields, making it more challenging and less effective in its operation.

Baro Kanan has a rice paddy and palawijaya crop pattern during the rendeng planting season, which begins in October, peaks in mid-February, and includes palawijaya in June. The estimation of balance and harmony of discharge is used to determine whether the stored water is sufficient for irrigating the rice field plots. Based on the analysis results, it was found that the water required to irrigate the rice and palawijaya plants exceeded the available water. This indicates that the water discharge availability in the Keumala dam cannot meet the needs of all agricultural areas that should be irrigated in Baro Kanan.²¹

¹⁸ M. Prawiro, "Definition of Regulation in General, Purpose, Examples of Regulation," Maxmanroe, 2018, <https://www.maxmanroe.com/vid/bisnis/pengertian-regulasi.html>.

¹⁹ Rizka Afifa Idelia et al., "Pengaruh Financial Attitude, Financial Socialization Dan Financial Experience Terhadap Perilaku Manajemen Keuangan," *Journal of Business Application* 2 (2023).

²⁰ Amalia, N.A. (2017). Evaluation of Mud Bag Capacity of Keumala Weir in Baro Irrigation Area, Pidie Regency, Aceh Province. *Thesis*, Syiah Kuala University Banda Aceh.

²¹ Husaini, Fatimah, E., & Masimin. Evaluation of Irrigation Network Performance of Baro Kanan Irrigation Area, Pidie Regency. *Journal of Civil Engineering and Planning Archives*, 3(1):395-401.

With the condition of irrigation that has not been maximised, Pidie Regency, especially the Department of Agriculture and Food, as the person in charge of the irrigation network, must take appropriate action to find the following solution by limiting the change in the function of rice fields on technical irrigation networks in Pidie Regency. Controlling the conversion of irrigated land is a practice implemented to prevent events that can impact the sustainability of natural ecosystems.²²

For development, the conversion of sustainable food agricultural land for public interest, namely:

- a. Public roads
- b. Reservoir
- c. Dam
- d. Irrigation
- e. Drinking water or clean water channels, Drainage and sanitation, Airport expansion, Railway station, HPublic safety facilities, and/or
- f. Electricity network²³

Rice fields that the government prohibits from being converted cannot be considered complete, even though the qanun already exists; the prohibition is only verbal. The Qanun's elaboration is related to the Perpu, and this is not yet in place. Because the elaboration of the Qanun Perpu, of course, involves state policy programmes for its completion, what happens now is that the regulations in the following Qanun are still general and do not specify the details of how much pressure must be carried out.²⁴ The implementation of the Qanun on the Protection of Sustainable Food Agricultural Land, in terms of limiting changes in the function of paddy fields, has not been fully implemented because many articles listed in the Qanun need to be elaborated or further regulated through a Central Regulation (Perpu) or a Decree of the Regent of Pidie.²⁵

²² Qanun Pidie No. 3 of 2023 on the Protection of Sustainable Food Agricultural Land Article 1 Paragraph 31.

²³ Qanun Pidie No. 3 of 2023 on the Protection of Sustainable Food Agricultural Land Article 31 Paragraph 1.

²⁴ Interview with Ikhsan, SP Sub Coordinator of Irrigation and Agricultural Land at the Pidie Agricultural Office/on 29 November 2024.

²⁵ Neilul Masyitah et al., "Factors of Exchange of Waqf Property According to Positive Law and Islamic Law in Indonesia: A Case Study in Pidie District of Aceh Province," *AJIEL - Ar-Raniry Journal of Islamic Economic Law* 1, no. 2 (2024): 97-118.

Some individuals build without applying for a Building Permit (IMB). This often happens because they assume there are no direct consequences as long as the land used is privately owned, not owned by others. Conversely, those who want to comply with the rules and apply for the IMB often experience delays in the licensing process. For example, someone who wants to set up a shop and has an IMB can proceed with the construction. However, if the IMB is not applied for, the construction can continue unhindered because the land is privately owned, so it cannot be prohibited absolutely.

Nonetheless, if a legal product stipulates specific prohibitions or obligations, violations of such rules may be subject to sanctions or compensation. However, in situations where the government does not expressly prohibit, there is no compensation obligation. As an illustration, if the government prohibits the construction of houses intending to maintain land for specific functions such as agriculture, the policy should be accompanied by a replacement mechanism, for example, in the form of compensation for landowners.

The implementation of the regulation has not been optimal. This is due to the absence of derivative regulations or technical elaboration of the qanun concerned, so that the implementation of the provisions in the qanun cannot be realised effectively.²⁶ For example, in some regulations, implementation often requires special training (diklat) as technical guidance. Without such training or guidelines, regulations become difficult to implement, especially if they are general.

In addition, many violations that occur are considered to have no clear legal basis. For example, suppose there is a rule that stipulates a prohibition along the road with a radius of 60 metres. In that case, the violation is only considered real if the rule is explicitly stated. If the provision is not mentioned in the Qanun or its derivative regulations, then the action cannot legally be categorised as a violation.²⁷

Pidie Qanun No. 3 Year 2023 is a regulation designed to protect the continued function of paddy fields connected to technical irrigation networks in Pidie District. This regulation aims to limit the conversion of paddy fields

²⁶ Chairul Fahmi, "The Application of International Cultural Rights in Protecting Indigenous Peoples' Land Property in Indonesia," <https://doi.org/10.1177/11771801241235261> 20, no. 1 (2024): 157–66, <https://doi.org/10.1177/11771801241235261>.

²⁷ Result of interview with Ikhsan, SP Sub Coordinator of Irrigation and Agricultural Land at the pidie agriculture office / on 29 November 2024.

that could potentially threaten regional food security and the sustainability of agricultural ecosystems. In this qanun, the local government establishes strict rules regarding land conversion, including stringent administrative requirements and penalties for violators. Thus, this qanun is expected to be an essential instrument to maintain agricultural land productivity while supporting sustainable food security in the region.

C. Restrictions on the Change of Function of Paddy Fields as a Limitation on the Use of Property Rights from the Perspective of Property Rights in Islam

In Islam, the concept of *al-milkiyyah* or ownership is not only related to the right to own, but also includes responsibility for the utilisation of property, including land. Based on Sharia principles, land ownership is not an absolute right; however, the owner has moral and social obligations to manage the land in a productive and beneficial manner for the wider community. Fertile and fruitful land, especially paddy fields under technical irrigation networks, is the most crucial part of the resources that must be safeguarded appropriately. This principle is based on the concept of *Ihya' al-Mawat* (reviving dead land), which asserts that unutilised land can be owned by anyone who manages it to be productive.²⁸

Restrictions on changes in the function of paddy fields on technical irrigation networks have a strong foundation in Islamic principles, which prioritise social interests over individual interests. Rice fields that receive water from technical irrigation systems are crucial assets for food production, and their conversion for non-agricultural purposes can lead to a decline in food production, negatively impacting the agricultural ecosystem. In Islam, the welfare of the ummah is prioritised, so land conversion that threatens food security is contrary to the objectives of sharia. Such regulation not only maintains the sustainability of food production but also ensures that future generations can continue to access adequate agricultural resources.²⁹

From the perspective of *al-milkiyyah*, the state has the authority to regulate and restrict land conversion to protect the public interest. Productive land must be safeguarded and should not be indiscriminately converted for

²⁸ Risqy Rachmat. *Ihya Al-Mawat: Opening Land, Dead Land to Be Utilised*. Muamalah Journal. (Depok: 2021). Page. 27.

²⁹ Chairul Fahmi, "The Impact of Regulation on Islamic Financial Institutions Toward the Monopolistic Practices in the Banking Industrial in Aceh, Indonesia," *Jurnal Ilmiah Peuradeun* 11, no. 2 (2023): 667–86, <https://doi.org/10.26811/PEURADEUN.V11I2.923>.

commercial or industrial property development if it is detrimental to the welfare of the community. Technical irrigation networks that support agriculture are vital infrastructure that ensure a water supply for rice fields; therefore, land use change around these networks should receive special attention. This restriction aligns with Sharia's objective of preventing land monopolies and encouraging equitable and sustainable land use.³⁰

Restrictions on changes in the function of paddy fields, as a limitation on the use of property rights from an Islamic perspective, are closely related to the principle of landowners' responsibility in utilising resources wisely. In Islam, property rights encompass not only private ownership but also a trust that must be managed for the greater good of the public.

Islamic law emphasises that the utilisation of land must take into account aspects of sustainability, justice and the interests of society.³¹ Therefore, the conversion of paddy fields to non-agricultural uses can be considered a violation of this principle if it harms food availability, the environment or social balance. This restriction is a form of regulation aimed at protecting public *maslahat* and preventing harm (*mafsadat*), by the principle of *la darar wa la dirar* (i.e., not causing damage to oneself or others).

Thus, such restrictions are in line with Islamic teachings, which limit individual property rights in the interest of safeguarding the common good and minimising adverse impacts on society and the environment. However, this cannot be separated from the opinion of farmers, who are both owners and managers of paddy fields, as it affects their livelihoods. Farmers who are affected by the change in the function of paddy fields lose their livelihoods and daily lives, so they must temporarily seek alternative land or employment.³²

This finding aligns with previous research, which has shown that land conversion results in the loss of farmers' primary source of livelihood and restricts opportunities for new farm workers. This loss of livelihoods leads to reduced household economic access to food, money and purchasing power. Land constriction occurs due to the conversion of agricultural land during non-agricultural development, which directly affects how the surrounding rice fields are irrigated. The irrigation process in such areas is affected by land

³⁰ Akbar Ali. The Concept of Ownership in Islam. *Ushuluddin Journal*. (Riau: 2019). Vol. 18 No. 2, pp. 124-140.

³¹ Ridwan, R. (2013). Land Ownership Rights in the Perspective of Islamic Law and Indonesian Land Law. *Al-Manahij: Journal of Islamic Law Studies*, 7(2), 257-270.

³² Results of interviews with Irfan as a Farmer in rice fields affected by land use change in pidie / on 20 November 2024

use change, which can make it more challenging, time-consuming and less successful. Furthermore, while water demand is increasing, water discharge is decreasing.³³ One of the verses related to property rights is QS Al-Hadid Verse 7, which reads:

أٰمِنُوۡا بِاللّٰهِ وَرَسُوۡلِهٖ وَاَنۡفِقُوۡا مِمَّا جَعَلَكُمۡ مُّسۡتَخۡلَفِيۡنَ فِيۡهِۦۖ فَاَلَّذِيۡنَ اٰمَنُوۡا مِنْكُمۡ وَاَنۡفَقُوۡا لَهُمۡ اَجْرٌ كَبِيۡرٌ

Meaning: *Believe in Allah and His Messenger and spend (in the cause of Allah) some of what He has entrusted to you and has made you rulers over it. Then, those who believe among you and spend in the cause of Allah will have a great reward (QS Al-Hadid Verse 7).*

Tafsir Wajiz, related to Surah QS Al-Hadid, Verse 7, states that in this verse, as before, Allah demonstrates His power by giving charity. O people, believe in Allah who has created you and in His Messenger who was sent to convey His teachings. Moreover, provide some of the wealth over which He has made you rulers to those who are entitled to it. Verily, there is a share from Allah for those who spend some of their wealth in the way of Allah. Those who believe in Allah and His Messenger among you and spend some of their wealth in the way of Allah will have a great reward, both in this world and in the Hereafter.

The right of ownership, also known as "property rights", is defined by fiqh scholars as "a person's specificity over property that is recognised by the Shariah, so that it gives him special power over that property, either to use it or to spend it." With this definition, it can be understood that ownership is a person's control over something, whether goods or property, which allows the owner to perform legal actions, such as. On the other hand, taking the rights of others is not a good thing to do.

Article 33(3) of the 1945 Constitution states that "The land, water, and natural resources contained therein shall be controlled by the state and utilised for the greatest prosperity of the people". In this issue, the change of function of paddy fields in Keumala on the Krueng Baroe technical irrigation network does not interfere with the property rights of farmers as individuals, because all natural resources belong to the state, and people only need to work.³⁴

³³ Nanda, F. (2021). Analysis of the Impact of Agricultural Land Use Change on Irrigation Function Degradation in the Perspective of Haqq Al-Majra (Case Study in Darussalam District, Aceh Besar Regency). Thesis, UIN Ar-Raniry Banda Aceh.

³⁴ Interview with Ikhsan, SP Sub Coordinator of Irrigation and Agricultural Land at the pidie agriculture office / on 29 November 2024 in Sigli City.

Although the state is responsible for the economy, including the management of public wealth, it is not allowed to own or declare natural wealth as private property on the grounds of public interest. Nonetheless, natural wealth is a true boon to the state and its citizens. This is because, by describing whatever wealth it is, Sharia has established a public interest in it.³⁵

D. Provisions on Restrictions on Land Use Change on Irrigation Networks Limit the Right to Use Private Property in the Concept of Al-Milkiyyah

The provision of restrictions on land use change on technical irrigation networks often raises debates related to the right to private ownership (property rights). In the context of Islamic law, the concept of al-milkiyyah (ownership) grants individuals full rights over their property, including land. However, this right is not absolute, but limited by the principles of public good (maslahah 'ammah) and social responsibility. However, land conversion for the public interest must be implemented under the following conditions:³⁶

- a. have a strategic feasibility study
- b. have a land conversion plan
- c. acquisition of land rights ownership
- d. availability of replacement land

The protection of sustainable agricultural land aims to encourage, monitor, and regulate the conversion of agricultural land to ensure the availability of sustainable farmland. This is achieved by providing incentives to farmers and parties involved in the conversion of agricultural land.³⁷ It is also mentioned that, in general, provisions related to the prohibition of converting paddy fields are listed in the Qanun on the Protection of Sustainable Food Agricultural Land, Article 34 onwards. However, further provisions will be explained in the Central Regulation (Perpu) or the Pidie Regent Decree later.

In Islamic law, private property rights are firmly recognised as stated in the Qur'an and hadith. However, private property must be used in accordance

³⁵ Fajrin, N. (2022). Public and State Ownership (Al Milk) in Islamic Perspective. <https://kumparan.com/nurul-fajrin-2020/kepemilikan-al-milk-umum-dan-negara-dalam-perspektif-islam-1yI5Puxbvuu/full>. Accessed on 1 December 2024 in Pidie.

³⁶ Qanun Pidie No. 3 of 2023 on the Protection of Sustainable Food Agricultural Land Article 31 Paragraph 2. Accessed on 1 December 2024 in Pidie.

³⁷ Qanun Pidie No. 3 of 2023 on the Protection of Sustainable Food Agricultural Land CHAPTER II Article 3 on Purpose and Objectives.

with the shar'i objective of maintaining a balance between individual rights and the interests of society. For example, suppose private land is part of an irrigation network vital to agriculture. In that case, the owner should not be allowed to convert the land freely, as this could compromise the welfare of the wider community.

In the context of regulations such as Qanun Pidie No. 3 of 2023, restrictions on land conversion aim to protect food security and ecosystem sustainability. While landowners have the right to use their land, the limits imposed by the government serve to safeguard the public good, in line with the principle underlying the concept of al-milkiyyah, which holds that the interests of the community take precedence over those of individuals.³⁸

Research shows that this kind of restriction can create a dilemma for landowners. On the one hand, owners feel that their rights are restricted. On the other hand, this policy is necessary to prevent adverse impacts such as land degradation and decreased agricultural production. Therefore, a comprehensive approach, such as providing compensation or incentives to landowners, is needed to ensure that such restrictions do not cause injustice.

In the concept of al-milkiyyah, private property rights are recognised, but must still be subject to the principle of public good. Therefore, restrictions on land use changes in irrigation networks can be justified as long as the primary objective is to protect the community's interests and promote environmental sustainability. Regulations, such as Qanun Pidie No. 3 of 2023, reflect efforts to balance individual rights and collective needs, which align with the values of Islamic law.³⁹

In the view of Islamic law, the state has the authority to regulate private property rights to achieve the public good. This is by the fiqh "*tasharruful imam 'ala ar-ra'iyah manuthun bil maslahah*", which means that the actions of the ruler towards his people must be based on the public good. The state, in this case, acts as a manager that ensures the use of private property rights does not interfere with collective interests, such as food security, which is highly dependent on the sustainability of agricultural land. Policies restricting land use change on irrigation networks are one implementation of this function.

³⁸ Aslami, N., & Sudiarti, S. (2022). The Concept of Ownership and Distribution in Islamic Economics. *EK&BI Journal*, 5(1), 81-88.

³⁹ Chairul Fahmi et al., "The State's Business Upon Indigenous Land in Indonesia: A Legacy from Dutch Colonial Regime to Modern Indonesian State," *Samarah: Jurnal Hukum Keluarga Dan Hukum Islam* 8, no. 3 (2024): 1566-96, <https://doi.org/10.22373/SJHK.V8I3.19992>.

Although policies such as Qanun Pidie No. 3 of 2023 have been designed to protect technical irrigation land, their implementation in the field still faces various challenges. One of them is the lack of public understanding of the importance of maintaining productive agricultural land. Additionally, some parties may perceive this policy as conflicting with their rights as landowners.⁴⁰ Such conflicts highlight the importance of a more inclusive approach, such as intensive socialisation and the provision of economic alternatives for affected landowners.

Because some parties feel this policy contradicts their rights as landowners, the Pidie District Government (Pemkab) conducts a form of supervision related to land use change in technical irrigation network areas, including the following:

- a. Conducting socialisation related to laws and regulations in terms of protecting food and agricultural land sustainably.
- b. Coordination with related agencies (stakeholders) so that the impact of land use change can be minimised.

In addressing these restrictions, a justice-based approach is crucial. Islam emphasises justice as the main principle in regulating property rights. One form of justice that can be applied is the provision of compensation or incentives to landowners whose land cannot be developed due to environmental or other constraints. This incentive could take the form of subsidies, technical assistance, or access to agribusiness development programmes. Thus, landowners do not feel disadvantaged, while the goal of land protection is still achieved.

The concept of *al-milkiyyah* in Islamic law shows its relevance to modern policies that emphasise sustainability and environmental protection.⁴¹ Although the contexts are different, the basic principle remains the same: individual rights must be respected, but must not be detrimental to the public interest. Policies such as Qanun Pidie No. 3 of 2023 reflect the harmony between traditional Islamic values and the modern need for regulations that support sustainable development. With proper management, this policy not only maintains the sustainability of agricultural land but also serves as an

⁴⁰ The results of the interview with Irfan as a Farmer in rice fields affected by land use change in pidie / on 20 November 2024

⁴¹ Megawati, D.P. (2021). Islamic Law Review of the Status of Property Rights in Uu No.5 of 1960 (UUPA). Thesis, UIN Alauddin Makassar.

example of how Islamic values can be implemented in modern resource governance.

CONCLUSION

After the author has outlined several matters regarding the change in function of paddy fields on technical irrigation networks in Pidie Regency, as per Qanun Pidie No. 3 of 2023 and Al-Milkiyyah as a whole, this presents the actual result of the research. The author can draw several conclusions from the description and discussion in the previous chapter, namely as follows:

1. Changes in the function of paddy fields, especially in the technical irrigation network area in Pidie Regency, pose a serious threat to the sustainability of the agricultural sector and food security. Although Qanun Pidie No. 3 Year 2023 has regulated restrictions on land conversion, the implementation of this regulation still encounters various obstacles, such as weak supervision, a lack of socialisation, and community violations.
2. From the perspective of Islamic law, productive agricultural land is a trust that must be safeguarded for the benefit of the people. Restrictions on land use change are in line with Sharia principles to protect the public good and maintain the sustainability of natural resources. The concept of al-milkiyyah emphasises that private ownership is not absolute. Still, it is limited by social obligations to utilise it productively and not to the detriment of the wider community.
3. Strategic steps are needed from the Pidie District Government, including increased law enforcement, field supervision, and provision of incentives for communities to maintain their agricultural land. With optimal implementation of the Qanun, the goal of maintaining food security and environmental sustainability can be achieved.

REFERENCES

- Abdullah, Arifin. "KAJIAN YURIDIS SUMBER-SUMBER HUKUM." *Al-Iqtishadiyah: Jurnal Hukum Ekonomi Syariah* 2, no. 2 (2021).
<https://doi.org/10.22373/iqtishadiyah.v2i2.1409>.
- Aceh, Dinas Pertanahan. "TIM KOORDINASI PENYELESAIAN SENGKETA DAN KONFLIK PERTANAHAN ACEH FASILITASI PENYELESAIAN PERMASALAHAN HAK GUNA USAHA DI KABUPATEN KOTA." 2021.

<https://pertanahan.acehprov.go.id/berita/kategori/pertanahan/tim-koordinasi-penyelesaian-sengketa-dan-konflik-pertanahan-aceh-fasilitasi-penyelesaian-permasalahan-hak-guna-usaha-di-kabupaten-kota>.

Achmadiyah, Ria. "Transaksi Rekayasa Pajak Pada Transfer Pricing Menurut Hukum Islam." *Maliyah* 03, no. 02 (2013).

Afifa Idelia, Rizka, Gatot Nazir Ahmad, and Muhammad Edo Suryawan Siregar. "Pengaruh Financial Attitude, FinanciCarter, Colin, and Sandro Steinbach. *The Impact of Retaliatory Tariffs on Agricultural and Food Trade*. (Cambridge, MA), ahead of print, National Bureau of Economic Research, May 2020. <https://doi.org/10.3386/W27147>.

Alamsyar, Al. The impact of the conversion of paddy fields on food security in Sigi Regency. *Agrotekbis: Journal of Agricultural Sciences (e-journal)* 10.1:176-185, 2022.

Ansori, M.B., Edijatno, & Soesanto, S.R., Irrigation and Water Building. Institut Teknologi Sepuluh November, Surabaya, 2018.

Bukhari. The Law of Transfer of Productive Waqf Assets for Commercial Use from the Perspective of Fiqh Muamalah. *Mutawasith: Journal of Islamic Law*.

Casson, Anne, Yohanes I. Ketut Deddy Muliastira, and Krystof Obidzinski. *Large-Scale Plantations, Bioenergy Developments and Land Use Change in Indonesia*. CIFOR, 2014.

Fadilah, U. Ownership in Islam. *RePEc: Research Papers in Economics*, 2(1), 3. (2021).

Fahmi, Chairul. *Hukum dan Fenomena Sosial*. Aceh Justice Resource Centre, 2015. Banda Aceh. [//ruangbaca-fsh.ar-raniry.ac.id%2Findex.php%3Fp%3Dshow_detail%26id%3D3123%26keywords%3D](http://ruangbaca-fsh.ar-raniry.ac.id%2Findex.php%3Fp%3Dshow_detail%26id%3D3123%26keywords%3D).

Fahmi, Chairul. "The Application of International Cultural Rights in Protecting Indigenous Peoples' Land Property in Indonesia." *Https://Doi.Org/10.1177/11771801241235261* 20, no. 1 (2024): 157–66. <https://doi.org/10.1177/11771801241235261>.

Fahmi, Chairul. "THE DUTCH COLONIAL ECONOMIC POLICY ON NATIVE LAND PROPERTY OF INDONESIA." *PETITA: JURNAL KAJIAN ILMU HUKUM DAN SYARIAH* 5, no. 2 (2020). <https://doi.org/10.22373/petita.v5i2.99>.

Fahmi, Chairul. "The Impact of Regulation on Islamic Financial Institutions Toward the Monopolistic Practices in the Banking Industry in Aceh, Indonesia." *Jurnal Ilmiah Peuradeun* 11, no. 2 (2023): 667–86. <https://doi.org/10.26811/PEURADEUN.V11I2.923>.

Fahmi, Chairul, Peter-Tobias Stoll, Shabarullah Shabarullah, Malahayati Rahman, and Syukri Syukri. "The State's Business Upon Indigenous

- Land in Indonesia: A Legacy from Dutch Colonial Regime to Modern Indonesian State." *Samarah: Jurnal Hukum Keluarga Dan Hukum Islam* 8, no. 3 (2024): 1566–96. <https://doi.org/10.22373/SJHK.V8I3.19992>.
- Fauzan, Faisal, and Ariq Azzaki. "ANALYSIS OF PAMSIMAS REVENUE FROM CLEAN WATER MANAGEMENT IN THE PERSPECTIVE OF MILK AD-DAULAH: A Study in Abdya District, Indonesia." *JURISTA: Jurnal Hukum Dan Keadilan* 6, no. 2 (2022): 2. Asia, Europe, Middle East, Indonesia, Malaysia. <https://doi.org/10.1234/jurista.v6i2.31>.
- Ghafar, A. Analysis of the Utilisation and Use of Congregational Alms Funds at Dayahs in Darussalam District in the Review of Islamic Law (Study of Philanthropy and Public Participation in Alms Funds), *Thesis*. Banda Aceh: UIN Ar-Raniry, 2022.
- Hidayati, D. The Waning Value of Community Local Wisdom in Water Resources Management. *Journal of Indonesian Population*, 11(1), 39-48, 2016.
- Irwan, Isa. Strategi Pengendalian Alih Fungsi Lahan Pertanian", *Jurnal Badan Pertanahan Nasional Indonesia*, Vol.2, 2006.
- Kriyantono, R. *Practical techniques of quantitative and qualitative communication research with practical examples of Thesis, Thesis, and Dissertation Research in Media, Public Relations, Advertising, Organisational Communication, Marketing Communication*. Rawamangun: Prenadamedia Group, 2020.
- Kurniawan, Juhri. *SISTEM PEMBIAYAAN ULANG (REFINANCING) SYARIAH PADA LEMBAGA PEMBIAYAAN PASCA BERLAKUNYA QANUN ACEH NOMOR 11 TAHUN 2018 BERDASARKAN AKAD BAI' WA AL-ISTI'JAR (Suatu Penelitian Pada Adira Finance Syariah Blang Pidie)*. 2022.
- Masyitah, Neilul, Armiadi Musa, Riadhus Sholihin, and Marium Kamal. "Factors of Exchange of Waqf Property According to Positive Law and Islamic Law in Indonesia: A Case Study in Pidie District of Aceh Province." *AJIEL - Ar-Raniry Journal of Islamic Economic Law* 1, no. 2 (2024): 97–118.
- Murdifin, Imaduddin, Muhammad Faisal AR Pelu, Aditya Halim Perdana Kusuma Putra, A. Muara Arumbarkah, Muslim, and Aulia Rahmah. "Environmental Disclosure as Corporate Social Responsibility: Evidence from the Biggest Nickel Mining in Indonesia." *International Journal of Energy Economics and Policy* 9, no. 1 (2019). <https://doi.org/10.32479/ijeep.7048>.
- Muhaimin, Legal Research Methods, First Mould. (Mataram: Mataram University Press, 2020,
- Nurwahida, The Concept of Islamic Law and the Theory of Islamic Law Enforcement in Indonesia. *Journal of Publications*, Vol . 1 No.1, 2019

- Priyonugroho, Anton. *Analysis of irrigation water demand: a case study on the irrigation area of the Keban Water River in the Four Lawang District*. Diss. Sriwijaya University, 2014.
- Sudaryono, *Research Methodology*. Depok: PT Raja Grafindo Persada, 2018.
- Sugiyono, *Quantitative, Qualitative, and R&D Research Methods*. Bandung: Alfabeta, 2017
- Sugiarto, E. (2017). *Developing Qualitative Research Proposals: Thesis and Thesis*. Yogyakarta: Diandra Kreatif
- Sulistiyawati & Devi, A. Analysis of the Impact of Agricultural Land Conversion on Food Security in Cianjur Regency. Bachelor Thesis, Department of Resource and Environmental Economics and Faculty of Economics and Management, Bogor Agricultural Institute, 2014.
- Tarisa, R. The Responsibility of the Aceh Irrigation Department for the Technical Irrigation Network from the Perspective of Milk Al-Daulah: A Research in Krueng Barona Jaya District. Thesis, UIN Ar-Raniry, Banda Aceh, 2021.
- Wibisono, G., Widowaty, Y. 2023. The Urgency of Food Agricultural Land Protection Against Land Conversion in the Special Region of Yogyakarta. *KRTHA BHAYANGKARA*, 17 1.
- Wijayakusuma, B. Factors Influencing Land Use Change of Water Catchment Area of Cimenyan District. *Journal of Regional and City Planning Research (JRPWK)*, 3(1), 29-38, 2023.
- Yusuf, A.M. 2014. *Research Methods: Quantitative, Qualitative and Combined Research*. Jakarta: Prenadamedia group, 2014.