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Effectiveness of the implementation of the rice farming insurance program in Deli Serdang regency: An Islamic perspective

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Abstract
This study analyzes the effectiveness of the Rice Farming Insurance Program (AUTP) in Durian Village, Deli Serdang Regency, from an Islamic economics perspective. Using a qualitative descriptive approach and purposive sampling of ten informants, including farmers and agricultural extension workers, the study gathered data through interviews, observations, and documentation. The findings indicate that AUTP's effectiveness is hindered by issues such as target accuracy, limited program awareness, and inadequate monitoring. Many tenant farmers are excluded due to administrative requirements, while uneven information dissemination and delayed claim settlements diminish the value of compensation. These challenges suggest that AUTP does not fully embody the Islamic principles of justice, mutual assistance, public welfare, and the protection of wealth, life, and intellect. This study integrates program effectiveness analysis with Islamic economic principles, providing a useful framework for improving agricultural insurance policies to better protect vulnerable farmers.

Public interest statement
The findings show that unequal access to information, technological barriers, and claim delays hinder the effectiveness of agricultural insurance. The study advocates inclusive policies, simplified procedures, and stronger institutional support, while emphasizing the integration of Islamic economic values such as justice and mutual assistance. Ultimately, the research aims to improve farmer welfare, enhance rural resilience, and promote sustainable agricultural development in Indonesia.

Keywords: Agricultural Insurance, Islamic Economics, Rice Farming, Program Effectiveness, Maqasid al-Shariah, Farmer Protection.
Paper type: Research paper

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Abstrak

Penelitian ini menganalisis efektivitas Program Asuransi Usaha Tani Padi (AUTP) di Desa Durian, Kabupaten Deli Serdang, dari perspektif ekonomi Islam. Dengan menggunakan pendekatan deskriptif kualitatif dan teknik *purposive sampling* yang melibatkan sepuluh informan—termasuk petani dan penyuluh pertanian—data dikumpulkan melalui wawancara, observasi, dan dokumentasi. Hasil penelitian menunjukkan bahwa efektivitas AUTP terkendala oleh masalah seperti ketepatan sasaran, kurangnya pemahaman mengenai program, dan pengawasan yang belum memadai. Banyak petani penggarap tidak dapat berpartisipasi karena kendala persyaratan administratif, sementara penyebaran informasi yang tidak merata dan keterlambatan penyelesaian klaim mengurangi nilai kompensasi yang diterima. Berbagai tantangan ini mengindikasikan bahwa AUTP belum sepenuhnya mencerminkan prinsip-prinsip Islam mengenai keadilan, tolong-menolong, kemaslahatan umum, serta perlindungan terhadap harta, jiwa, dan akal. Penelitian ini memadukan analisis efektivitas program dengan prinsip-prinsip ekonomi Islam, sehingga memberikan kerangka kerja yang bermanfaat untuk memperbaiki kebijakan asuransi pertanian demi perlindungan yang lebih baik bagi petani rentan.

Pernyataan Kepentingan Publik:

Temuan penelitian ini menyoroti bahwa ketimpangan akses informasi, hambatan teknologi, dan keterlambatan pencairan klaim menjadi kendala bagi efektivitas program asuransi pertanian. Studi ini mendorong perlunya kebijakan yang lebih inklusif, prosedur yang lebih sederhana, serta dukungan kelembagaan yang lebih kuat. Selain itu, penelitian ini menekankan pentingnya mengintegrasikan nilai-nilai ekonomi Islam—seperti keadilan, tolong-menolong, kemaslahatan umum, dan perlindungan harta—ke dalam kebijakan-kebijakan tersebut. Pada akhirnya, penelitian ini bertujuan untuk meningkatkan kesejahteraan petani, memperkuat ketahanan pedesaan, serta mendorong pembangunan pertanian berkelanjutan di Indonesia.

Keywords: Asuransi Pertanian, Ekonomi Islam, Usahatani Padi, Efektivitas Program, Maqasid Syariah, Perlindungan Petani.

Introduction

Global climate change has significantly increased the vulnerability of agricultural systems, particularly in developing countries where farming remains highly dependent on climatic conditions. In Indonesia, rice farming is increasingly exposed to hydrometeorological hazards such as floods, droughts, and pest and disease outbreaks, which threaten agricultural productivity, farmers' livelihoods, and national food security. Climate-induced crop failure reduces farmers' income and increases the risk of rural poverty, especially among smallholder farmers with limited financial capacity to absorb production losses (Saputri et al., 2024). Therefore, strengthening agricultural risk management has become an important public policy agenda to enhance agricultural resilience. Adaptive agricultural protection policies are needed to minimize economic losses and maintain food production in disaster-prone regions (Adriana et al., 2022).

Agricultural insurance is generally understood as an economic instrument for managing production risks. However, from the perspective of Islamic economics, the effectiveness of public policy should be assessed more broadly based on its contribution to public welfare. Al-Ghazālī (1997) explains that the ultimate objective of public policy is the realization of maṣlaḥah through the protection of the essential objectives of Islamic law (*maqāṣid al-sharīʿah*), including the protection of religion, life, intellect, lineage, and wealth. Thus, a policy cannot be considered effective merely because it achieves administrative objectives; it must also protect society from harm and promote collective welfare. This principle is reinforced by Ibn Taymiyyah (1992), who emphasizes that governmental authority (*siyāsah shar'iyyah*) is intended to establish justice (*'adl*) and secure public welfare (*maṣlaḥah*) through policies that serve the common good.

Within this framework, agricultural insurance is not merely a mechanism for providing financial compensation but also a public policy instrument to protect farmers' economic assets, reduce vulnerability, and maintain agricultural production. The protection of farmers' wealth reflects the objective of *ḥifẓ al-māl*, while equal access to insurance services represents *'adl*. Cooperation between government institutions, agricultural extension workers, and farming communities reflects *ta'āwun* (mutual assistance). Meanwhile, timely compensation contributes to *maṣlaḥah* by enabling farmers to recover and continue farming after crop failure. Therefore, the effectiveness of agricultural insurance should be evaluated not only through administrative performance but also through the extent to which these ethical principles are realized in practice (Agusti & Rahmat, 2022; Wardani et al., 2025).

The principle of mutual assistance is explicitly emphasized in the Qur'an: "And cooperate in righteousness and piety, but do not cooperate in sin and aggression" (Qur'an 5:2) (Kementerian Agama Republik Indonesia, 2019). This verse establishes *ta'āwun* as a normative basis for collective responsibility in protecting vulnerable members of society, including farmers exposed to production risks. Similarly, the Qur'an states: *"And do not throw yourselves into destruction with your own hands"* (Qur'an 2:195) (Kementerian Agama Republik Indonesia, 2019). In Islamic economics, this principle supports preventive efforts to protect wealth and reduce avoidable economic losses. Accordingly, agricultural insurance can be understood as a contemporary institutional mechanism that supports the realization of *maqāṣid al-sharīʿah* by protecting farmers from financial hardship and strengthening rural economic resilience. An effective AUTP program should therefore realize *ta'āwun, 'adl, maṣlaḥah*, and *ḥifẓ al-māl* while ensuring equitable access to agricultural protection.

Despite these objectives, the implementation of the Rice Farming Insurance Program (AUTP) continues to face various challenges. Previous studies indicate that institutional, administrative, and socio-economic factors influence its effectiveness. Saputri et al. (2024) found that inadequate program socialization reduced farmers' understanding of insurance mechanisms and contributed to low participation in Bima Regency. Laloi et al. (2024) reported that some farmers perceived premium payments as economically burdensome because they received no direct financial benefit when crop failure did not occur. Adi et al. (2025) emphasized the important role of Agricultural Extension Workers (PPL) in facilitating participation through administrative assistance and technical guidance. Furthermore, Puspitasari and Yuanjaya (2024) found that delays in claim disbursement weakened farmers' confidence and discouraged continued participation in agricultural insurance programs.

Although these studies contribute significantly to understanding agricultural insurance implementation in Indonesia, they have mainly examined effectiveness from the perspectives of public administration, institutional performance, farmer participation, and claim management. Existing research generally focuses on operational achievements, administrative procedures, and policy outcomes, while limited attention has been given to whether agricultural insurance fulfills the ethical objectives of Islamic economics. Consequently, dimensions of justice, public welfare, mutual responsibility, and wealth protection remain insufficiently examined in evaluating agricultural insurance effectiveness.

Another important issue concerns the structural exclusion of tenant farmers or sharecroppers. These farmers often bear the operational risks and production costs of farming but do not possess formal ownership of the land they cultivate. Administrative requirements for land ownership verification, together with increasing reliance on digital claim procedures, may create additional barriers for this vulnerable group. As a result, tenant farmers may face difficulties accessing insurance protection despite being among those most exposed to agricultural production risks. This issue is important because equitable access to public protection represents a fundamental objective of both agricultural policy and Islamic economic governance.

From the Islamic economic perspective, public policy effectiveness should therefore be understood not merely as successful administrative implementation or achievement of predetermined performance indicators. It should also be assessed according to its ability to realize *maqāṣid al-sharīʿah*. According to Abu Hamid al-Ghazali, the realization of *maṣlaḥah* is a fundamental objective of public policy because governmental actions should protect essential human interests and prevent harm. A policy cannot be considered fully effective if it succeeds administratively but fails to ensure justice, equal access, and social welfare for vulnerable communities. In agricultural insurance, this means that effectiveness should encompass administrative performance as well as the realization of *ta'āwun, 'adl, maṣlaḥah*, and *ḥifẓ al-māl* (Farhana, 2024; Wardani et al., 2025).

This study distinguishes itself from previous research by integrating AUTP effectiveness with the ethical framework of Islamic economics. This approach provides a broader assessment of equitable access, farmer protection, public welfare, and the realization of *maqāṣid al-sharīʿah*.

Literature Review

To evaluate the implementation challenges comprehensively, this study adopts the program effectiveness indicators proposed by Budiani (2009), consisting of four dimensions: target accuracy, program socialization, goal achievement, and program monitoring. These indicators provide practical criteria for assessing whether a government program is implemented according to its objectives and delivers benefits to its intended beneficiaries. Budiani's framework is therefore used as an administrative and managerial instrument for evaluating program effectiveness.

However, administrative indicators alone are insufficient for evaluating agricultural insurance from an Islamic perspective. Islamic economics assesses public policy based on its contribution to the realization of *maqāṣid al-sharīʿah*, which aims to promote *maṣlaḥah* (public welfare) and prevent *mafsadah* (harm). According to Abu Hamid al-Ghazali, public policies should protect essential human interests, including wealth (*ḥifẓ al-māl*), while promoting justice and collective welfare (Farhana, 2024). Accordingly, this study interprets AUTP effectiveness through four Islamic principles: *ta'āwun* (mutual assistance), *'adl* (justice), *maṣlaḥah* (public welfare), and *ḥifẓ al-māl* (protection of wealth). These principles provide normative criteria for assessing whether AUTP protects vulnerable farmers, ensures equitable access, strengthens institutional cooperation, and safeguards farmers' economic resources.

This study therefore employs a dual analytical approach. First, AUTP implementation is examined using Budiani's (2009) four indicators to identify administrative strengths and weaknesses. Second, the findings are interpreted through *maqāṣid al-sharīʿah* to determine whether implementation reflects justice, mutual assistance, public welfare, and wealth protection. Based on this approach, the study examines the effectiveness of AUTP implementation in Durian Village, Deli Serdang Regency, from the perspective of Islamic economics.

This study contributes to the literature in three ways. First, it examines the structural exclusion of tenant farmers caused by administrative and technological barriers to agricultural insurance. Second, it provides empirical insight into how administrative requirements, digital claim procedures, and institutional support influence AUTP implementation at the village level. Third, it integrates public policy evaluation with *maqāṣid al-sharīʿah*, allowing agricultural insurance to be assessed not only through administrative effectiveness but also through *ʾadl*, *taʾāwun*, *maṣlaḥah*, and *ḥifẓ al-māl*.

Rice Farming Insurance Program (AUTP).

The Rice Farming Insurance Program (AUTP) is a public policy instrument designed to protect farmers from economic losses caused by crop failure (Putri et al., 2025). The program represents the state's commitment to farmer protection and food security under Law Number 19 of 2013 concerning the Protection and Empowerment of Farmers. Its implementation is regulated through Minister of Agriculture Regulation Number 40 of 2015, which provides agricultural insurance protection against floods, droughts, and pest and disease attacks (Peraturan Menteri Pertanian Republik Indonesia Nomor 40 Tahun 2015 Tentang Fasilitasi Asuransi Pertanian, 2015).

AUTP operates through a subsidized premium mechanism intended to make insurance affordable for small-scale farmers. Under the regulation, the premium is IDR 180,000 per hectare per planting season, with 80% or IDR 144,000 subsidized by the government and 20% or IDR 36,000 paid by farmers. The maximum compensation is IDR 6,000,000 per hectare, subject to technical verification requiring crop damage to reach at least 75% of the cultivated area (Putri et al., 2025). This verification may create implementation challenges because damage assessment can generate different perceptions between farmers and loss assessors (Ramdani & Khairati, 2022).

Policy implementation at the local level

AUTP implementation is strongly influenced by the local social and administrative environment. A gap may occur between nationally designed policies and the implementation capacity available at the village level. Program effectiveness therefore depends not only on subsidy availability but also on administrative infrastructure, farmer literacy, and local institutional capacity.

Agricultural Extension Workers (PPL) play an important role as frontline actors who translate policy information into language understood by farmers. Their role must be supported by the responsiveness of PT Asuransi Jasindo and the organizational support of village authorities and farmer groups. Weak coordination, passive extension services, or delayed responses from insurance officers may reduce farmer participation despite the availability of government subsidies.

Islamic Economic Perspective on Agricultural Insurance

Agricultural insurance is generally understood as an instrument for protecting farmers against losses arising from floods, droughts, pests, and plant diseases. From an Islamic economic perspective, however, it also represents an instrument for achieving social justice, collective responsibility, and sustainable welfare in accordance with *maqāṣid al-sharīʿah*. Rather than emphasizing risk transfer alone, Islamic economics promotes cooperation, justice, and collective responsibility through *taʾāwun* and *ʾadl* (Farhana, 2024).

The theory of *maqāṣid al-sharīʿah* developed by Abū Ḥāmid al-Ghazālī emphasizes the realization of *maṣlaḥah* through the protection of five essential interests (*al-ḍarūriyyāt al-khams*): religion (*ḥifẓ al-dīn*), life (*ḥifẓ al-nafs*), intellect (*ḥifẓ al-ʾaql*), lineage (*ḥifẓ al-nasl*), and wealth (*ḥifẓ al-māl*) (Al-Ghazālī, 1997). Consequently, public policies should be evaluated not only by administrative performance but also by their ability to protect these essential interests and prevent social and economic harm.

Ibn Taymiyyah similarly emphasizes that government through *siyāsah shar'iyyah* has a responsibility to establish justice (*'adl*) and promote public welfare (*maṣlaḥah*) through policies that protect society's interests (Ibn Taymiyyah, 1998). Therefore, agricultural protection policies should provide vulnerable farmers with equitable access to public services and economic protection.

Recent studies reinforce the use of *maqāṣid al-sharīʿah* as a framework for evaluating contemporary public policies. Rangkuti et al. (2024) argue that policy effectiveness should be measured not only through administrative achievement but also through justice, public welfare, and protection of essential human interests. Similarly, Marwah et al. (2025) emphasize that *maqāṣid al-sharīʿah* integrates economic development with ethical values, social justice, and sustainable welfare.

In agriculture, *ta'āwun* encourages cooperation in managing agricultural risks, while *'adl* requires equal access to insurance protection. These principles are consistent with the Qur'anic command: “And cooperate in righteousness and piety, but do not cooperate in sin and aggression” (Qur'an 5:2) (Kementerian Agama Republik Indonesia, 2019). Agricultural insurance also directly supports *ḥifẓ al-māl* by protecting farmers' productive assets from financial losses. By enabling farmers to continue production after disasters, it can also contribute to *ḥifẓ al-nafs* through household food and economic security and *ḥifẓ al-'aql* by reducing financial uncertainty and psychological pressure (Rofiq & Khusnudin, 2025).

Arum et al. (2024) further explain that *maqāṣid al-sharīʿah* provides a philosophical foundation for Islamic economics by integrating economic development with justice, welfare, and sustainability. Ardyansyah (2025) similarly argues that Islamic public policies should reflect the protection of religion, life, intellect, and wealth so that government intervention produces comprehensive public benefits.

Based on these considerations, this study uses *maqāṣid al-sharīʿah* as the normative framework for evaluating AUTP. An effective agricultural insurance program should therefore not only compensate farmers for financial losses but also promote *'adl*, strengthen *ta'āwun*, realize *maṣlaḥah*, and protect farmers' wealth, life, and intellect.

Program Effectiveness

Program effectiveness refers to the extent to which a public program achieves its objectives and provides meaningful benefits to its target beneficiaries. Ramadhan & Nasution (2022) explain that effectiveness should be assessed through the consistency between implementation processes and policy objectives, as well as the tangible benefits received by the target community. Therefore, effectiveness involves both administrative performance and actual program outcomes.

In this study, the Rice Farming Insurance Program (AUTP) is analyzed using Budiani's (2009) four indicators: target accuracy, program socialization, goal achievement, and program monitoring. These indicators provide an operational framework for identifying implementation strengths and weaknesses and assessing whether beneficiaries receive the intended services and benefits (Budiani, 2009).

However, administrative indicators alone are insufficient to assess a policy aimed at protecting vulnerable farmers. From an Islamic economic perspective, effectiveness should also be measured through the realization of *maqāṣid al-sharī'ah*, particularly justice, public welfare, and protection of essential human interests. Rangkuti et al. (2024) emphasize that public policy effectiveness should contribute to *maqāṣid al-sharī'ah*, while Marwah et al. (2025) explain that it integrates economic performance with ethical values, social justice, and sustainable welfare. Accordingly, this study combines administrative evaluation with normative Islamic principles.

The four indicators of Budiani (2009) are interpreted through *maqāṣid al-sharīʿah*. Target accuracy measures whether AUTP reaches its intended beneficiaries, particularly vulnerable farmers, and reflects *ʿadl* (justice) and equitable access to public protection (Arum et al., 2024). Program socialization concerns the delivery of accurate information regarding program objectives, rights, and obligations, reflecting *amānah*, *tablīgh*, and *taʿāwun* (Marwah et al., 2025). Goal achievement assesses the fulfillment of program objectives, including timely claim disbursement and support for farmers' recovery, thereby realizing *maṣlaḥah*, *ḥifẓ al-māl*, *ḥifẓ al-nafs*, and *ḥifẓ al-ʿaql* (Rofiq & Khusnudin, 2025). Program monitoring evaluates supervision and support provided during implementation and reflects the Islamic principle of *hisbah*, emphasizing accountability, transparency, fairness, and responsibility in public services (Ardyansyah, 2025).

Thus, this study evaluates AUTP effectiveness through an integrated framework combining Budiani's (2009) administrative indicators with *maqāṣid al-sharīʿah*. Target accuracy represents *ʿadl*; socialization reflects *amānah*, *tablīgh*, and *taʿāwun*; goal achievement reflects *maṣlaḥah*, *ḥifẓ al-māl*, *ḥifẓ al-nafs*, and *ḥifẓ al-ʿaql*; while monitoring represents *hisbah*. Consequently, AUTP effectiveness is assessed not only by administrative performance but also by its capacity to realize the ethical objectives of Islamic economics.

Methods

This study employed a qualitative descriptive approach to examine the effectiveness of the Rice Farming Insurance Program (Asuransi Usaha Tani Padi—AUTP) from the perspectives of stakeholders directly involved in its implementation. This approach was appropriate because the relatively low participation of farmers despite their high exposure to agricultural risks required an in-depth understanding of administrative, institutional, social, and technical barriers rather than numerical measurement alone (Creswell & Creswell, 2023). The study also adopted Islamic economics as a normative evaluative perspective. The principles of *maqāṣid al-sharīʿah* were used to interpret whether AUTP implementation reflected *taʿāwun* (mutual assistance), *ʿadl* (justice), *maṣlaḥah* (public welfare), *ḥifẓ al-māl* (protection of wealth), *ḥifẓ al-nafs* (protection of life), and *ḥifẓ al-ʿaql* (protection of intellect) (Rangkuti et al., 2024; Marwah et al., 2025). Thus, administrative evaluation was combined with normative Islamic interpretation.

Simple descriptive statistics were used to summarize participants' demographic characteristics, farming status, farming experience, and digital literacy. These data were not intended for hypothesis testing but provided contextual information regarding the compatibility between AUTP requirements and farmers' technological capacities.

The study was conducted in Durian Village, Pantai Labu District, Deli Serdang Regency, North Sumatra, Indonesia, during October 2025. The site was purposively selected because it is a flood-prone agricultural area with relatively low AUTP participation despite frequent production risks. Preliminary observations identified administrative requirements, unequal information dissemination, technological barriers, and delayed claim disbursement as persistent challenges affecting farmer participation.

Participants were selected using purposive sampling based on their direct involvement and experience with AUTP implementation (Creswell & Creswell, 2023). A total of ten key informants participated, consisting of three non-participating farmers, three AUTP participants, one field officer representing the implementing agricultural insurance institution, one farmer group head, one Agricultural Extension Worker (PPL), and one Chairperson of the Farmers Group Association (Gapoktan). Participating and non-participating farmers were included to compare experiences concerning accessibility, administrative requirements, claim procedures, and program effectiveness, while institutional stakeholders provided information regarding administration, socialization, monitoring, and farmer assistance.

Unlike studies focusing primarily on participant satisfaction, this study examined public policy implementation. Therefore, informants represented different stakeholder categories rather than proportional AUTP beneficiaries. Data collection continued until no substantially new implementation issues emerged across stakeholder groups, indicating thematic saturation (Creswell & Creswell, 2023). Recurring themes included administrative barriers, unequal socialization, technological constraints, delayed claim disbursement, and limited institutional assistance.

Table 1
Research Informants

Informant Code	*Informant*	*Status / Role*	*Focus of Data Collection*
INF-01	Mr. SY	Tenant Farmer (Non-Participant)	Administrative barriers, land ownership issues, and target accuracy of AUTP.
INF-02	Mr. RH	Farmer (Non-Participant)	Limited program socialization, access to information, and reasons for not participating in AUTP.
INF-03	Mr. MY	Farmer (Non-Participant)	Distrust toward the insurance program, economic considerations, and perceptions of premium costs and benefits.
INF-04	Mrs. SW	Farmer (AUTP Participant)	Experiences regarding premium payment, claim submission, compensation, and perceived program effectiveness.
INF-05	Mr. AS	Farmer (AUTP Participant)	Administrative procedures, claim verification, institutional assistance, and implementation experiences.
INF-06	Mrs. NA	Farmer (AUTP Participant)	Claim experiences, compensation timeliness, and contribution of AUTP to farming continuity.
INF-07	Mr. RP	Field Officer of the Implementing Agricultural Insurance Institution	Program administration, farmer verification, premium management, claim mechanisms, and implementation procedures.
INF-08	Mr. AY	Head of Farmer Group	Participant registration, administrative coordination, monitoring, and claim facilitation.
INF-09	Mrs. DS	Agricultural Extension Worker (PPL)	Farmer assistance, agricultural extension, education regarding AUTP, and institutional support.
INF-10	Mr. BS	Chairperson of the Farmers Group Association (Gapoktan)	Overall implementation, institutional coordination, participation validation, and program evaluation.

Source: *Primary Field Data (2025).*

Data collection procedures

Data were collected through methodological triangulation involving semi-structured interviews, field observations, documentation studies, and simple descriptive statistics. Semi-structured interviews were the primary technique, allowing participants to describe their experiences while enabling the researcher to explore emerging issues. The interview protocol was based on Budiani's (2009) four indicators of program effectiveness: target accuracy, program socialization, goal achievement, and program monitoring. Open-ended and probing questions addressed beneficiary selection, program dissemination, and implementation challenges.

Islamic economic principles, particularly *ta'āwun* and *'adl*, were applied during interpretation, while questions concerning *maqāṣid al-sharī'ah* were not directly asked. Documentation studies reviewed participation records, claim administration documents, and technical guidelines to validate interview findings. Field observations examined farming activities and institutional interactions, including practical simulation of the geotagging-based Open Camera application to assess reported technological barriers.

Simple descriptive statistics were used to summarize participants' demographic characteristics and digital literacy as contextual support for the qualitative findings. Qualitative data were analyzed using the interactive model of Miles et al. (2018), consisting of data condensation, data display, and conclusion drawing.

Analysis began with repeated examination of interview transcripts, observation notes, and documentary evidence, followed by open coding to identify recurring issues such as technological barriers, administrative constraints, and farmers' perceptions of agricultural insurance. Similar codes were grouped according to Budiani's (2009) indicators: target accuracy, program socialization, goal achievement, and program monitoring.

The findings were subsequently interpreted through the normative framework of *maqāṣid al-sharī'ah*. Target accuracy was examined through *'adl* and protection of vulnerable farmers, while program socialization, goal achievement, and monitoring were interpreted through mutual assistance, public welfare, and accountability. Thus, the analysis consisted of two stages: first, evaluating administrative effectiveness using Budiani's indicators; and second, interpreting the findings through *maqāṣid al-sharī'ah*. Trustworthiness was strengthened through methodological triangulation by comparing perspectives among stakeholders, including farmers and Agricultural Extension Workers. Ethical standards were maintained by informing participants about the study's objectives, rights, and confidentiality. All identities were anonymized, and research materials were securely stored for academic purposes only.

Results and discussion

Characteristics of tenant farmers within the protection scheme

The effectiveness of AUTP is closely related to the vulnerability of tenant farmers, who bear production risks despite lacking formal land ownership (Gitosaputro et al., 2023). Land-related requirements such as SPPT PBB, generally registered under landowners' names, may restrict tenant farmers' access to AUTP (Ramdani & Khairati, 2022), contributing to low participation and uncertainty over insurance beneficiaries (Adi et al., 2025). In Durian Village, AUTP implementation remains suboptimal due to administrative, institutional, and technological barriers, analyzed through Budiani's (2009) indicators: target accuracy, program socialization, goal achievement, and program monitoring.

Table 2
AUTP Participation Recapitulation in Twenty Farmer Groups in Durian Village

Group Category	Number of Farmer Groups	Participation Details	Total Participants	Participation Percentage
Participating Groups	5	Concentrated in Hamlets I–III (Maju, Jaya, Karya, Tani 1, and Tani 2 Farmer Groups)	17	9.4%
Non-Participating Groups	15	Spread across Hamlets IV–IX (No registrants)	0	0%
Total	**20**	-	**17**	**9.4%**

Source: Gapoktan Durian Village Administrative Records (2025).

Only 17 of 180 registered rice farmers participated in AUTP, while 15 farmer groups (75%) had no participants, indicating limited program coverage and providing a basis for further interview analysis.

Table 3
Age Distribution of AUTP Participants and Technological Proficiency

Age Range	Number of Participants	Percentage	Technological Proficiency
30–40 years	3	17.6%	Able to operate Android smartphones independently
41–50 years	2	11.8%	Able to take photographs but experienced difficulties activating geotagging features
51–60 years	8	47.1%	Experienced difficulties operating the Open Camera application
Above 60 years	4	23.5%	Digitally illiterate and predominantly used basic mobile phones
Total	**17**	100%	70.6% experienced technological constraints

Source: Processed Primary Data (2025).

Table 3 shows that 70.6% of participating farmers experienced technological constraints, particularly elderly farmers with limited experience using smartphone applications.

Findings on Target Accuracy

Only 17 of 180 farmers (9.4%) participated in AUTP, while 75% of farmer groups had no participants, indicating very limited program coverage.

> "*I cultivate the land and pay all production costs myself, but the land certificate belongs to the owner. Usually, the owner does not want to lend the documents, so I cannot register for the insurance.*"

INF-02 was uncertain about tenant farmers' eligibility, while INF-10 identified incomplete land documents and ownership verification as major barriers. INF-03 acknowledged AUTP's benefits but viewed its procedures as complicated, with delayed claims reducing participation. This negative case shows that non-participation resulted from administrative barriers and uncertainty rather than rejection of insurance. From the Islamic perspective, these conditions weaken *'adl* (justice), create *gharar* (uncertainty) and *dharar* (harm), and hinder *ḥifẓ al-māl* (protection of wealth).

Findings on program socialization

AUTP socialization was uneven, with information mainly delivered through farmer group leaders. 70.6% of participants faced technological difficulties, indicating limited guidance on digital claim procedures. INF-07 attributed this to limited field personnel.

> *"Considering the limited number of field officers, we usually conduct socialization through farmer group leaders."*

INF-09 stated that elderly farmers had difficulties understanding the insurance mechanism and digital procedures:

> *"Many elderly farmers are unfamiliar with smartphone applications. Even after repeated explanations, they often still need assistance when submitting insurance claims."*

INF-02, a non-participant, confirmed that he had never attended official socialization and only received information from other farmers:

> *"I only heard about the insurance from other farmers. No one explained directly how to register or how the claim process actually works."*

Participating farmers reported that direct assistance from PPLs and farmer groups improved their understanding, but coverage remained limited, leaving some eligible farmers inadequately informed. From the Islamic perspective, this weakened *ta'āwun*, *'adl*, and *maṣlaḥah*, particularly for vulnerable (*mustaḍ'afīn*) farmers.

Findings on goal achievement

AUTP provided compensation for crop failures, but delayed disbursement reduced its effectiveness as immediate recovery capital.

INF-04 stated:

> *"The compensation was eventually paid, but I had already borrowed money to prepare the land again because I could not wait until the claim was processed."*

INF-05 similarly explained:

> *"The claim was accepted, but we had to wait for the verification process. During that period, we still needed money to continue farming."*

INF-06 added:

> *"The insurance certainly helped us, but it would be much better if the payment could be received more quickly because farming cannot stop for too long."*

INF-07 stated that claim verification involved several stages, while INF-10 confirmed that these procedures sometimes delayed compensation. INF-03 also expressed concern over uncertain payment timing. This negative case shows that compensation functioned, but delays reduced its practical value and caused some farmers to borrow informally. From the Islamic perspective, compensation supports *maṣlaḥah* and *ḥifẓ al-māl*, but payment uncertainty creates *gharar* and weakens *ḥifẓ al-māl, ḥifẓ al-nafs*, and *ḥifẓ al-'aql*. Faster and more predictable settlement is therefore needed.

Findings on program monitoring and assistance

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Monitoring and assistance were not yet optimal. Although institutional coordination was generally effective, technical support remained limited, especially for elderly and digitally limited farmers. INF-08 explained:

> *"Many members ask us for help because they cannot use smartphones. We assist them with taking photographs, uploading documents, and completing the claim requirements. Without this assistance, many claims would probably not be submitted."*

INF-09 similarly stated:

> *"We try to assist farmers whenever possible, but our working area is quite extensive. Consequently, we cannot always provide immediate assistance whenever farmers experience difficulties during the claim process."*

INF-07 confirmed that monitoring followed established procedures, but limited personnel reduced direct supervision, especially during widespread flooding. INF-10 also emphasized:

> "*The coordination among institutions is already quite good. What farmers need most is more intensive assistance in the field because many of them still experience difficulties completing the administrative requirements.*"

Farmer group administrators and PPLs facilitated claim submission, but limited personnel reduced continuity of assistance, representing a negative case. From the Islamic perspective, monitoring reflects hisbah, while assistance reflects amānah and ta'āwun; support for vulnerable farmers represents 'adl. Strengthening assistance would improve AUTP effectiveness and the realization of maqāṣid al-sharī'ah.

Discussion

The findings demonstrate that the limited effectiveness of the Rice Farming Insurance Program (AUTP) in Durian Village resulted from the interaction of structural, administrative, institutional, and technological barriers. Weaknesses in target accuracy, program socialization, goal achievement, and monitoring reinforced one another, resulting in low participation and limited program effectiveness. Thus, agricultural insurance effectiveness should be assessed not only through administrative performance but also through equitable protection for vulnerable farmers.

Regarding target accuracy, land ownership verification was the main barrier for tenant farmers. Administrative eligibility relied primarily on formal land documents rather than the farmers who actually bore production risks. Consequently, tenant farmers who financed seeds, fertilizers, pesticides, and labor could remain excluded from insurance protection. This finding is consistent with Saputri et al. (2024), who found that administrative complexity and unequal information access reduced participation in agricultural insurance. However, this study extends the finding by showing that the problem also lies in the incompatibility between formal land ownership requirements and the socioeconomic conditions of tenant farmers.

From the Islamic economic perspective, this condition indicates that 'adl (justice) has not been fully realized because farmers bearing production risks do not have equal access to protection. It may also create gharar (uncertainty) and dharar (harm), limiting ḥifẓ al-māl (protection of wealth). This supports Rangkuti et al. (2024), who emphasize that public policy effectiveness should be assessed through *maqāṣid al-sharī'ah*, particularly justice and public welfare.

Regarding program socialization, information was unevenly distributed because dissemination relied heavily on farmer group leaders. Elderly farmers, tenant farmers, and those living in peripheral areas often received incomplete information about registration, premiums, and digital claim procedures. This finding is partly consistent with Yudiarini et al. (2022), who emphasized the importance of institutional readiness in agricultural programs.

However, this study shows that implementation also depends on farmers' age and digital literacy, making digitalization a significant implementation barrier.

From the Islamic economic perspective, equitable information dissemination reflects amar ma'ruf, requiring government institutions to provide beneficial and accessible information. Farmers who remain uninformed despite being eligible may be regarded as mustaḍ'afīn, as limited information prevents them from accessing government protection. This supports Marwah et al. (2025), who emphasize *maqāṣid al-sharī'ah* as a normative framework for justice, empowerment, and inclusive development. Therefore, improved socialization is both an administrative responsibility and an ethical obligation reflecting 'adl, ta'āwun, and maṣlaḥah.

Regarding goal achievement, AUTP successfully provided compensation to farmers experiencing crop failure, but delays in claim settlement reduced its effectiveness as immediate recovery capital. Some farmers had to borrow money before receiving compensation, meaning insurance funds sometimes functioned more as debt repayment than immediate recovery support. These findings support Pratiwi et al. (2023) and Puspitasari & Yuanjaya (2024), who found that agricultural insurance effectiveness depends not only on compensation availability but also on timely claim settlement.

From the Islamic economic perspective, uncertainty regarding compensation timing creates gharar, because farmers cannot determine when financial assistance will be received. Prolonged delays may weaken ḥifẓ al-māl, ḥifẓ al-nafs, and ḥifẓ al-'aql, as farmers remain financially vulnerable and experience economic uncertainty. Thus, claim settlement efficiency also has ethical significance within *maqāṣid al-sharī'ah*.

Regarding monitoring and institutional assistance, the main problem was limited operational capacity rather than weak institutional commitment. Coordination among Agricultural Extension Workers (PPL), farmer groups, Gapoktan, and the implementing insurance institution generally functioned well, but limited field personnel reduced continuous technical assistance, particularly for elderly farmers with low digital literacy. This finding supports Adi et al. (2025), who highlighted the role of PPL in connecting government policies with rural communities, and Perkasa et al. (2024), who emphasized continuous supervision and institutional coordination.

From the Islamic economic perspective, monitoring reflects hisbah and amānah, emphasizing accountability, transparency, and responsible public service. Strengthening institutional assistance therefore supports administrative effectiveness while promoting justice, public trust, and sustainable welfare in accordance with *maqāṣid al-sharī'ah*.

Overall, this study demonstrates that Budiani's (2009) four indicators can be strengthened through the perspective of *maqāṣid al-sharī'ah*. Budiani's framework evaluates administrative implementation through target accuracy, socialization, goal achievement, and monitoring, while the Islamic economic perspective evaluates whether implementation also realizes 'adl, ta'āwun, maṣlaḥah, ḥifẓ al-māl, ḥifẓ al-nafs, and ḥifẓ al-'aql. Therefore, AUTP effectiveness should be understood as both administrative success and the ability to provide equitable, sustainable protection for vulnerable farmers.

Practically, administrative requirements should be simplified through alternative land-verification mechanisms for tenant farmers, such as certification from farmer groups or village authorities. Socialization should be conducted directly at the farmer level and accompanied by digital literacy assistance for elderly farmers. Claim verification should be accelerated through clear service standards, while the number and capacity of field officers should be strengthened. These measures can improve administrative effectiveness while supporting the ethical objectives of *maqāṣid al-sharī'ah*.

Conclusion

This study concludes that the implementation of the Rice Farming Insurance Program (AUTP) in Durian Village has not yet achieved optimal effectiveness due to interconnected weaknesses in target accuracy, program socialization, goal achievement, and monitoring. Administrative barriers limited tenant farmers' access to the program, uneven socialization reduced farmers' understanding, delayed claim settlement diminished the practical value of compensation, and limited institutional assistance hindered effective program implementation.

From the perspective of Islamic economics, these findings indicate that the implementation of AUTP has not yet fully realized the principles of *'adl* (justice), *ta'awun* (mutual assistance), *maslahah* (public welfare), *hifz al-mal* (protection of wealth), *hifz al-nafs* (protection of life), and *hifz al-'aql* (protection of intellect). This study demonstrates that integrating program effectiveness with the perspective of *maqasid al-shariah* provides a more comprehensive framework for evaluating public policy implementation. This study recommends simplifying land verification for tenant farmers, strengthening direct socialization and digital assistance, accelerating claim settlement, and improving continuous field assistance. As a qualitative case study conducted in one village with ten informants, the findings are context-specific and cannot be generalized statistically. Future studies are encouraged to involve broader study areas and a larger number of AUTP participants to further examine the effectiveness of agricultural insurance from the perspective of *maqasid al-shariah*.

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