# RISDA and Rural Development: Socioeconomic Impacts of Monsoon Season Aid in Padang Terap, Kedah, Malaysia

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## ABSTRACT

Established on January 1, 1973, RISDA significantly supports rural livelihoods in Malaysia, particularly among rubber smallholders. This study assesses the socioeconomic impacts of RISDA's Monsoon Season Aid (BMT) in Padang Terap, Kedah. Mixed-method analysis—including surveys (n=113) and qualitative interviews—reveals substantial income stability, improved educational outcomes, and strengthened community resilience. Persistent challenges include bureaucratic delays and market volatility. Using Sen's Capability Approach, recommendations emphasize digital subsidy management, rubber price stabilization, financial education, and agricultural innovation, aligning with Malaysia's Sustainable Development Goal 1 (No Poverty).

**Keywords:** RISDA, BMT, rural poverty, capability approach, socioeconomic impacts, Malaysia.ABSTRAK

Ditubuhkan pada 1 Januari 1973, Pihak Berkuasa Kemajuan Pekebun Kecil Perusahaan Getah (RISDA) memainkan peranan penting dalam menyokong kehidupan masyarakat luar bandar di Malaysia, terutamanya dalam kalangan pekebun kecil getah. Kajian ini menilai impak sosioekonomi Bantuan Musim Tengkujuh (BMT) RISDA di Padang Terap, Kedah. Analisis kaedah campuran—termasuk tinjauan (n=113) dan temu bual kualitatif—mendedahkan peningkatan ketara dalam kestabilan pendapatan, hasil pendidikan yang lebih baik, serta ketahanan komuniti yang kukuh. Namun, cabaran seperti kelewatan birokrasi dan turun naik harga pasaran masih wujud. Dengan menggunakan Pendekatan Keupayaan Sen, cadangan kajian menekankan pengurusan subsidi secara digital, penstabilan harga getah, pendidikan kewangan, dan inovasi pertanian, selari dengan Matlamat Pembangunan Mampan 1 (Tanpa Kemiskinan) Malaysia.

## INTRODUCTION

Malaysia's economic development has been remarkable over the past several decades, significantly reducing national poverty rates and transitioning toward a high-income economy. However, rural poverty remains persistent, particularly among smallholder rubber farmers who face structural disadvantages related to climate, global market instability, and limited capital resources (Department of Statistics Malaysia [DOSM], 2023; World Bank, 2022; Zulkifli & Yusof, 2019). These smallholders, many of whom reside in northern states such as Kedah, are frequently impacted by monsoon seasons that limit rubber tapping activities for several months each year (RISDA, 2021; Mohd Noor et al., 2021).

To address these vulnerabilities, the Malaysian government established the Rubber Industry Smallholders Development Authority (RISDA) on January 1, 1973, through the enactment of Act 85, replacing the earlier Rubber Industry (Replanting) Board (RIRB) that had been formed in 1952 (RISDA, 2021; Ministry of Plantation and Commodities, 2023). The transformation into RISDA represented a strategic shift from replanting-centric policies toward a more comprehensive rural development agenda, encompassing productivity enhancement, educational support, infrastructure development, and direct financial aid programs such as the Monsoon Season Aid (Bantuan Musim Tengkujuh, BMT) (Shamsudin & Othman, 2020).

The BMT program, one of RISDA's flagship financial interventions, provides RM800 per year to each eligible smallholder during the monsoon season, a period typically characterized by reduced or zero productivity due to

rainfall-related disruptions (RISDA, 2023). The goal is to maintain minimum household income and purchasing power during the "off-season," thereby preventing seasonal poverty (Astro Awani, 2025). As of 2025, the program reached approximately 331,146 smallholders across Malaysia, with 39,604 recipients in Kedah alone, reflecting its substantial geographical and demographic coverage (Astro Awani, 2025; European Rubber Journal, 2024).

One district of strategic interest is Padang Terap in Kedah, a region where rubber cultivation forms a cornerstone of the local economy. The majority of smallholders in Padang Terap are classified as economically vulnerable due to their reliance on a single seasonal commodity. The BMT program, therefore, plays a vital role in ensuring livelihood continuity, especially during weather-related downtimes (Yusof et al., 2022).

This paper seeks to provide an in-depth analysis of the socioeconomic effects of the BMT program on smallholder households in Padang Terap, alongside identifying key operational bottlenecks such as bureaucratic delays and lack of digital infrastructure. Furthermore, it evaluates the sustainability and scalability of the initiative through theoretical and empirical lenses.

**Research Objectives:**

1. Assess the socioeconomic impact of RISDA's BMT program on rubber smallholders in Padang Terap, Kedah.

2. Identify operational challenges hindering the program's efficiency and effectiveness.

3. Propose evidence-based recommendations to enhance the program's impact and sustainability in line with SDG 1 (No Poverty).

By evaluating the BMT program's implementation and outcomes in Padang Terap, this paper contributes to the academic discourse on rural development, offering insights for policymakers and researchers interested in sustainable poverty eradication mechanisms in ASEAN.

## HISTORICAL CONTEXT OF RISDA

The Rubber Industry Smallholders Development Authority (RISDA) is a cornerstone institution in Malaysia's rural and agricultural development framework. Its origins trace back to 1952, during British colonial rule, with the establishment of the Rubber Industry (Replanting) Board (RIRB). The board was formed under the Rubber Industry (Replanting) Fund Ordinance No. 1 of 1952, aimed primarily at enhancing rubber productivity through replanting schemes financed by a cess imposed on rubber exports (Shamsudin & Othman, 2020; Ministry of Plantation and Commodities, 2023).

Following Malaysia's independence in 1957, the government increasingly recognized the strategic role of smallholders in sustaining the national rubber industry and contributing to rural livelihoods. However, smallholders were disproportionately affected by issues such as declining yields, aging rubber trees, land fragmentation, limited market access, and global price volatility (Zulkifli & Yusof, 2019; World Bank, 2022). These structural challenges prompted the need for a more holistic institutional response beyond technical replanting.

In response, the Rubber Industry Smallholders Development Authority (RISDA) was officially established on January 1, 1973, under the Rubber Industry Smallholders Development Authority Act 1972 (Act 85) (RISDA, 2021). This marked a significant policy shift, transforming the narrow mandate of the RIRB into a broader developmental agency tasked with enhancing socioeconomic equity in rural Malaysia.

RISDA's establishment was a key feature of the Second Malaysia Plan (1971–1975), which aligned with the New Economic Policy (NEP) objectives of restructuring society and eradicating poverty (Economic Planning Unit, 1971). The NEP recognized the critical need to uplift rural Bumiputera communities, particularly those dependent on small-scale rubber production, which formed the economic backbone of states such as Kedah, Kelantan, and Terengganu.

Over the decades, RISDA's mandate has evolved significantly, now encompassing a suite of rural development programs such as:-

a) Income stabilization schemes, including the Monsoon Season Aid (BMT).

b) Productivity and replanting grants.

c) Educational sponsorships for smallholders' children.

d) Entrepreneurship and capacity-building programs.

e) Rural infrastructure development, including roads, houses, and ICT access (RISDA, 2021; Ministry of Plantation and Commodities, 2023).

Institutionally, RISDA has grown into a quasi-governmental body with a decentralized structure, operating through state and district-level offices such as RISDA Padang Terap. The agency collaborates with various stakeholders, including the Ministry of Rural and Regional Development or Kementerian Pembangunan Luar Bandar (KPLB) and now known as Kementerian Kemajuan Desa dan Wilayah (KKDW) or Ministry of Rural and Regional Development, the Ministry of Economy, and research institutions like Universiti Sains Malaysia (USM), Universiti Putra Malaysia (UPM) and MARDI, ensuring policy coherence and knowledge-based interventions (MARDI, 2022; UPM, 2021).

By 2023, RISDA had impacted over 470,000 smallholders nationwide, contributing directly to Malaysia's achievement of several Sustainable Development Goals (SDGs), particularly SDG 1 (No Poverty), SDG 2 (Zero Hunger), and SDG 8 (Decent Work and Economic Growth) (UNDP, 2023; RISDA, 2023).

Despite its successes, RISDA continues to face contemporary challenges, including climate change, digital exclusion, and the need for market reforms, those issues that require further institutional adaptation to remain relevant in the 21st century.

## LITERATURE REVIEW

### Rural Poverty in Malaysia: Structural Roots And Persistent Inequities

Malaysia has made considerable progress in reducing national poverty rates, but rural poverty remains deeply entrenched, especially in communities reliant on small-scale rubber production. These areas are characterized by low and irregular incomes, fragile infrastructure, and limited access to formal markets, technology, and social protection systems (Beegle et al., 2016; DOSM, 2023).Rubber smallholders are particularly vulnerable to seasonal monsoon disruptions, which halt latex production for weeks or months, leading to income shocks. This is compounded by volatility in global rubber prices, which often drop below subsistence thresholds, forcing many smallholders into debt or informal labor markets (Zulkifli & Yusof, 2019; World Bank, 2022). The Department of Statistics Malaysia (2023) continues to report higher poverty incidence in agricultural districts, particularly in northern Peninsular Malaysia which include Kedah, Kelantan, and Terengganu.

Various Malaysian policy frameworks, including the New Economic Policy (1971–1990) and Shared Prosperity Vision 2030, have aimed to alleviate rural poverty. However, implementation challenges and structural inequities, such as land tenure insecurity and unequal access to credit, persist (Shamsudin & Othman, 2020). Programs like Bantuan Sara Hidup (BSH) or Sumbangan Tunai Rahmah (STR) and eKasih have provided short-term relief but have limited transformative impact due to fragmentation and lack of targeting (UNDP, 2023; World Bank, 2022).

According to Mohammad Zaki & Faridah (2025), while Malaysia, Indonesia, and Thailand have all demonstrated a commitment to addressing rural poverty through various national programmes, the effectiveness of these efforts remains constrained by systemic challenges such as limited inclusivity, weak policy integration, and insufficient community empowerment. Their comparative analysis emphasises that poverty eradication strategies must go beyond economic assistance and adopt a values-based governance

approach. They argue that the integration of Malaysia's MADANI framework, which centers on justice, sustainability, compassion, and inclusive development—has the potential to transform rural development efforts. By embedding these ethical principles into policy design and implementation, poverty alleviation initiatives can become more holistic, equitable, and sustainable, ultimately improving the quality of life for underserved rural communities.

### RISDA's Monsoon Season Aid (BMT): Income Smoothing Amid Structural Volatility

Introduced by RISDA, the Monsoon Season Aid (BMT) program serves as a targeted financial safety net, providing RM800 annually to registered rubber smallholders during the monsoon season. This aid is critical because the monsoon period (typically November to January) sees a cessation of rubber tapping due to wet and unsafe terrain, leading to zero harvest income for most smallholders (RISDA, 2021; Astro Awani, 2025).

BMT represents an important evolution in Malaysian rural policy, shifting from pure productivity-based support (e.g., replanting grants) to direct cash assistance aimed at consumption stabilization. However, its effectiveness in lifting households out of multidimensional poverty remains under scrutiny. Studies have shown that while the aid improves short-term liquidity, it does little to mitigate broader structural risks such as global price shocks, climate vulnerability, and digital exclusion (Alkire & Santos, 2014; OECD, 2021).

International comparisons highlight potential models for enhancing BMT's effectiveness. Thailand's rubber price support scheme, for instance, introduces a guaranteed minimum price, enabling farmers to plan ahead despite market fluctuations (FAO, 2022). Meanwhile, Indonesia's BLT (Bantuan Langsung Tunai) uses digital payment systems and national ID integration to streamline disbursements and improve coverage, reducing bureaucratic delays (Muralidharan et al., 2016; IMF, 2023). Indonesia's 2015 reform offers a compelling model. By reallocating $15 billion in fossil fuel subsidies to healthcare and conditional cash transfers, the country reduced rural poverty by 5% within two years (Mohammad Zaki & Faridah, 2025).

### Theoretical Framework: The Capability Approach

This study is anchored in Amartya Sen's Capability Approach, a leading theoretical model in poverty research. Sen (1999) argues that poverty is best understood as a deprivation of basic capabilities, not merely income. Capabilities refer to the real freedoms' individuals enjoy in achieving valued forms of life such as being educated, healthy, and economically secure.

Applied to the context of RISDA's BMT, the Capability Approach allows us to assess how seasonal aid improves functionings (e.g., being nourished, sending children to school) and whether it builds long-term freedoms (e.g., financial resilience, agency over livelihood decisions). By focusing on capabilities rather than monetary thresholds alone, this framework recognizes that poverty is multidimensional, intersecting with issues like access to infrastructure, technology, and social services (Alkire & Foster, 2011; Robeyns, 2017).

Additionally, the Capability Approach allows for the inclusion of climate vulnerability, a growing concern for smallholder farmers. Research from the Intergovernmental Panel on Climate Change (IPCC, 2022) and the Green Climate Fund (2023) indicates that environmental shocks, unless mitigated through institutional mechanisms, significantly undermine poor communities' capability sets.

Thus, RISDA's BMT should be evaluated not only by its ability to provide temporary income but by how effectively it enables recipients to enhance their life chances, invest in children's education, withstand climate risks, and participate in economic and civic life.

## METHODOLOGY

### Research Design

This study employed a sequential explanatory mixed-methods design, which integrates both quantitative and qualitative data collection and analysis to provide a comprehensive understanding of the socioeconomic impact of RISDA's Monsoon Season Aid (BMT) program in Padang Terap, Kedah. The rationale for adopting this

approach lies in its capacity to quantify patterns across a larger sample size while also capturing rich, context-specific insights through in-depth interviews (Creswell & Plano Clark, 2018).

The mixed-methods design unfolded in two phases:-

Quantitative Phase: A structured survey was administered to a sample of 113 smallholder rubber farmers who received BMT in 2023, capturing demographic profiles, income changes, educational expenditures, and perceptions of the aid's usefulness.

Qualitative Phase: Following the survey, 20 semi-structured interviews were conducted, including 15 smallholders and 5 RISDA officials at the district and state levels, to explore operational challenges, administrative procedures, and perceptions of program sustainability.

This two-stage approach enabled the triangulation of data sources and the refinement of quantitative findings through qualitative elaboration, strengthening the internal validity and reliability of the study (Tashakkori & Teddlie, 2010).

**Sampling Strategy**

A purposive sampling technique was used to select respondents who had direct experience with the BMT program during the most recent monsoon season (November 2023–January 2024). This included recipients from multiple villages across Padang Terap to ensure geographical and demographic variation, including:-

1. Gender balance (60% male, 40% female)
2. Age range (25–65 years)
3. Landholding size (0.5 to 3 hectares)
4. Replanting status (first-time vs. recurring beneficiaries).

The sample of 133 participants (113 survey respondents + 20 interviewees) was deemed sufficient for achieving data saturation, a key criterion for qualitative robustness (Guest, Bunce, & Johnson, 2006).

**Data Collection Instruments**

Quantitative Survey: The structured questionnaire consisted of 28 items across five thematic domains: demographic data, household income and expenditure, agricultural practices, educational investment, and perceptions of BMT. The instrument was validated through a pilot test involving 10 smallholders in Kuala Nerang, Padang Terap, Kedah with subsequent revisions for clarity and cultural sensitivity.

Interview Protocol: The qualitative interview guide included open-ended questions focused on program awareness, satisfaction with aid delivery, administrative experiences, and suggestions for improvement. Interviews were conducted in Bahasa Melayu, recorded with consent, and later transcribed verbatim for analysis.

**Analytical Framework**

Quantitative Analysis: Statistical analysis was performed using SPSS Version 26. Descriptive statistics were used to profile respondents, while paired sample t-tests measured pre- and post-aid income differences. Crosstabulations assessed relationships between demographic variables and program impact indicators.

Qualitative Analysis: Interview transcripts were imported into NVivo 12 and coded thematically using both deductive codes derived from the Capability Approach (e.g., income security, education access) and inductive codes emerging from participant narratives. Analytical rigor was maintained through double-coding and intercoder agreement measures.

This combined analysis allowed for the integration of "breadth" (quantitative) and "depth" (qualitative), offering a nuanced understanding of how BMT affects rubber smallholders' livelihoods within the broader framework of rural development (Bryman, 2006).

# FINDINGS

### Improved Economic Stability Among Smallholders

Survey data from Padang Terap revealed that 75% of BMT recipients experienced improved income stability during the monsoon season. Average household income during this period rose from RM800 to RM1,200 after the disbursement of RISDA's Monsoon Season Aid or BMT. This corresponds with global literature on temporary cash transfers as an effective short-term poverty alleviation mechanism, especially when income volatility is seasonally or climatically driven (Beegle et al., 2016; World Bank, 2022).

However, while BMT alleviates acute income shortfalls, it does not necessarily transform chronic multidimensional poverty. According to Alkire and Santos (2014), overcoming poverty requires addressing dimensions such as education, health, and living standards. BMT shows some potential in this regard, as evidenced by reductions in school dropout rates among smallholder families, but it remains limited in scope beyond immediate consumption smoothing.

### Positive Educational Outcomes

As a secondary impact, 30% of respondents reported reinvesting BMT funds into their children's education, allowing for the purchase of school supplies, uniforms, and transportation. This finding aligns with multidimensional poverty research that highlights educational access as a key determinant of long-term capability development (Alkire & Santos, 2014; UNDP, 2023).

The ability to maintain education during economic shocks reinforces Sen's Capability Approach, which emphasizes expanding individuals' freedoms to lead lives they value (Sen, 1999). Education, in this framework, is not only an outcome but also a vehicle for escaping poverty intergenerationally.

### Operational and Administrative Challenges

Despite BMT's intended benefits, operational delays are a common complaint. About 60% of surveyed respondents experienced late disbursements (up to three months), undermining the program's effectiveness during critical periods. This reflects broader challenges in state capacity and service delivery, especially in decentralized rural areas. Comparative studies from India, such as the use of biometric smartcards in public programs, have demonstrated how digital infrastructure can dramatically reduce leakage and improve delivery efficiency (Muralidharan, Niehaus, & Sukhtankar, 2016).

In Malaysia's context, integrating such digital tracking and distribution mechanisms could enhance RISDA's administrative performance. Moreover, the World Bank (2021) highlights that digital infrastructure plays a transformative role in improving rural governance and public service delivery.

### Market Volatility and Structural Economic Risk

Although BMT cushions short-term income losses, 70% of smallholders remain vulnerable to long-term rubber price fluctuations. This is consistent with findings by Chen and Ravallion (2020), who note that relative income volatility remains a persistent driver of poverty, even when nominal income temporarily increases.

Global efforts to stabilize commodity prices through government intervention or producer cooperatives as recommended in the Social Panorama of Latin America (ECLAC, 2020), it may provide policy lessons for Malaysia. For example, Thailand's rubber price stabilization model offers a precedent for introducing minimum price guarantees, potentially ensuring that smallholders retain stable market earnings irrespective of seasonal or geopolitical shocks (FAO, 2022).

### Climate Change Vulnerability

Smallholders in Padang Terap report increasing concern about climate variability and extended rainy seasons, which now begin earlier and last longer than in previous decades. This corroborates findings from the Intergovernmental Panel on Climate Change (2022), which highlights that climate-exposed agricultural communities—particularly those dependent on monocultures like rubber that face disproportionate livelihood risks.

The vulnerability of smallholders in Padang Terap thus requires integrating climate resilience into rural development programs. For example, similar programs funded by the Green Climate Fund (2023) in Bangladesh have combined cash assistance with infrastructure investment, such as embankments and drainage systems, to mitigate environmental threats.

### Gaps in Digital Inclusion

Despite its potential, RISDA's BMT program still relies heavily on manual applications and paper-based verification. Many smallholders are not connected to mobile banking or e-Government platforms. This reflects Malaysia's broader digital divide, particularly in semi-rural districts like Padang Terap.

As noted by the International Telecommunication Union (2023), digital exclusion undermines access to social protection schemes and prevents efficient communication between aid providers and recipients. Bridging this gap could improve transparency, reduce bureaucratic bottlenecks, and empower beneficiaries to track their aid status in real time.

## POLICY RECOMMENDATIONS

To enhance the socioeconomic impact, operational efficiency, and long-term sustainability of the **Monsoon Season Aid (BMT)** program administered by **RISDA**, this study proposes the following four key policy recommendations. These are designed to address both **short-term challenges and long-term structural limitations**, ensuring alignment with Malaysia's commitment to **Sustainable Development Goal 1: No Poverty**.

### Digitize Aid Delivery Through A Centralized E-Subsidy Platform

**Challenge Addressed**: Bureaucratic delays and lack of transparency in BMT distribution. The study found that 60% of respondents experienced delays in receiving BMT funds, it is an issue that can be resolved by adopting a digital subsidy disbursement system similar to India's Direct Benefit Transfer (DBT) and Indonesia's Bantuan Langsung Tunai (BLT) models (Muralidharan, Niehaus, & Sukhtankar, 2016; OECD, 2021). These platforms use biometric authentication, real-time tracking, and mobile integration to deliver government assistance directly to beneficiaries' bank accounts with minimal delay or corruption. Malaysia could implement a RISDA e-BMT mobile application, integrated with:-

a) MyKad identification.

b) e-Kasih database for eligibility verification.

c) Push notifications for payment status and updates.

This transformation would not only increase transparency but also enhance accountability by allowing beneficiaries to report errors and provide feedback in real time (World Bank, 2022; ITU, 2023).

**Expected Outcome**: Improved delivery efficiency, reduced administrative costs, and increased beneficiary trust.

**Introduce A Rubber Price Floor Guarantee (PFG) During Monsoon Season**

**Challenge Addressed**: Continued vulnerability to global rubber price volatility.

Although BMT temporarily stabilizes household income, long-term security remains elusive due to market instability. To ensure price certainty, the government could implement a seasonal Rubber Price Floor Guarantee (PFG) mechanism, similar to Thailand's support scheme where the state intervenes when prices fall below RM2.20/kg (FAO, 2022). Malaysia's model could include:-

a) Pre-agreed seasonal floor prices.

b) Subsidies for the difference between market and floor price.

c) Funding through rubber export levies or green financing programs.

This mechanism would protect farmers from global price shocks and encourage continued investment in rubber production during lean seasons (Chen & Ravallion, 2020).

**Expected Outcome**: Improved financial predictability and economic resilience among smallholders.

**Establish Financial Literacy And Climate Adaptation Training Modules**

**Challenge Addressed**: Limited knowledge in managing aid, saving, and adapting to climate change. Although BMT provides a cash safety net, its impact can be multiplied if paired with capacity-building programs. In collaboration with academic institutions such as Universiti Sains Malaysia (USM), Universiti Putra Malaysia (UPM) and MARDI.

Apart from that, RISDA should introduce a "Smallholder Resilience Training Series" focusing on:

a) Basic financial management and budgeting.

b) Diversification strategies for farm income,

c) Awareness of climate-resilient agricultural practices.

d) Risk pooling and weather-indexed insurance options.

Evidence from programs in sub-Saharan Africa and ASEAN shows that financial literacy and climate adaptation training significantly increase the long-term effectiveness of cash transfer schemes (Alkire & Santos, 2014; Green Climate Fund, 2023; UNDP, 2023).

**Expected Outcome**: Increased savings behavior, reduced reliance on short-term aid, and improved adaptation to monsoon-related risks.

**Develop an Integrated Climate-Resilient Rubber Strategy (CRRS)**

**Challenge Addressed**: Increased vulnerability to climate-induced production disruptions. The growing unpredictability of rainfall and temperature changes highlighted by the IPCC (2022) that demands that Malaysia move beyond income compensation to address the climatic root causes of rural livelihood disruption. This study recommends a Climate-Resilient Rubber Strategy (CRRS), led by RISDA and MARDI, focusing on:-

a) Development of flood-resistant and early maturing rubber clones.

b) Introduction of agroforestry models to reduce monoculture risk.

c) Investment in community rainwater harvesting and soil management.

d) Promotion of off-season crops that can generate supplementary income.

This policy would mirror Kenya's drought-resilient crop program funded by FAO and demonstrate Malaysia's leadership in climate-smart agriculture (FAO, 2022).

**Expected Outcome**: Long-term reduction in climate vulnerability and enhanced rural livelihood sustainability.

## CONCLUSION

This study evaluated the socioeconomic impacts of RISDA's Monsoon Season Aid (BMT) program on rubber smallholders in Padang Terap, Kedah, within the broader context of Malaysia's rural development strategy. Utilizing a mixed-methods approach, the research reveals that BMT significantly improves short-term income stability, educational access, and seasonal poverty mitigation. It empowers smallholder households to sustain consumption during monsoon-induced income disruptions and to make strategic investments in education and farming.

Framed within Amartya Sen's Capability Approach, these outcomes indicate that BMT not only addresses immediate financial needs but also expands the real freedoms of rural communities to lead lives they value.

However, the study also identifies critical challenges, including bureaucratic inefficiencies, rubber market volatility, and vulnerability to climate shocks, all of which constrain the program's long-term efficacy. To ensure the BMT program's continued relevance and scalability, this paper proposed four strategic policy recommendations:-

1. The digitization of aid delivery through a centralized e-BMT platform.
2. The implementation of a price floor guarantee during monsoon seasons.
3. Financial and climate literacy programs.
4. A comprehensive climate-resilient rubber strategy (CRRS).

Collectively, these interventions align with Malaysia's commitments under Sustainable Development Goal 1 (No Poverty) and Sustainable Development Goal 13 (Climate Action), while advancing RISDA's institutional capacity to respond to future socioeconomic and environmental disruptions.

Ultimately, RISDA must evolve from a conventional subsidy administrator into a multi-dimensional rural development institution, leveraging digital tools, participatory governance, and climate adaptation to create resilient, inclusive, and empowered farming communities. Future research should incorporate longitudinal and gender-disaggregated analysis to deepen our understanding of the BMT program's long-term impacts.

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