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ORIGINAL RESEARCH ARTICLE

Policy-Implementation Gaps and Local Readiness in Economic Development Acceleration

The Motaain Border Area, Belu Regency

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Abstract: Border areas in Indonesia face persistent challenges in economic development despite their strategic importance for national sovereignty and regional integration. The Motaain border area in Belu regency, specifically targeted under Presidential Instruction of the Republic of Indonesia No. 1 of 2021, represents a critical case where multiple development programs have been implemented to accelerate economic growth. This study aims to analyze the potential problems arising from the implementation of economic development acceleration programs in the Motaain border area. An exploratory qualitative method was employed, utilizing a literature review and in-depth interviews with six informants: two key informants from academia and the provincial government, and four informants from the regency government and community leaders. The findings indicate three programs that encounter problems: (1) the provision of cattle breeding stock is constrained by traditional extensive grazing systems and low livestock productivity; (2) the construction of an export-standard slaughterhouse is threatened by an insufficient cattle population and inconsistent cattle quality; and (3) the development of the poultry feed industry faces raw-material scarcity arising from low corn productivity and subsistence farming patterns. These programs suggest implementation gaps between central government directives and local readiness in terms of productivity, quality, and sustainability. The study concludes that accelerated economic development in border areas must be accompanied by capacity building of economic actors and strengthened inter-regional cooperation to ensure program effectiveness and long-term sustainability.

Keywords: border area; economic development acceleration; policy implementation; local readiness; Motaain.

1. Introduction

Management of border areas is urgently needed because they are strategic and crucial in maintaining Indonesia's territorial integrity. Additionally, management of border areas provides legal certainty regarding state territory, authority to manage state territory, sovereign rights, security, and environmental sustainability (Itasari, 2020). A study reported that proper management of border areas helps minimize potential problems in those regions and positively contributes to community economic growth.

Several issues can cause problems in border areas if not appropriately managed. Border issues impact the constellation of national development strategies because borders are closely linked to the national development mission, primarily to ensure territorial integrity and sovereignty, maintain national defense and security, and improve societal welfare (Sudiar, 2015).

Therefore, it is very important for the central government to implement special policies to address the problems and opportunities in the border region. The central government's policy is to develop border areas as national strategic areas, thereby improving the welfare of border communities. The government's policy will facilitate cross-border mobilization and foster new economic centers. According to Undang-Undang Republik Indonesia Nomor 17 Tahun 2007 tentang Rencana Pembangunan Jangka Panjang Nasional Tahun 2005–2025 [Law of the Republic of Indonesia No. 17 of 2007 on the National Long-Term Development Plan 2005–2025], state efforts to manage state boundaries and the development of border areas are directed to prioritize a welfare approach while balancing matters of defense, security, the environment, and socioeconomics.

Border management in Indonesia faces two strategic issues alongside a range of prominent problems: the management of state boundaries and the management of border areas (Decentralization Support Facility, 2011). Border areas develop slowly, have low accessibility, and remain largely underdeveloped, with limited infrastructure (Kennedy et al., 2019). Border areas have limited development dynamics. In such areas, people tend to orient toward neighboring countries for social and economic services (Kennedy et al., 2019). In recent years, Indonesia's borders have urgently needed attention, especially those shared with Malaysia, Timor-Leste, and Papua New Guinea. Of these three neighboring countries, Malaysia is considered the most advanced in managing its border areas (Raharjo, 2013).

Due to these issues, President Joko Widodo has given serious attention to border areas. The government developed policies to strengthen villages and regions and aligned the activities of the central and regional governments through sectoral and regional development budgets, which are directed at developing growth areas and integrated areas near the borders. Additionally, the government built several Pos Lintas Batas Negara [State Border Crossing Posts] (PLBN) to accelerate development in the border area. Therefore, border areas urgently need attention to protect the Republic of Indonesia.

Border areas, such as the Motaain border area in Belu regency, have a policy of economic development acceleration. PLBN Motaain was built and inaugurated on December 28, 2016. Meanwhile, the acceleration policy is contained in Instruksi Presiden Republik Indonesia Nomor 1 Tahun 2021 tentang Percepatan Pembangunan Ekonomi pada Kawasan Perbatasan Negara di Aruk, Motaain, dan Skouw [Presidential Instruction of the Republic of Indonesia No. 1 of 2021 on Accelerating Economic Development in the State Border Areas of Aruk, Motaain, and Skouw] (Inpres 1/2021).

Twenty programs have been implemented by the Ministry of Agriculture, the Ministry of Industry, the Ministry of Public Works and Public Housing, the Ministry of Trade, the Ministry of Villages, Development of Disadvantaged Regions, and Transmigration, and the Ministry of Energy and Mineral Resources. Construction of roads and buildings, management of inner-city and out-of-town roads, and the construction of dams in several areas have been conducted. However, several program activities trigger new problems when conducted. Therefore, this study focuses on several of these program activities to accelerate economic development in the Motaain border area.

It is important to accelerate economic development in the Motaain border area for three reasons. First, the economic sector is the driving force of development. Therefore, it is necessary to develop both roads, which facilitate access to transportation and to trade in goods and services, and facilities for agriculture, livestock, and trade. Second, Belu regency is classified as an underdeveloped area. The Human Development Index has reached only 62.77 in 2021. Belu regency's own-source revenue has also reached only 8.6% of the total Anggaran Pendapatan dan Belanja Daerah [Regional Revenue and Expenditure Budget]. The largest contribution to the economy of Belu regency comes from the agriculture, services, trade, hotel, and restaurant sectors (Nuradhawati & Kristian, 2022). Third, the economic potential, especially in the agricultural and livestock sectors, is quite large, but agricultural productivity shows a fluctuating trend from year to year. This is due to the lack of agricultural infrastructure, and the ability of farmers to adopt new technologies is still very limited. Therefore, efforts to accelerate economic development are a necessity that must be fulfilled immediately, with the main target of increasing economic performance in the agricultural, livestock, trade, and service sectors.

Many studies on development in border areas have been undertaken, including the development of border areas as an effort to equalize regional development in Indonesia (Budianta, 2010), economic development of border areas between countries in Riau Province (Bakce et al., 2019), economic growth along the Indonesia–Malaysia border (Irsan et al., 2017), and the development of the Timor Tengah Utara [North Central Timor] (TTU) regency border area, with the Oecusse enclave district as an agropolitan area (Taena et al., 2010). Border-area management has shifted since the establishment of the National Border Management Agency, from security-oriented policies to development-oriented policies. To improve people's welfare, the outward-looking management paradigm treats border areas as gateways for the movement of people and goods and for cross-border activity, especially trade and tourism with neighboring countries.

Several studies have been conducted in the border area of Belu regency. Siregar (2014) examined the development of community behavior regarding the utilization of regional potential and border security between Indonesia and Timor-Leste. Bara Lay and Wahyono (2018) investigated the impact of PLBN Motaain on community perceptions in the Republik Indonesia–Republik Demokratik Timor Leste (RI–RDTL) border area. Metty (2017) proposed a spatial-based economic development concept for Silawan village in Belu regency. While these studies provide valuable insights into border-area development, significant research gaps remain.

First, existing studies have not examined the implementation challenges of centralized economic development acceleration policies in border contexts. Bara Lay and Wahyono (2018) focused on community perceptions of infrastructure development but did not analyze the operational feasibility and sustainability of

economic programs. Second, previous research has not systematically assessed local readiness—in terms of productivity capacity, quality standards, and resource continuity—to absorb and sustain large-scale economic interventions (Balehegn et al., 2025). Metty (2017) proposed spatial concepts but did not investigate the practical constraints faced by local institutions and communities in implementing central government programs. Third, there is limited critical analysis of infrastructure-centric development approaches that prioritize physical construction at the expense of adequate attention to human resource development and local capacity building.

This study addresses these gaps by providing a critical evaluation of the implementation of Inpres 1/2021 in the Motaain border area, specifically examining three key programs that reveal policy-implementation gaps. Our research contributes to (1) understanding top-down policy implementation challenges in peripheral border areas, (2) analyzing the disconnect between central government program design and local institutional and community readiness, and (3) offering a critique of infrastructure-centric approaches that neglect capacity building. This study is particularly relevant given the urgent need for evidence-based policy adjustments to ensure that border-area development investments achieve their intended welfare outcomes rather than become underutilized assets.

The purpose of this study is to analyze potential problems arising from accelerating economic development in the Motaain border area. Research on economic development acceleration in the Belu border area remains limited. Our study is relevant to current conditions because it aligns with the realities of people and regions in border areas. This study differs from previous research by focusing on the implementation of policies to accelerate development in the Motaain border area.

Development in border areas is an inseparable part of national development and is pursued intensively in Indonesia under a shifting policy paradigm. Border-area management is therefore no longer focused solely on security. Instead, it considers welfare, security, and environmental sustainability. The welfare aspect in the state territory should focus on improving the welfare of people living in border areas (Nugraha, 2024; Winarna & Wasistiono, 2025). The security aspect should ensure the territorial integrity and sovereignty of the state and the protection of the nation. At the same time, border-area management must address environmental sustainability as part of sustainable development (Mangku, 2017).

The border area has a strategic value in enhancing national economic growth (Song et al., 2024). Border areas are developed to achieve sustainable development goals in Indonesia by integrating the use of various resources, balancing national development and territorial integrity, and improving harmony between regions and integration across development sectors through spatial planning (Purnamasari et al., 2016).

According to Progo (2003, as cited in Kuswara, 2008), the strategic value of the border area has several characteristics as follows:

- an important impact on state sovereignty;
- a driving factor for the improvement of the socioeconomic welfare of the surrounding community;
- mutual interrelationships with activities conducted in bordering regions and countries; and

- an impact on defense and security conditions at both the national and regional levels.

In addition, development in border areas has strategic value because of their strategic functions (Hasyim & Subagiyo, 2017) as follows:

- military function: to protect a country from various threats;
- economic function: to control the flow of capital, cross-border trade, foreign investment, and the movement of goods, and to provide a benchmark for a country to explore its natural resources lawfully;
- constitutive function: to establish a country's full sovereignty over the territory within its existing borders;
- national identity function: to serve as an emotional bond among communities in a particular territory, based on shared experience and history;
- national unity function: to maintain national unity and integrity;
- development function: to provide the state with the authority to determine how the nation's history is formed; and
- domestic interest function: to provide geographical boundaries for a country's efforts to achieve national interests in the political, social, economic, educational, infrastructure development, and energy conservation fields.

The Indonesian government is aware of the strategic value of border areas. Therefore, the National Development Program 2000–2004 stated that the border area development program aims to improve the living standards and welfare of the community, increase the capacity to manage the potential of border areas, and establish order and security in border areas (Priambodo & Djirimu, 2024). The target is to improve the community's socioeconomic well-being and social resilience, manage regional potential, and enhance security in border areas. The priority program components include (1) the development of potential settlement centers, including transmigration settlements in border areas; (2) the improvement of transportation and communication infrastructure services to open up regional isolation and product marketing; (3) the improvement of basic social services, especially education and health, and the structuring of administrative areas and boundaries; (4) the development of private participation in the utilization of regional potential, especially mining and forestry; and (5) improved cooperation and agreements with neighboring countries in the fields of security, the economy, natural resource management, and the environment in border areas.

The results of Kurniadi's (2009) research on economic growth in border areas found that changes in the border paradigm, from a security-focused approach to an economy-focused approach, affected economic growth in the border area. The interactions led to the development of community economic activities and border activities (Faturohim et al., 2023; Ihwandi & Khoirunurrofik, 2023). Theoretically, economic integration influences economic growth, which is in turn accompanied by changes in spatial and land-use patterns. Economic models, spatial impacts, and policy are closely interrelated. Traditional location models and new economic geography models indicate that changes in external trade alter the spatial patterns of land use in border areas.

According to Branch (1998, as cited in (1998, as cited in Kurniadi, 2009), several factors influence regional development, including physical form (land use and spatial structure) and regional functions (economic, trade, and industrial). These functions are in turn shaped by population activities, community characteristics (culture and

beliefs, social characteristics, and lifestyle), and the availability of basic amenities such as road networks and clean water (Ammar et al., 2024). These factors play an important role in the development of border areas. For example, economic growth can be characterized by changes in spatial, social, and infrastructure aspects (Afriyanni et al., 2021; Ramadhan et al., 2023).

The development of economic activity at the border cannot be separated from its market potential. By reviewing the location model and considering the marketing area in a region, the border area is less favorable for developing market potential. These considerations are based on several obstacles, such as tariffs and policies in border areas, which pose potential obstacles to economic growth (Kurniadi, 2009).

The border area between Indonesia and other countries has the potential to boost the economy. Moreover, the region's natural resources may carry bargaining power and present an opportunity for accelerated economic growth in border areas (Arkum et al., 2025; Handoyo et al., 2021). The border areas have several multiplier effects due to their strategic potential to develop international trade and serve as centers of regional economic growth, including the development of trade, tourism, and industry (Maulana et al., 2019).

Areas such as Talaud regency, which borders the sea and the Philippines, Natuna regency, which borders the Malaysian peninsula, and Nunukan regency, which borders East Malaysia, have abundant fish resources (Mira et al., 2013). Several natural resources, including forests, gas, and oil, are abundant in Nunukan regency, East Kalimantan (Kuswara, 2008). Additionally, TTU regency, which borders Timor-Leste, has agricultural land, including dryland and wetland areas, which accounts for 72.92% of the total area, and its agricultural sector contributes significantly to the regional gross domestic product (Fkun & Pareira, 2021).

2. Methods

This study employed an exploratory qualitative approach to analyze potential problems in the implementation of the economic development acceleration program in the Motaain border area, Belu regency, Nusa Tenggara Timur [East Nusa Tenggara] (NTT) province. The exploratory approach was chosen because the research topic concerns the implementation of a relatively new policy and requires a deep understanding of the empirical conditions on the ground (Mudjiyanto, 2018). The research was conducted from March to June 2023. Primary data were obtained through in-depth, semi-structured interviews, while secondary data were collected through document review, including legislation, regional development planning documents, statistical reports, and various previous studies relevant to border area management. During the interviews, we used an interview guide to maintain consistency of the themes discussed. The main themes covered in the interviews included (1) implementation of the economic development acceleration policy in the Motaain border area; (2) local economic potential and its development constraints; (3) institutional readiness and coordination among stakeholders in policy implementation; (4) challenges in implementing the cattle breeding stock program, slaughterhouse construction, and animal feed industry; and (5) strategies and opportunities for enhancing economic development in the border region. Informants were selected using a purposive sampling technique, i.e., the selection of individuals deemed to possess knowledge, experience, and direct involvement in the issue of border-area economic development. The study included six informants, drawn from the regional government, provincial government, academia, the legislature, and community leaders. To uphold research ethics and protect informants' identities,

Table 1. Informant Profiles

Code	Position/Role	Institution Type	Area of Expertise
INF-01	Academic in regional development	Academia	Border area development policy
INF-02	Head of the Economic Bureau	Provincial Government	Regional economic policy
INF-03	Regent	Regency Government	Regional development governance
INF-04	Head of the Regional Border Management Agency	Regency Government	Border area management
INF-05	Member of the Dewan Perwakilan Rakyat Daerah [Regional House of Representatives]	Legislative institution	Regional policy and budgeting
INF-06	Community leader	Community	Socio-economic conditions of border communities

Source: Processed by the authors (2023).

their names were not disclosed in the research report and were replaced with informant codes. The informant profiles are presented in Table 1.

The data analysis in this study employed the interactive analysis model of Miles and Huberman, which encompasses four main stages: data collection, data reduction, data display, and the drawing and verification of conclusions. At the data collection stage, we gathered data through in-depth interviews with informants and by studying documents relevant to border-area development, such as government policies, regional reports, and previous research findings. The data reduction stage was carried out by selecting, simplifying, and coding the transcribed interview data. The coding process aimed to identify the main themes and group the data into analytical categories, such as productivity, quality, and sustainability of the economic development programs. Subsequently, at the data display stage, the categorized data were organized into analytical narratives, thematic matrices, and summary tables to facilitate our identification of patterns, relationships between categories, and comparisons among informants. The final stage was the drawing and verification of conclusions, which involved interpreting the patterns that emerged from the data. This process was carried out continuously by cross-checking interview and document data to ensure that the resulting findings were consistent and reliable.

This study developed an analytical framework to examine the implementation challenges of the economic development acceleration program in the Motaain border area as directed by Inpres 1/2021. The framework integrates three theoretical perspectives: strategic border development theory, the economic integration model, and the policy implementation framework. First, strategic border development theory emphasizes that border area development must balance three key dimensions: welfare, security, and sustainability. Border areas not only perform a strategic function in safeguarding state sovereignty but also play an important role in enhancing the welfare of border communities and ensuring the sustainability of socioeconomic development (Mangku, 2017; Nugraha, 2024; Winarna & Wasistiono, 2025). Consequently, border development policies cannot focus solely on infrastructure construction but must also sustainably strengthen the economic and social capacities of local communities. Second, the economic integration model posits that border-area economic development requires the integration of three main components: infrastructure connectivity, productive capacity, and institutional coordination (Maulana et al., 2019; Purnamasari et al., 2016; Song et al., 2024). Infrastructure development alone is unlikely to drive sustainable economic growth unless it is accompanied by adequate productive capacity and effective coordination among stakeholders. Third, the policy implementation framework stresses that the success of policy implementation is strongly influenced by several key factors: local readiness, resource availability, and stakeholder alignment. Policies designed at the central level often face various implementation challenges when local conditions are not yet fully ready to support program execution. By integrating these three

theoretical perspectives, this study analyzes the implementation of economic development acceleration programs in the Motaain border area using the concept of local readiness assessment, encompassing three main dimensions: productivity, quality, and sustainability (Nawawi, 2005). Productivity refers to the ability of local economic actors to produce sufficient output to support economic activity. Quality relates to the ability to meet the production standards required by markets and processing industries. Meanwhile, sustainability refers to the continued availability of resources and the institutional support necessary to maintain the long-term viability of the programs.

3. Results and Discussion

3.1. Overview of PLBN Motaain

PLBN Motaain is one of three PLBNs operating in NTT province at the time of this study, in Belu regency. The development of PLBN Motaain was an implementation of Instruksi Presiden Republik Indonesia Nomor 6 Tahun 2015 tentang Percepatan Pembangunan 7 (Tujuh) Pos Lintas Batas Negara Terpadu dan Sarana Prasarana Penunjang di Kawasan Perbatasan [Presidential Instruction of the Republic of Indonesia No. 6 of 2015 on Accelerating the Development of Seven (7) Integrated State Border Crossing Posts and Supporting Infrastructure in Border Areas]. The development of PLBN Motaain was part of the broad framework for structuring the country's border areas to increase economic growth. PLBN Motaain was built on 8.03 hectares at a cost of Rp82 billion.

The PLBN Motaain building consists of a core zone and a support zone. The core zone is the center for managing cross-border services, including customs, immigration, and security, in an integrated manner. The core zone also includes the main PLBN building, the vehicle inspection building, and the powerhouse supporting primary inspection services. In contrast, the support zone comprises an employee mess, a guesthouse, a border market, a sports field, a border-security post of the Tentara Nasional Indonesia [Indonesian National Armed Forces], and a police post. President Jokowi officially inaugurated PLBN Motaain on December 28, 2016.

The concept underlying the development of PLBN Motaain is to build a well-arranged border area. Therefore, the development enhances border security, reduces conflicts, improves facilities and infrastructure, builds relations with neighboring countries, and develops the potential of natural resources and the local economy. PLBN Motaain is also expected to become a gateway to the country, a new center of economic growth in the community, and to improve people's welfare in border areas.

3.2. Policy Toward the Acceleration of Development of the Motaain Border Area

The development of PLBN Motaain as a new center of economic growth was initiated by President Joko Widodo on January 11, 2021, through Inpres 1/2021. The instruction is addressed to a range of ministers, governors, and regional heads. Those tasked with implementing and completing the program activities included the Minister of Industry, the Minister of Trade, the Minister of Energy and Mineral Resources, the Minister of Public Works and Public Housing, the Minister of Transportation, the Minister of Communication and Information Technology, the Minister of Agriculture, the Minister of Maritime Affairs and Fisheries, the Minister of

Villages, Development of Disadvantaged Regions, and Transmigration, and the Minister of Cooperatives and Micro, Small, and Medium Enterprises.

Among others, special instructions were given to the Coordinating Ministry for Economic Affairs of the Republic of Indonesia to provide general direction, monitor economic development acceleration, supervise the resolution of problems, and synchronize the activity programs. These programs are to be incorporated into the Anggaran Pendapatan dan Belanja Daerah and the Rencana Kerja Pemerintah Daerah [Regional Government Work Plan], and coordinated with the Minister of Foreign Affairs to encourage and increase foreign cooperation. The Minister of Finance allocates the necessary budget, and the Minister of Public Works and Public Housing builds and provides infrastructure for water resources, roads, and drinking water.

The governor facilitates land preparation, accelerates the licensing process within the governor's authority, and provides the necessary budget. Meanwhile, the regent is assigned to acquire land, expedite the permit process in accordance with the regent's authority, and provide the necessary budget for program implementation.

Twenty program activities are conducted by eight ministries for the Motaain border area, including:

- provision of cattle breeding stock to increase livestock production;
- construction of slaughterhouses to meet export standards;
- development and integration of the Sonis Laloran livestock area;
- development of the poultry feed industry;
- construction of a raw-water reservoir in Lamaknen subdistrict;
- development and revitalization of the people's market;
- construction of deep groundwater boreholes;
- construction of the Sonis Laloran entrance;
- construction of warehouses;
- improvement of the Motaain–Atapupu PLBN connecting road;
- improvement of roads in Atambua connecting to the Halilulik intersection;
- improvement of the road connecting Atapupu–Oecusse;
- improvement of the road connecting Kupang–RDTL via Kupang–Timor Tengah Selatan (TTS)–TTU–Halilulik–Atambua–Atapupu–Motaain;
- improvement of the Traffic–Turiskain road section;
- improvement of the Furur–Nualain–Henes road section;
- construction of an electricity distribution network in the border area of Motaain;
- development of the Naekasa technical reservoir;
- development of the Lookeu technical reservoir;
- construction of gas stations in Motaain; and
- construction of a village road in Silawan village, East Tasifeto.

These activities were implemented not only in the Motaain border area but across the island of Timor, in order to maintain connectivity between regions. Because economic development depends on multiple interacting factors, regional connectivity must support it if growth is to be sustained across regions.

3.3. The Problems of Accelerating Economic Development in the Motaain Border Area

Of all the existing programs, some have been implemented. However, some programs are currently under development and have not yet been implemented. Infrastructure development in road and building construction facilitates connectivity between regions and supports regional productivity through spatial planning and environmental sustainability. This program is also further strengthened by the direction of regional development policies to develop border areas. Increasing the accessibility and connectivity of transportation to the center of the economy enhances the capacity and quality of the transportation network.

However, three program activities cause new problems. The program activities are (i) provision of cattle breeding stock to increase livestock production, (ii) construction of export-standard slaughterhouses by the Ministry of Agriculture, and (iii) development of the poultry feed industry by the Ministry of Industry.

The potential problems in the implementation of these activities are as follows:

a. Provision of Cattle Breeding Stock to Increase Livestock Production

The policy for accelerating the development of the Belu border area prioritizes the provision of cattle breeding stock. This is due to an increase in the population and in demand for beef to supply slaughterhouses. This effort depends on the quality and availability of the breeding stock.

The Belu government attempts to increase cattle production through artificial insemination activities and the development of a Bali cattle breeding center (Peraturan Daerah Kabupaten Belu Nomor 2 Tahun 2021).

Bali cattle were chosen because they are one of the native Indonesian cattle breeds that have great potential as meat producers. They have several advantages, including their ability to adapt to almost all tropical conditions in Indonesia and to remain productive in new rearing environments while maintaining good reproductive rates, growth rates, and body condition. They also resist ticks and worm infestation better than other cattle in Indonesia (Astiti, 2018).

However, three potential problems could arise from implementing this program. First, Mullik and Jelantik (2009) found that most cattle marketed outside the region or slaughtered for local consumption generally do not originate from productive and efficient livestock systems but from traditional systems with relatively low productivity levels. In practice, many farmers still employ extensive husbandry patterns, releasing cattle to graze on pastures without planned feed management, structured breeding programs, or adequate animal health services. These conditions cause relatively slow livestock growth and make it difficult to significantly increase productivity.

Several informants also confirmed this situation during field interviews. One informant explained: "Most people still raise livestock traditionally. Cattle are usually released onto grazing lands without any clear feed management or breeding system. As a result, cattle growth tends to be slow and the quantity of production is not very high" (INF-03).

Another informant similarly emphasized that the still-traditional livestock system is one of the factors affecting the low productivity of livestock in the area: "For many people, cattle are considered more as savings than as an intensively managed production enterprise. Consequently, attention to feed quality, husbandry management, and breed improvement remains very limited" (INF-05).

These findings indicate that the dominance of traditional livestock systems remains a challenge to increasing cattle productivity, which, in turn, may affect the sustainability of livestock-based economic development programs in the border area.

Second, Taek et al. (2021) confirmed that the cattle rearing system in Belu regency remains predominantly traditional, with livestock released onto pastures from morning to evening and kept in pens at night. The condition of the Belu area, with its dry climate, greatly affects the pattern of raising cattle: cattle are either completely released to pasture or kept under a rotational tethering system, and at night they are kept in pens without additional feed (Yusuf & Nulik, 2014). This may affect both the cattle population and the quality of beef.

Third, limited community knowledge of breeding practices, together with the time required to raise cattle for breeding, leads farmers to sell their cattle prematurely to meet high economic demands (Habimana, 2024; Latino et al., 2020).

b. Construction of a Standard Slaughterhouse

Slaughterhouses are needed to maintain meat quality. The provision of healthy meat to the community can be maintained. Moreover, the feasibility study for determining the location, cattle data, and organizational, social, and technical requirements has been fully completed.

The slaughterhouse plays an important role as a link in the chain for ensuring good-quality meat. This can be achieved by applying animal welfare, which involves human efforts to provide animals with a comfortable life (Anggraini et al., 2021). A well-run slaughterhouse must meet three aspects: technical, technological, and environmental. If these three aspects are met, the slaughterhouse can produce high-quality products and reduce environmental impacts (Alpina et al., 2021).

Construction of slaughterhouses must be supported by the availability of animals to be slaughtered, namely cows. Therefore, the issue that needs serious attention is the cattle population and the quality of cattle in Belu regency.

The following is data on the cattle population over the past five years (Table 2).

Table 2. Cattle Population in Belu Regency

Year	Cattle Population (head)
2016	68,529
2017	69,621
2018	70,667
2019	71,731
2020	72,806

Source: Badan Pusat Statistik Kabupaten Belu, data processed (2023).

The cattle population increased from 68,529 in 2016 to 72,806 in 2020, representing an overall increase of 6.2% from 2016 to 2020. However, the annual growth rate in 2020 (1.50%) was marginally lower than in 2019 (1.51%), a difference we attribute to a brucellosis outbreak reported to have affected cattle reproduction rates and reduced vaccination coverage in several subdistricts of Belu regency.

The positive trend in the cattle population contributes to improving the regional economy and employment. However, in addition to the cattle population in Belu being lower than that in TTU regency, which borders Belu regency, the leading commodities have not been developed optimally because they are not supported by adequate production infrastructure (product processing industry), markets, and skilled labor. The following is the cattle population in TTU Regency (Table 3).

Table 3. Cattle Population in TTU Regency

Year	Cattle Population (head)
2016	115,084
2017	126,413
2018	128,264
2019	129,325
2020	136,659

Source: Badan Pusat Statistik Kabupaten Timor Tengah Utara, data processed (2023).

New problems arise from low productivity, inconsistent quality, and limited production continuity. In terms of productivity, beef production in Belu is very low compared with other regencies, which affects meat supply at local, national, and international levels.

The number of cows is in the tens of thousands, but not all of them meet good standards. In terms of quality, breeders are not familiar with modern husbandry practices, which focus on penning, breeding, and fattening systems. Breeders follow a grazing model because grazing land is abundant. Therefore, this practice may affect beef quality. Meanwhile, in terms of continuity, an inadequate cattle population and reliance on grazing models have the potential to threaten the sustainability of the slaughterhouse.

These conditions not only affect the region's ability to meet market demand but also hinder the development of processing industries that require a stable, high-quality raw material supply. Low productivity means that the available production quantity is often insufficient, while inconsistent quality and unsustainable supply pose challenges for developing a more modern and integrated economic system.

These conditions were also reflected in interviews with several informants involved in managing the livestock sector and regional economic development. One informant stated:

The main problem we face is that production levels are not yet stable. At times livestock are available, but at other times the numbers are very limited. Moreover, the quality of the livestock is not uniform, making it difficult to meet the standards required by the market or processing industry. (INF-04)

Another informant also highlighted the issue of supply continuity as an obstacle to developing the livestock-based economic sector: "Economic development programs are actually in place, but the challenge is ensuring a sustainable supply of raw materials. If community production remains low and inconsistent, then the planned industries will also struggle to operate optimally" (INF-02).

These findings indicate that low productivity, inconsistent quality, and unsustainable supply are important factors influencing the effectiveness of implementing economic development programs in the border area.

c. Development of the Poultry Feed Industry

The purpose of developing the poultry feed industry is to shorten the supply chain and improve farmers' welfare. Animal feed is imported from Java. However, other operational costs increase the selling price of animal feed in Belu and NTT. Therefore, the development of the animal feed industry will reduce operational costs. At the same time, it has a positive impact on corn farmers because it provides a market for their products at good prices.

The development of the animal feed industry can create new problems. In terms of productivity, corn is a staple food for communities in Belu regency. The farming patterns practiced by most people remain subsistence-oriented, with corn production primarily intended to meet household consumption needs. Such farming patterns result in relatively low corn productivity, as land management, the use of high-yielding seeds, and the adoption of modern agricultural technology remain limited. Farmers also experience crop failure owing to seasonal uncertainty, which affects factory operations because corn is the raw material for the feed.

These conditions were also reflected in interviews with several informants. One informant explained: “For most people here, corn is indeed the daily staple food. Farmers usually grow corn mainly for their family’s own needs, not for sale in large quantities. Therefore, the management is still simple and production is not very high” (INF-02).

Another informant highlighted the various constraints farmers face in increasing corn productivity: “Corn farming in many villages is still done traditionally. Farmers rely on the rainy season and have not widely used superior seeds or more modern agricultural technology. As a result, harvests are often unstable and productivity remains low” (INF-06).

These findings indicate that the dominance of subsistence farming patterns and the limited use of agricultural technology are important factors contributing to low corn productivity in the region.

In terms of quality, animal feed must meet safety regulations to ensure livestock is safe for human consumption. These raw materials must be well treated, from preparation through specification determination and quality testing. This requires continuous socialization and assistance for farmers. As a result, the quality of raw materials for animal feed is difficult to maintain consistently. This is due to the still low level of farmers’ knowledge and understanding of the quality standards required for animal feed production. Most farmers still produce corn using simple cultivation techniques and have not yet paid attention to quality aspects such as moisture content, drying processes, or storage that comply with feed industry standards.

These conditions were also reflected in interviews with several informants. One informant stated:

Most farmers focus only on the harvest yield but do not yet fully understand the quality standards needed for animal feed raw materials. For example, matters like moisture content or how to store corn after harvest are still rarely considered. (INF-04)

Another informant also acknowledged that farmers’ limited knowledge is one of the obstacles to maintaining the quality of feed raw materials: “Farmers actually realize that corn quality is important for the feed industry, but many do not yet know the quality standards that must be met. Knowledge about drying, storage, and post-harvest handling is still very limited” (INF-02).

These findings indicate that farmers’ limited knowledge and understanding of animal feed raw material quality standards is one of the factors affecting the consistency of locally produced raw material quality.

In terms of continuity, the productivity of raw materials from farmers in Belu regency has not fulfilled the very high market demand. Therefore, we aim to increase

the productivity of raw materials to maintain the factory's continuity. A lack of raw materials for high-quality animal feed can hamper the chicken feed industry.

Of the three activities described above, they appear very important and useful, especially in supporting accelerated development in border areas. Conceptually, the provision of cattle breeding stock in the framework of increasing livestock production will greatly support the operation of the slaughterhouse. People can also get quality meat at a lower price. In addition, the animal feed industry will create a large number of jobs, thereby reducing the still-high unemployment rate in Belu regency.

However, the government cannot turn a blind eye to several conditions in the field that could hinder the implementation of these three activities. The community's lack of preparedness, limited availability of raw materials for animal feed, a low cattle population, and the limited ability of the local government to build cooperative networks with various parties have the potential to become obstacles to these economic development programs. These factors indicate that the implementation of economic development programs depends not only on policy and infrastructure availability but also on local productive capacity and adequate institutional support.

These conditions were also reflected in interviews with several informants. One informant conveyed:

The community actually has potential in livestock and agriculture, but their readiness to manage businesses more productively is still limited. Moreover, the availability of raw materials for animal feed is also insufficient, while the current cattle population is still relatively low to support a larger livestock industry development. (INF-01)

Another informant explained that the local government is aware of these limitations and is seeking solutions through strengthening cooperation with various parties:

The local government understands that local production conditions are still limited, both in terms of livestock population and the availability of feed raw materials. Therefore, one of the steps being considered is to build cooperation with other regions and to involve the private sector and relevant institutions to strengthen production capacity and ensure the sustainability of the programs. (INF-04)

These findings indicate that the implementation challenges of economic development programs in the border area are not only related to local production factors but also to the local government's ability to build inter-regional and cross-sectoral collaboration to address these limitations. An alternative solution is therefore needed.

3.4. Alternative Solution

In the present study, we offer solutions that can be performed by the regency government so that the accelerated economic development programs can be realized.

- The acceleration of human resource development must also accompany economic development. The Belu local government must prepare the community through socialization, assistance, guidance, and training. The community must adapt to accelerated economic development. Accelerating economic development involves building economic infrastructure and developing economic actors. If the community is unable to adjust to the development process, it will naturally be inclined to continue old patterns of overcoming economic difficulties (Listyawati & Ayal, 2018). Moreover, the socioeconomic conditions of the people of Atambua are relatively better than those of people living on the border of Timor-Leste because of the trading activities of goods and services by the Belu people with high selling prices; and
- economic development acceleration through the construction of export-standard slaughterhouses must be followed by other activities. The construction of an export-standard slaughterhouse impacts beef self-sufficiency in Belu regency and NTT province. Therefore, the rate of beef imports can be suppressed. For this reason, this policy needs to be supported by other activities.

The construction of slaughterhouses must be supported by other technical activities, such as the development of breeding and fattening centers, revitalizing institutions and human resources, supporting facilities and infrastructure, and financial support, as well as regional development.

In addition, this policy to accelerate economic development requires the local government's commitment and seriousness in formulating effective policies and strategies. There are several efforts to be developed by the government (Nuhung, 2015), which are as follows:

- the government's policy and political focus on providing infrastructure and production;
- management and development patterns through the development of cattle production patterns, integrated husbandry patterns, and franchise patterns;
- the development of breeding businesses through the construction of a breeding farm;
- provision of land and financing; and
- marketing and trading system.

The government cannot work alone. The government must involve the private sector as well as the community. Inter-regional cooperation is one of these efforts and can be used to strengthen policies and accelerate economic development by addressing low livestock populations for export-standard slaughterhouses and the low productivity of corn as a raw material for animal feed factories.

Facing various limitations in developing economic programs in the border area, a policy approach is needed that focuses not only on infrastructure development but also on strengthening local productive capacity and developing inter-regional cooperation. The local government recognizes that the success of the economic development acceleration program depends heavily on the ability to overcome existing limitations, including low production capacity, the limited availability of raw materials, and the community's readiness to engage in more productive economic activities.

Several informants also emphasized the importance of inter-regional collaboration and the involvement of various parties to overcome these limitations. One informant conveyed:

The local government certainly hopes that this economic development program in the border area can run well. However, we also realize that local production capacity remains limited, both in terms of livestock numbers and the availability of feed raw materials. Therefore, cooperation with other regions and the private sector is needed so that raw material needs and technical support can be met. (INF-02)

Another informant also stressed the importance of strengthening inter-regional cooperation as part of the border area economic development strategy:

The development of the economic sector in the border area cannot be carried out by one region alone. Coordination and cooperation with other regions that have greater production potential are needed, so that the supply of raw materials is more secure and the economic development program can run sustainably. (INF-05)

These findings indicate that the solutions proposed for border-area economic development are not solely derived from our analysis but also draw on the views of informants, who emphasize the importance of increasing local production capacity and strengthening inter-regional cooperation to support the successful implementation of economic development programs.

According to Yudhoyono (2002, as cited in [Pratikno, 2007](#)), inter-regional cooperation plays an important role because it can result in the sharing of experiences and benefits. For example, the limited resources of Belu regency can be overcome by collaborating with other regencies. To provide livestock and raw materials for animal feed factories, the local government of Belu regency must establish coordination, consolidation, and cooperation with surrounding regencies, including TTU and Malaka. This study can serve as a reference for governments, both central and regional, to further analyze problems in implementing policies to accelerate development in the Belu border area. To accelerate development in the Belu region, governments need strategies and concrete steps to address the problem. Furthermore, this study can be a new source of information for the community.

4. Conclusion

This study analyzed implementation challenges in economic development acceleration programs under Instruksi Presiden Republik Indonesia Nomor 1 Tahun 2021 tentang Percepatan Pembangunan Ekonomi pada Kawasan Perbatasan Negara di Aruk, Motaain, dan Skouw [Presidential Instruction of the Republic of Indonesia No. 1 of 2021 on Accelerating Economic Development in the State Border Areas of Aruk, Motaain, and Skouw] for the Motaain border area, Belu regency. Three programs reveal policy-implementation gaps: the provision of cattle breeding stock, the construction of an export-standard slaughterhouse, and the development of the poultry feed industry. These programs encounter obstacles across productivity, quality, and sustainability dimensions due to disconnects between top-down policy design and local implementation realities. The findings reveal that infrastructure-centric border development approaches, without parallel human resource development and institutional capacity building, risk creating idle assets rather than

assets that serve as catalysts for economic growth. Effective economic development acceleration requires integrated strategies combining infrastructure investment with systematic capacity building, ecosystem development, and formalized inter-regional cooperation. For central government policymakers, this suggests the value of differentiated implementation strategies that allow adaptive program design, sequence infrastructure with capacity building, and provide institutional frameworks facilitating inter-regional cooperation. For regional governments, the findings emphasize responsibilities beyond physical infrastructure provision, including systematic investment in farmer training, facilitation of cooperative development, establishment of inter-regional partnerships, and spatial planning that supports integrated development ecosystems. For development agencies and researchers, this highlights the importance of conducting implementation feasibility assessments that examine local productive capacity, quality achievement mechanisms, and sustainability assurance systems before committing substantial resources.

This study has several limitations that should be acknowledged. The sample size of six informants, while appropriate for exploratory qualitative research, limits generalizability to broader stakeholder groups. The geographic scope focuses exclusively on Belu regency, potentially limiting transferability to other Indonesian border contexts with different socioeconomic conditions and cross-border dynamics. The research timeframe (March–June 2023) represents a snapshot of the early implementation phase rather than longitudinal observation of program evolution. The study relied primarily on interview data and document review without direct observation of implementation activities or quantitative impact assessments. Additionally, the research did not examine cross-border dimensions, such as interactions with Timor-Leste institutions or bilateral cooperation mechanisms, which could provide valuable insights for integrated border development strategies. Several research directions would advance understanding of the challenges and solutions in border-area development. Quantitative validation studies could employ survey methods with larger samples of farmers, regency officials, and community members to statistically assess the prevalence and severity of identified implementation barriers across multiple border regencies. Comparative border area research could examine implementation experiences of Inpres 1/2021 in Aruk (West Kalimantan-Malaysia border) and Skouw (Papua-Papua New Guinea border) to identify common patterns and context-specific variations. Longitudinal impact assessments could track these programs over 3–5 years to determine whether implementation challenges are transitional or structural and to measure actual economic outcomes including employment generation, income improvements, and poverty reduction. Cross-border cooperation studies could investigate bilateral mechanisms between Indonesia and Timor-Leste for integrated border zone development.

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