

AGRICULTURAL LAND CONSOLIDATION PLANNING STRATEGY USING SWOT ANALYSIS (STUDY AT SITINJO VILLAGE, SITINJO DISTRICT, DAIRI REGENCY)

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Abstract

This study aims to analyze the strengths, weaknesses, opportunities, and threats (SWOT) in the implementation of the Land Consolidation program in Sitinjo Village, Sitinjo District, Dairi Regency. The research methodology uses a qualitative descriptive approach with the SWOT method based on the 2021 Land Consolidation Planning Technical Material document from the Ministry of Agrarian Affairs and Spatial Planning/National Land Agency (ATR/BPN) Regional Office of North Sumatra Province. The results of the analysis show that the main strength factors are the potential for productive agricultural land and community support, while the main weakness is limited land accessibility. Opportunities stem from government policy support and the potential for community economic improvement, while threats include the risk of land conflicts and spatial planning changes. The recommended strategy is to optimize land access infrastructure and increase community participation in planning and implementation.

Keywords: Land consolidation, SWOT, spatial planning, Dairi, Sitinjo

BACKGROUND

Spatial planning in Indonesia faces significant pressure due to population growth and the demand for land in both urban and rural areas. Inadequate infrastructure, land tenure disputes, and irregular land use often result from the imbalance between land availability and development needs. Land consolidation has emerged as a key element in spatial planning, aiming to restructure land ownership, use, and utilization more equitably and efficiently. (Ministry of Agrarian Affairs and Spatial Planning/National Land Agency, 2021). Regulation of the Minister of Agrarian Affairs and Spatial Planning/National Land Agency Number 12 of 2019 concerning Land Consolidation states that this activity focuses not only on physical land management but also on improving community welfare, basic infrastructure, and environmental quality. Therefore, the concept of sustainable regional and urban planning, which requires the integration of social, economic, and environmental factors into a single development policy, cannot be separated from land consolidation planning (Yuliani & Sudjarwadi, 2022).

Sitinjo Village, part of Sitinjo District, Dairi Regency, North Sumatra Province, is one of the potential locations for implementing a land consolidation strategy. Over the past ten years, this area has experienced significant development, primarily as a buffer zone for settlements and economic activity around Sidikalang. Dispersed land ownership, irregular agricultural and settlement patterns, and a lack of basic infrastructure such as road access and drainage are some of the drawbacks of this growth. (Dairi Housing and Settlement Agency, 2023). Another emerging issue is the lack of public understanding of the importance of coordinated land-use planning. Land boundary disputes and reduced spatial efficiency have occurred due to development activities carried out without considering spatial

planning (Siregar, 2021). This issue emphasizes the importance of taking a measured approach to formulating village-level land consolidation policy directions. To determine the internal and external factors influencing the achievement of land consolidation, a SWOT (Strengths, Weaknesses, Opportunities, and Threats) analysis can be used. Through this analysis, planners can understand the following: opportunities, such as agrarian reform programs; threats, such as community resistance to land redistribution; weaknesses, such as limited funding and institutional capacity; and strengths, such as government policy support and land resource potential. (Rahmadani et al., 2022). The SWOT method allows for the development of practical and flexible strategies that take into account local socio-economic conditions. Furthermore, Sitinjo Village holds a strategic position in the Dairi regional development index for the central region, which is considered an agropolitan area with an integrated agricultural sector (Bappeda Dairi, 2023). Therefore, the local government is expected to use the SWOT analysis results in planning for Land Consolidation in Sitinjo Village as a foundation for creating a more targeted, equitable, and sustainable regional development plan. Based on the description above, this research is important to be conducted using SWOT analysis to identify the factors that support and hinder land consolidation planning in Sitinjo Village, in order to develop a plan that can be implemented for efficient land management regulations at the regional level.

Research methodology

2.1 Types of Research

To identify and evaluate internal and external factors influencing the implementation of the land consolidation plan in Sitinjo Village, this study employed a descriptive-qualitative methodology supported by a SWOT analysis. This strategy was chosen because it provides a detailed overview of actual field conditions and understands the interactions between policies, institutions, social, and economic factors that influence land consolidation implementation.

2.2 Research location

The research was conducted in Sitinjo Village, Sitinjo District, Dairi Regency, North Sumatra Province. This location was specifically selected because it is being developed as an agropolitan zone and has the potential to implement land consolidation strategies, but also faces challenges related to basic infrastructure and land-use planning (Dairi Regional Development Planning Agency, 2023).

2.3 Data Sources

The data used in this study consists of primary data and secondary data.

- **Primary data** obtained through field observations, in-depth interviews, and questionnaires to key stakeholders, including: village officials, representatives of land-owning communities, and officers from the Dairi Regency Land Office.
- **Secondary data** obtained from official documents such as BPS Dairi Regency, RTRW Dairi Regency 2014-2023, Bappeda Dairi report (2023), Technical Materials for Land Consolidation Planning 2021. As well as research results and scientific publications related to land consolidation and regional planning in Indonesia.

Results and Discussion

3.1. General Description of Sitinjo Village

Sitinjo Village has significant potential for agricultural land, but also faces challenges related to land tenure security and spatial planning. According to data from the Dairi Regency Regional Development Planning Agency (Bappeda) (2023), approximately 68% of Sitinjo Village's land area is mixed agricultural land, with the remainder used by the community and public services. Land is under increasing pressure due to residential expansion and population growth, which do not always align with the village's spatial planning. Sitinjo District is a district located in Dairi Regency. Geographically, Sitinjo District is located between: 02015 – 03000' North Latitude and 98013' – 98030' East Longitude with an area of ± 53.15 km² or approximately 2.75% of the area of Dairi Regency (1,927.80 km²). Based on its geographical position, Sitinjo District has regional boundaries, namely;

- To the north it borders Sumbul sub-district
- To the south it borders Pakpak Bharat Regency
- To the west it borders Sidikalang District
- To the east it borders Parbualan District.

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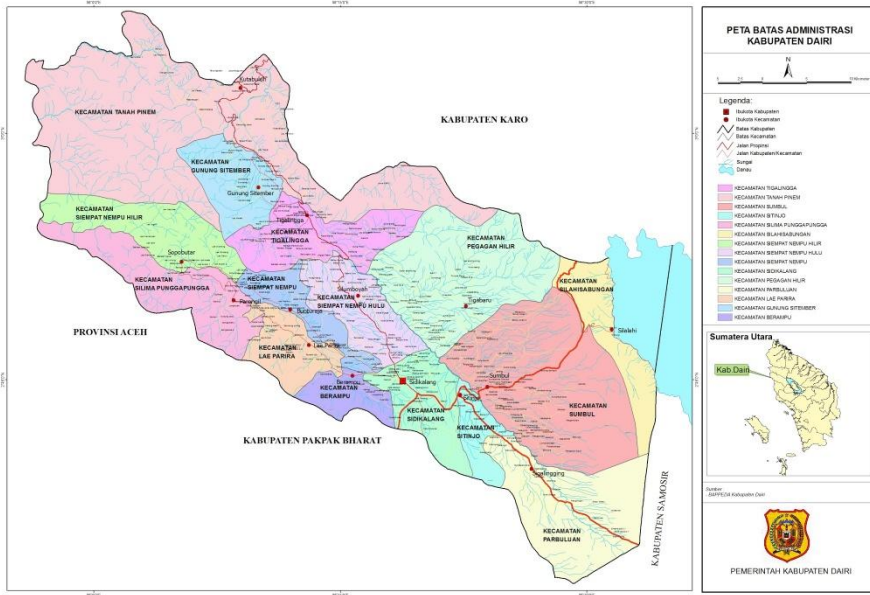


Figure 2. Map of Sitinjo 1 Village Before Land Consolidation

3.2. Land Consolidation Object Criteria

Based on the Regulation of the Minister of ATR/Head of BPN Number 12 of 2019 concerning Land Consolidation, the criteria for Land Consolidation consist of Object Criteria and Subject Criteria. The criteria for Land Consolidation Objects can come from:

- Registered land;
- Land Rights that have not been registered;
- State land that has been controlled/cultivated; and/or;
- Land assets of BUMN/BUMD/other legal entities controlled by the community.

The aforementioned land assets are also part of efforts to resolve land conflicts and/or disputes. One or more plots of land designed with an emphasis on increasing regional added value and social interests can be the object of land consolidation. Disaster area planning, affordable housing provision, slum planning, LP2B (Land Use Assistance Program), and other national strategic initiatives are among the social interests that are of concern.

3.3. SWOT Analysis

To establish strategic direction in the planning and development of areas to be regulated through land consolidation, a SWOT analysis is the process of identifying several aspects derived from internal and external sources, both spatially and non-spatially. Strengths and weaknesses are examples of internal elements, while opportunities and threats are examples of external factors. The following are the results of the SWOT analysis in Sitinjo Village: Sitinjo District, Dairi Regency, North Sumatra Province.

A. Internal Factors

Strengths:

- Government policy support (Minister of ATR/BPN Regulation No. 12 of 2019).
- The Regent, Bappeda, the Putr Service and the Sub-districts included Land Consolidation in the Dairi Regency Planning and Development Program.
- Community and local government support for the land consolidation program is outlined in the memorandum of understanding between the Regional Office of the Ministry of ATR/BPN of North Sumatra Province and the Dairi Regency Government as well as approval from the Community as outlined in the Statement Letter.
- Located on the main entrance route to Sidikalang city
- Strategically located near the Taman Wisata Iman area which has the potential to increase the economic value of the area.

Weaknesses:

- Limited access to agricultural roads.
- Irrigation infrastructure and supporting utilities are not yet optimal.
- Limited technical and economic capabilities of the community in post-consolidation management.
- Irregular land shape/difficult to build on
- Many people want compensation
- High dependence on a single agricultural sector.

B. External Factors

Opportunities:

- The potential for extensive agricultural land (± 66 Ha) with the main commodities being rice, coffee and oranges.
- The potential for developing integrated agrotourism with the Faith Tourism Park.
- Increase in the economic value of land after consolidation.
- Close to the main road
- Close to major utilities

Threats:

- Potential conflicts over land ownership or boundaries.

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- Changes in spatial planning or land use policies.
- There are areas that are already densely populated and can become slums.
- Uneven land conditions
- Risk of environmental degradation and land conversion.
- Dependence on government support in funding.

3.4. SWOT Matrix

Internal / External Factors	Strengths	Weaknesses
Opportunities	SO Strategy (Strength–Opportunity)	WO Strategy (Weakness–Opportunity)
	With support from the government and the available budget, land consolidation activities in Sitinjo Village can improve the welfare of the Sitinjo Village community.	Carry out intensive coordination with stakeholders to achieve Land Consolidation Activities
	Local people still listen to the advice of local traditional figures or leaders.	Provide ongoing technical support and communications to increase public awareness of the benefits of land consolidation.
	Located not far from the city center and adjacent to the Dairi Regency Faith Tourism Object so that the Land Consolidation Location can be developed into an Agrotourism Object	Collaborate with academic institutions, research centers, and surrounding communities to enhance participatory planning and mapping capabilities.
	Strengthening the status of village institutions through the utilization of national policy assistance, such as Agrarian Reform and the National Land Agency's land consolidation program.	Some local funds should be set aside for land data collection, mapping, and the creation of more focused land use plans.
Threats	ST Strategy (Strength–Threat)	WT Strategy (Weakness–Threat)
	To anticipate future land disputes regarding land boundaries and ownership, the community must install permanent markers on their respective lands after Land Consolidation and obtain legality in the form of a Land Certificate from the Dairi Regency Land Office.	Drafting community agreements or village regulations that regulate land use boundaries and dispute resolution procedures.
	To prevent agricultural land from rapidly turning into non-agricultural areas, village regulations must establish a Detailed Spatial Planning Plan (RDTR) in the form of Protected Rice Fields (LSD).	To address the social dynamics arising from consolidation, local institutions need to be strengthened.
	To ensure uniformity in spatial planning strategies, encourage coordination between agencies, for example between the Agricultural Office, the National Land Agency (BPN), and village governments.	Create social mitigation plans for communities that may be impacted by changes in the surrounding environment.

Based on the analysis, land consolidation in Sitinjo Village has significant growth potential using the SO (Strength-Opportunity) strategy, which leverages the village's natural strengths to capitalize on external opportunities. Because Yuliani and Sudjarwadi (2022) emphasize that the level of community involvement is a determining factor in the sustainability of a consolidation program, a participatory approach is crucial to the strategy's success. However, internal deficiencies such as funding and human resources remain significant obstacles. To improve the technical capacity of communities in spatial planning, it is recommended to apply a WO (Weaknesses–Opportunities) approach

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simultaneously, for example through collaboration with academic institutions or supporting organizations such as the ATR/BPN and Bappeda. Furthermore, ST and WT strategies must be prepared for external risks such as land conversion and potential social instability. Concrete steps to maintain social stability during the consolidation process include strengthening local regulations and establishing communication channels among landowners. This SWOT analysis demonstrates that collaboration between external policy support and local strengths is crucial to achieving land consolidation in Sitinjo Village. Effective management of these variables will make land consolidation a socioeconomic tool that increases rural community resilience to development pressures and land-use change, as well as a technical solution for spatial planning (Nasution & Siregar, 2023).

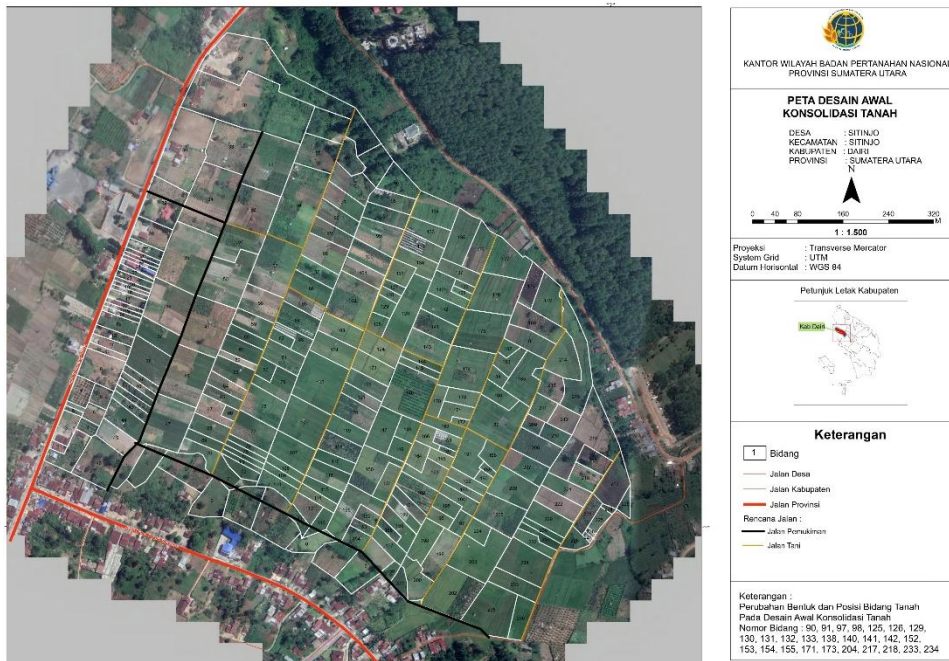


Figure 3. Map of Sitinjo 1 Village after Land Consolidation

Conclusion and Suggestions

Sitinjo Village has sufficient internal and external potential to implement a sustainable and participatory land consolidation program, based on a SWOT analysis. Its key strengths are community unity, a strong spirit of mutual cooperation, and village government support for land management and spatial planning initiatives. These elements are crucial starting points for promoting a more inclusive and equitable land consolidation process. Many challenges remain to be overcome, including the technical incompetence of village officials, unclear land boundaries, and some community members' ignorance of the purpose of land consolidation. In many rural areas, these obstacles often create difficulties, especially when communities have not yet experienced the direct benefits of such initiatives. A SWOT analysis shows that land consolidation in Sitinjo Village has significant potential to improve community welfare and sustainably manage regional spatial planning. The main recommended strategies are: building agricultural road access, strengthening community institutions and farmers' technical capacity, integrating land consolidation programs with agro-tourism development, and monitoring spatial planning to maintain sustainable land use. Overall, Sitinjo Village falls into the aggressive strategy (SO) quadrant. This indicates that the community is strong enough to capitalize on current opportunities. Collaboration between the village government, local residents, and supporting organizations such as the Ministry of Agrarian Affairs and Spatial Planning/National Land Agency (BPN) and academic institutions is crucial for effective land consolidation implementation in Sitinjo.

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