

FOOD SECURITY AND LAND USE CHANGE: A COLLABORATIVE WORK BETWEEN WOMEN'S FARMER GROUPS AND THE SUB-DISTRICT OF RAJABASA JAYA URBAN COMMUNITY IN BANDAR LAMPUNG

Arizka Warganegara¹, Azis Ahmad^{2*}

¹*Faculty of Social Sciences and Political Sciences, University of Lampung, Indonesia*

²*Faculty of Social Sciences and Political Sciences, University of Lampung, Indonesia*

*azis.ahmad@fisip.unila.ac.id

Abstract

The change in land use from agricultural to non-productive land has resulted in a serious threat to local food security, particularly in urban areas like the city of Bandar Lampung. This study aims to analyse the impact of land use change on local food security and to explore the collaborative work between the Women Farmers Group and the Sub-district of Rajabasa Jaya from the perspective of a good local governance framework. This research applies a descriptive qualitative approach, with data collection methods consisting of in-depth interviews, participatory observation, and document analysis, and the research location is in the Rajabasa Jaya urban community, an area under significant threat from land use change and the potential decrease in the women's community's active engagement in food production as a result. Preliminary findings have shown that land use change has led to a local decline in food availability and an increasing dependency on external food supplies. Furthermore, the Women Farmers Group has continued to actively utilize home gardens and produce food with support from the village government. This collaborative work reflects that good practice in local governance could strengthen community food security, although challenges would remain in terms of increasing production capacity and the sustainability of the programme. This study endeavours to contribute to the development of a participatory governance model and to create policy recommendations for strengthening the sustainability of food supply and production at the village level.

Keywords: food security, land use conversion, women's farmer groups, good local governance, local governance

INTRODUCTION

Food security is increasingly becoming a strategic global issue, especially in the light of climate change, imbalanced population growth, degradation of ecosystems, and accelerated urbanization. From the Global Food Crisis Report (2024), more than 282 million people in 59 countries are suffering from acute food crises; this gives a clear indication that

food security is not just about food availability; it also encompasses the distribution, access, and sustainability dimensions of the food system.

Food security in Indonesia is troubled by important structural obstacles: agricultural land conversion on a large scale, unequal access to resources for production, weak farmer institutions, and an import-dependent strategy for food security. Each year more than 96,000 hectares of agricultural land are converted, according to the Food Security Agency (2020), subsequently affecting the decline of national food production capacity. Furthermore, the OECD/FAO study (2022) notes that inefficient distribution systems and lack of support for smallholder farmers-exclusively food producers in rural areas-make Indonesian food security vulnerable. In view of this, the country is destined to suffer the dire consequences of inadequate long-term food availability for all as rich lands continue to be sought after for conversion to meet housing, industry, or infrastructure purposes. This issue is further complicated by weak spatial controls with regard to the inconsistent applications of agricultural land policy towards sustainable land. The transformation of lands from agricultural to non-productive uses then ceases to be a technical problem but rather a mismatch or disharmony between the demands of economic development and the needs of environmental sustainability.

Although Lampung has been considered as one of the largest food producers nationally, it faces the most serious issues related to the conversion of agricultural land. A survey conducted by Lampung Province Food Security, Food Crops and Horticulture Department (2024) has indicated an average of about a thousand hectares of agricultural land conversion in the province each year. All these must mean heavy pressure on the sustainability of agricultural land in the province.

As the provincial capital of Lampung, Bandar Lampung City is among the areas dealing with serious issues relating to the conversion of agricultural land as a result of the strain of urbanization and the fast expansion of the population. The total area of rice fields in Lampung Province was 984 hectares in 2014, 944 hectares in 2015, 936 hectares in 2016, 922 hectares in 2017, 648 hectares in 2018, 619.3 hectares in 2019, 433.3 hectares in 2020, and 413.4 hectares in 2021, according to data from the Food Security, Food Crops, and Horticulture Department's Central Statistics Agency (BPS). It is evident that Bandar Lampung's total area used for rice fields has been declining annually, with a notable drop taking place between 2017 and 2018.

The study conducted by Darmawan and Santoso (2023) used the random forest algorithm to analyse land use changes in Bandar Lampung City from 2013 to 2023. It showed that residential areas increased by 5,526.25 hectares (29.12%), while agricultural land decreased by 1,071.63 hectares (5.30%). Significant decreases were also observed in forest areas, which lost 2,012.35 hectares (losing 26.02%), as well as water and industrial areas, which decreased by 285.64 hectares (6.15%) and 167.67 hectares (4.04%), respectively.

This land conversion phenomenon generally involves residential areas, private homes, and housing complexes, in line with the increasing demand for land for development. The agricultural land that is converted is generally rain-fed land owned by individuals and permitted for conversion under local regulations. In Bandar Lampung it is spread across nine districts: Teluk Betung Barat, Kedamaian, Tanjung Karang Pusat, Langkapura, Kemiling, Tanjung Senang, Rajabasa, Sukarame, and Sukabumi.

RESEARCH METHODS

This study uses a qualitative descriptive approach. This approach is used because the study aims to comprehensively and thoroughly describe the conditions and situations that are the subject of this study, namely the synergy between Rajabasa Jaya Village and the Rajabasa Jaya Women Farmers Group in maintaining local food security amid the conversion of productive land in Rajabasa Jaya Village. Rajabasa Jaya Village was selected as the research location due to several factors, including the fact that the village still has a relatively large area of rice fields and productive land based on 2023 BPS data, and the high rate of land conversion of agricultural and productive land in Rajabasa Jaya Village based on the researcher's field observations. Informants in this study were selected based on several factors, including their role, knowledge, and position and authority. The data analysis technique used in this study was thematic analysis, linking the case study with the conceptual approach employed in this research..

RESULT AND DISCUSSION

The conversion of productive land into non-productive land in Bandar Lampung City has several impacts on local food security, especially in Rajabasa Jaya urban village. The conversion of productive land previously utilized by the Women Farmers Group (KWT) into non-productive land has several impacts, especially with regard to food security in Rajabasa Jaya Village. Based on field observations, the impact of land conversion is the

reduction of productive land in Rajabasa Jaya Village in producing agricultural products, and the emergence of food dependence from other places. Cooperation between stakeholders, related agencies, academics, and farmer groups is needed to overcome the problem of land conversion.

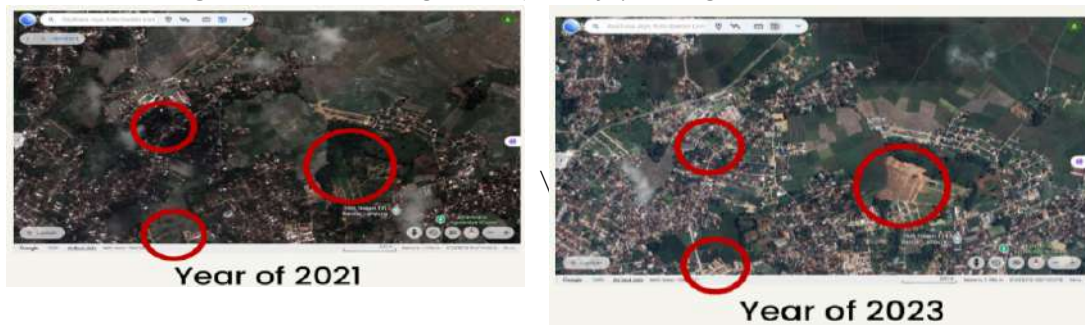
The Women Farmers Group (KWT) in Rajabasa Jaya Village, which is engaged in the management and utilization of productive land, has an important role in maintaining local food security. KWT in carrying out its role requires support and facilitation from Rajabasa Jaya Village and related agencies in the form of policies. By applying good local governance practices, collaboration between KWT and Rajabasa Jaya Village and related agencies can improve local food security. This research provides a new perspective on how collaboration between farmer groups and Rajabasa Jaya urban village officials can improve local food security by taking into account the contribution between Rajabasa Jaya urban village and 6 women farmer groups (KWT) in Rajabasa Jaya urban village in implementing good local governance practices.

The results of this study show that the synergy between the Women Farmers Groups in Rajabasa Jaya Village and Rajabasa Jaya Village not only increases the resilience of local food security amid ongoing land conversion, but also has an impact on increasing community income through businesses run by the Women Farmers Groups (KWT). This collaboration encourages the growth of women's roles in agriculture through community-level empowerment and training.

The study also discovered that one of the main pillars supporting the sustainability of domestic food production in Rajabasa Jaya is the existence of KWT.. There are six active Women Farmers Groups – Sido Makmur, Harapan Kita, Makmur Jaya, Harapan Jaya, Bayur Lestari, and Lingsung Berkarya – each consisting of approximately 20 active members. They are directly mentored by Agricultural Extension Officers (PPL) and facilitated by the Rajabasa Jaya Village Government through training, technical guidance, and post-harvest assistance.

According to data from the Central Statistics Agency, the area covered by rice fields has significantly decreased nationally, from 405,000 hectares in 2018 to approximately 380,000 hectares in 2022. This data is supported by field findings, where agricultural lands in the Rajabasa Jaya area have largely been converted into residential and commercial areas, which directly disrupts local food production.

Image 1. Land use changes in Rajabasa Jaya Village from 2021 to 2023



Source: Google Earth

To address these challenges, the Women Farmers Group in Rajabasa Jaya Village consistently engages in household-scale agricultural activities by utilizing backyard spaces by planting organic vegetable crops. One village in Rajabasa Jaya, Sinar Harapan, has been developed into Agrowidya Tourism Village, presenting an opportunity for the community to drive economic development. The tourism village has had a very positive impact on the local community. Since its inauguration, the community has begun to become self-reliant, capitalizing on opportunities by selling organic vegetables and various other goods to meet the needs of visitors.

A. The Strategic Role of Women Farmers Groups (KWT) in Micro-Scale Food Security

The conversion of agricultural land to non-productive land in urban areas such as Rajabasa Jaya Village has a direct impact on the decline in local food-production capacity. Amidst these spatial constraints, the Women Farmers Group (KWT) emerges as a strategic actor in maintaining household-scale food security through adaptive and innovative agricultural practices. The KWT in Rajabasa Jaya not only serves as an alternative food producer but also acts as a social catalyst in educating the community and building a community-based local food ecosystem.

One of the main initiatives undertaken by the KWT is the utilization of narrow plots of land and home gardens through urban farming practices. Using conventional and hydroponic cultivation methods, KWT members grow various food commodities such as water spinach, kangkong, pumpkin, tomatoes, and chili peppers. This activity not only helps meet household food needs directly but also raises awareness of the importance of self-sufficient food production amid limited land availability. The cultivation practices are largely organic, utilizing compost fertilizer and botanical pesticides, as a demonstration of concern for environmental sustainability and consumer health.

Image 2. Women Farmers Group Activities



Source : KWT member's documentation and researcher's documentation

In addition to developing organic farming models, KWT also focuses on the cultivation of fast-growing crops that allow for periodic harvests in the short term. This provides direct economic benefits to group members, while also strengthening the availability of daily food for families. The agricultural practices carried out by KWT have developed into a productive economy through the sale of crops and simple processed products, such as fresh vegetables, salted eggs, and dried spices. In practice, these groups do not operate independently but are connected to local SME networks that provide access to markets and other collaborative opportunities.

The strategic role of KWT is further strengthened by support from the local village government and the local Agriculture Department. This assistance, provided regularly by Field Extension Officers (PPL), includes technical training, facilitation of production facilities, and post-harvest support and demonstrates participatory and inclusive local governance practices, where women are the subjects of food security development. The existence of KWT not only fills the production gap caused by land conversion but also strengthens the social dimensions of food security, namely, self-reliance, community solidarity, and gender-based empowerment.

Based on this case study, it can be seen how the small-scale farming practices carried out by KWT in Rajabasa Jaya Village not only serve as a source of local food security, but also as an instrument for sustainable women's economic empowerment and strengthening social networks among KWT members and between KWT's.

B. Effective Local Governance Techniques for Managing Food Security

The collaboration between the Women Farmers Group (KWT), Rajabasa Jaya Village, and the Bandar Lampung City Agriculture Office through the Field Agricultural

Extension Officer (PPL) is a good form of synergy in applying the principles of good local governance to address food security issues amid the conversion of productive agricultural land. This synergy aims to strengthen a participatory and flexible local government governance framework in addressing land conversion and dependence on external food sources, which impacts the increasing production of food at the household level.

Image 3. KWT and Rajabasa Jaya Village Collaboration



Source : KWT member's documentation

The Bandar Lampung City Agriculture Department provides technical and physical support, while the Rajabasa Jaya Village assists the KWT in implementing the food security program. Examples of this collaboration through the women farmers' group include post-harvest technical assistance, training and technical guidance on land management and product marketing, and provision of agricultural equipment and materials. Rajabasa Jaya Village provides post-harvest technical assistance in the form of helping to sell/market the harvest and production of KWT members through the network owned by the village apparatus, the village head, and their family members. This greatly assists the KWT in accelerating capital turnover and cash flow.

Training and technical guidance support is provided through joint coordination between the Rajabasa Jaya sub-district and the Bandar Lampung City Agriculture Office (through PPL) to organize technical guidance and training according to the needs of KWT. The Rajabasa sub-district provides the venue and space for the technical implementation of activities, while the Agriculture Office through PPL provides training materials. This activity is conducted annually, involving the six KWT groups in Rajabasa Jaya Subdistrict.

Support for the provision of agricultural tools and materials is carried out through coordination between Rajabasa Jaya Subdistrict, the Agriculture Department, and the KWT, each playing their respective roles. Rajabasa Jaya Subdistrict is responsible for identifying the KWT's needs for tools and materials for local food security management, while the

Agriculture Department is responsible for allocating the budget for agricultural tools and materials to be provided to the KWT. The KWTs are responsible for implementing the tool and material assistance program and reporting the results of the utilization of such assistance through the PPL. The active participation of Rajabasa Jaya Village, the Bandar Lampung City Agriculture Department, and the KWTs in Rajabasa Jaya Village in the implementation of this program reflects the role of each stakeholder as strategic partners in managing local food security. Transparency and accountability are demonstrated by KWT through the Field Extension Officers (PPL) of the Bandar Lampung City Agriculture Office by reporting on the use of government assistance and regularly providing technical assistance and guidance at every stage of the food security program implementation. The government and the community work together to monitor and evaluate the program so that good synergy continues to run smoothly.

The synergy between KWT, Rajabasa Jaya Village and the Agriculture Office of Bandar Lampung City not only improves the family's ability to produce local food needs, but also increases the economic independence of KWT members. This synergy between stakeholders can be used as a model of sustainable food security governance that can be replicated elsewhere. Thus institutional accountability, information transparency, and active involvement of all stakeholders in Rajabasa Jaya urban village are the main pillars to maintain the sustainability of local food systems in the midst of increasing land conversion, such as in Rajabasa Jaya urban village.

C. Village Government and KWT Collaboration: Obstacles and Boosting Techniques

To encourage local food security, Rajabasa Jaya Village together with the Bandar Lampung City Agriculture Office continue to synergize with the Women Farmers Group (KWT) in Rajabasa Jaya Village. In carrying out this synergy between stakeholders, there are several challenges that must be faced. The main challenges are the low institutional capacity of KWT in Rajabasa Jaya Village, the limited budget of Rajabasa Jaya Village, and market access to well-distributed agricultural products.

In collaborative governance theory, synergy between stakeholders requires mutual commitment, communication between stakeholders, and long-term collaboration. Rajabasa Jaya Village supports and facilitates food security through various policies, then KWT as the main actor in the governance of local food security at the household level. With the

involvement of the private sector and technical support from the Agriculture Office, the synergy can result in inclusive and sustainable food security governance.

Table 1. Challenges and Strengthening Strategies for Village Government and KWT

Key challenges	Strengthening strategy
Limited village budget	Encouraging collaboration with the private sector/CSR and integrating programs into the RPJM
Institutional capacity of Women Farmers Groups	Management training, digital literacy, and entrepreneurship capacity building
Limited market access	Strengthening networks with local MSMEs and facilitating the distribution of agricultural products

Source : obtained by the researcher, 2025

Based on the table above, the analysis of obstacles and opportunities shows that the synergy between KWT, Rajabasa Jaya Village, the Department of Agriculture of Bandar Lampung City and other external parties is needed to maintain and improve local food security in Rajabasa Jaya Village amid the conversion of productive land. Each stakeholder has its own role so that the sustainability of local food security can be well maintained.

CONCLUSION AND RECOMMENDATION

The case study of the synergy of food security governance of the Women Farmers Group, Rajabasa Jaya Village and the Agriculture Office of Bandar Lampung City shows a good role between stakeholders in maintaining local food security amid the conversion of productive land. The results showed that cooperation between the Women Farmers Group (KWT) and Rajabasa Jaya Village together with the Agriculture Office is very important to maintain local food security amid land conversion. Through empowerment of the Farmer Women's Group (KWT), technical training, and assistance with agricultural tools and materials, the program increased the income of KWT members. Although the area of agricultural land continues to decline, the KWT's efforts to utilize yard land for organic farming shows that local food security in Rajabasa Jaya Village can still be achieved well. This case study shows the importance of collaboration among stakeholders to achieve sustainable local food security.

REFERENCES

Agrawal, A., & Ribot, J. (2019). *Accountability in Decentralization: A Framework with South Asian and West African Cases*. World Development.

- Brinkley, C. (2020). *Decoupling urban food systems: urban agriculture and the challenges of location*. Journal of Rural Studies.
- Darmawan, A., & Santoso, B. (2023). *Analisis Perubahan Penggunaan Laban di Bandar Lampung dengan Algoritma Random Forest*. Jurnal Geografi dan Perubahan Ruang, 18(2), 115–128.
- Deininger, K., Savastano, S., & Xia, F. (2022). *Decentralization and Food Security: Evidence from Indonesia*. World Bank Working Paper.
- Effendy, M., & Mardiana, T. (2020). *Good Governance di Pemerintahan Lokal: Tantangan dan Peluang*. Jurnal Administrasi Negara, 15(1), 45–60.
- FAO. (2020). *Good Governance in Land Tenure and Administration*. Food and Agriculture Organization of the United Nations.
- Faoziyah, N., Yuliasari, L., & Kurniawan, H. (2024). *Skenario Ketahanan Pangan Indonesia dalam Konteks Alih Fungsi Laban dan Pertumbuhan Penduduk*. Jurnal Ketahanan Pangan, 9(1), 27–41.
- Firman, T. (2020). *Urbanisasi dan Konversi Laban Pertanian di Indonesia: Studi Kasus di Wilayah Peri-Urban Jabodetabek*. Jurnal Tata Ruang, 22(1), 53–66.
- Fransen, J., Van Meerkerk, I., & Edelenbos, J. (2021). *Urban Governance and the Politics of Food Systems*. Cities, 108, 102997.
- Global Food Crisis Report. (2024). *Global Report on Food Crises 2024*. <https://www.wfp.org/publications/global-report-food-crises-grfc>
- Hartini, S., Wulandari, R., & Mufidah, N. (2021). *Pemberdayaan Kelompok Wanita Tani untuk Ketahanan Pangan Berbasis Komunitas*. Jurnal Pemberdayaan Masyarakat, 4(2), 87–98.
- Hasanah, U., Lestari, R., & Nasution, R. (2023). *Kemandirian Pangan melalui KWT di Wilayah Urban*. Jurnal Ketahanan Sosial, 11(1), 50–61.
- Ivanka, S., Putri, D. R., & Mulyadi, A. (2024). *Tren Konversi Laban Sawah dan Ketahanan Pangan Nasional: Strategi Mitigasi melalui Tata Kelola Agraria*. Jurnal Sumberdaya Alam dan Lingkungan, 14(1), 1–15.
- Kementerian ATR/BPN. (2023). *Statistik Pertanahan Nasional*. Jakarta: Kementerian Agraria dan Tata Ruang/Badan Pertanahan Nasional.
- Kementerian Pertanian. (2022). *Petunjuk Teknis Program Pekarangan Pangan Lestari (P2L)*. Jakarta: Direktorat Jenderal Hortikultura.
- Meinzen-Dick, R., Quisumbing, A., & Doss, C. (2019). *Empowering Women in Agriculture: What Difference Does a Gender Perspective Make?*. World Development, 122, 93–112.

- Mulyani, A., & Sunarta, I. N. (2021). *Alih Fungsi Lahan Pertanian dan Ketahanan Pangan: Perspektif Spasial dan Sosial Ekonomi*. Jurnal Agraria, 14(1), 23–39.
- Notoatmodjo, S. (2005). *Metodologi Penelitian Kesehatan*. Jakarta: Rineka Cipta.
- OECD/FAO. (2022). *Agricultural Outlook 2022–2031*. OECD Publishing.
- Pratama, R., & Rachmawati, I. (2022). *Konversi Lahan Pertanian di Kota Bandar Lampung dan Implikasinya terhadap Ketahanan Pangan*. Jurnal Planologi, 19(1), 75–86.
- Quisumbing, A., Meinzen-Dick, R., & Njuki, J. (2020). *Women's Empowerment in Agriculture: Lessons from Evidence*. IFPRI Briefs.
- Rahman, A., Subekti, R., & Handayani, T. (2021). *Dampak Alih Fungsi Lahan terhadap Ketahanan Pangan di Wilayah Peri-Urban*. Jurnal Pembangunan Wilayah, 8(2), 114–123.
- Satterthwaite, D., McGranahan, G., & Tacoli, C. (2021). *Urbanization and its implications for food and farming*. Philosophical Transactions of the Royal Society B.
- Setiawan, E., & Prabowo, T. J. (2023). *Alih Fungsi Lahan dan Ketahanan Pangan: Kajian dari Wilayah Urban Pinggiran*. Jurnal Agraria dan Pembangunan, 6(2), 131–144.
- Sudrajat, M., Lestari, S., & Dewi, K. (2021). *Dampak Konversi Lahan Perkebunan Sawit terhadap Ketahanan Pangan di Tingkat Rumah Tangga*. Jurnal Ketahanan Pangan, 8(1), 22–33.
- Sugiyono. (2006). *Metode Penelitian Kuantitatif Kualitatif dan R&D*. Bandung: Alfabeta.
- Utami, R., & Wardani, T. (2022). *KWT dan Urban Farming: Penguatan Ketahanan Pangan Keluarga di Perkotaan*. Jurnal Pengabdian Masyarakat, 10(2), 143–157.
- Warr, P., & Yusuf, A. A. (2022). *Food Security and Land Use in Indonesia: Trends and Policy Responses*. Asian Development Review.
- Wibowo, A., & Nugraheni, A. (2022). *Inovasi Pemerintah Desa dalam Ketahanan Pangan Berbasis Komunitas*. Jurnal Inovasi Pemerintahan Daerah, 4(1), 25–40.