



Babinsa's Role in Empowering Farmer Households to Achieve Food Security

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ABSTRACT

The food security of farmer households in peri-urban areas faces complex challenges such as land conversion and fragmentation, limited capital, and the limited number of civilian Field Agricultural Extension Workers (PPL). In the midst of this vulnerability, the Village Supervisory Officer (Babinsa) serves to strengthen territorial security and to be a companion in local agricultural governance. This study aims to analyze the dimensions of Babinsa's role in empowering farmers, examine the conditions for farmer household empowerment, and evaluate the actual contribution of this military-civilian territorial collaboration to strengthening food security in Ciparay District, Bandung Regency. This study uses a qualitative approach with an exploratory case study method. Data collection was carried out through in-depth interviews with 52 informants (including Babinsa, civil PPL, village government, farmer group administrators, and farmer households), field observations, and interactive thematic analysis using NVivo. The results of the study show that Babinsa plays a multidimensional role that goes beyond conventional military functions, namely as a persuasive motivator, conflict mediator (especially irrigation water disputes), network facilitator (Double Pentahelix), and guardian of the distribution lines of production facilities. This integrated assistance has increased the average productivity of Milled Dry Grain (GKG) from 4.35 Tons/Ha to 5.85 Tons/Ha and maintained stable local grain prices at the farmer level. Farmers' empowerment was achieved in both the cognitive (78.00%) and psychological (65.00%) dimensions, but still experienced limitations in the material (45.00%) and structural (42.00%) dimensions due to land ownership status. This study concludes that the role of Babinsa is significant as an institutional bridge that transforms regional development by increasing farmers' adaptive capacity to maintain production stability and access to sustainable household food.

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■ INTRODUCTION

Household-level food security in peri-urban areas is currently facing increasingly complex multidimensional threats (Stuart, 2024). The process of large-scale urbanization triggers the conversion of productive agricultural land, the fragmentation of land ownership, and a decline in environmental carrying capacity, which directly threatens the stability of food production (Charina et al., 2018). This phenomenon is exacerbated by the socio-economic vulnerabilities of smallholder households, including limited access to capital, price fluctuations in wheat due to asymmetric market chains, and low adoption of renewable agricultural technologies. The uncertain availability of infrastructure and agricultural production facilities often triggers horizontal conflicts among farmers, especially over the

distribution of irrigation water in the dry season (Shoko, 2025). On the other hand, supporting institutions at the location level are stagnant due to the limited number and capacity of civilian Field Agricultural Extension Workers (PPL). The gap between the workload of extension and the number of farmer groups to be accompanied results in insufficient assistance, undermining the adaptive capacity and empowerment of farmer households to respond to environmental and market dynamics.

Theoretically and empirically, several previous studies have sought to address the complexity of local food governance through a collaborative approach (Vignola et al., 2021). Studies on food security generally focus on the formal institutional role of civic extension and the internal strengthening of farmer groups

(Qanti et al., 2021). Increasing farmers' capacity is achieved through the government's scheme to apply agricultural technology and provide input subsidy assistance (Kusumo et al., 2019). However, much of the literature still places civic actors, academics, and the private sector as the main drivers of local agricultural ecosystems. The role of territorial security elements, such as the military, in non-conventional sectors such as agriculture is generally seen only as an instrument for emergency mobilization or post-disaster temporary logistical assistance (Martínez & Bueno, 2024). There is still a gap in this study (Research Gap) that specifically explores how the involvement of low-level military actors, through Village Supervisory Officers (Babinsa), can be semi-permanently integrated as a reinforcing element (security collaboration element) to encourage and empower farmers in suburban areas vulnerable to spatial and economic conflict.

The urgency of this research lies in the need to redefine the military's territorial role within the framework of Collaborative Governance and Empowerment Theory in the local agricultural sector. Although the theory of Collaborative Governance presupposes a fair division of power, the inherent asymmetry of power between the military authorities (Babinsa) and civilian peasants is a crucial analytical challenge. This study addresses this by examining how humanist-persuasive approaches serve as a mechanism to reduce this imbalance, shifting interactions from hierarchical command structures to partnerships based on trust and mutual respect. Babinsa's presence in agricultural assistance programs is often constrained by the stigma of rigid institutional command approaches (Wijaya et al., 2025). In fact, on the ground, the approach applied must be humanistic and persuasive to build social capital and mediate agrarian conflicts. Theoretical alignment is needed to examine how Babinsa mentoring activities (empowerment process) are directly correlated with the achievement of the conditions for independent capacity (empowerment) of farmer households (Ningsih & Prathama, 2021). The ambiguity of the boundary between military territorial duty interventions and civilian extension education functions has the potential to lead to overlapping roles at the level of farmer groups if not analyzed through the lens of multi-stakeholder partnerships (Multiple Pentahelix) (Knook & Turner, 2020). Therefore, an in-depth study is needed to examine the effectiveness of this territorial role not only as a surveillance instrument but also as an

institutional bridge that strengthens food security at the site level.

The novelty of this research lies in the conceptual analysis of the integration of military territorial command functions manifested in a humanist-persuasive approach to mobilize the social capital of peri-urban farmers. In contrast to conventional agricultural aid research that relies on technical-agronomic aspects, this study reveals how psychosocial aspects, mediation of irrigation water conflicts, escorting the distribution of inputs from intermediary practices, and enforcement of local wheat price stability are driven by non-agricultural actors (Babinsa) in collaboration with civil PPLs (Firmanto et al., 2025; Isnani et al., 2025; Aminah & Marhendri, 2025). This exploration case study is located in Ciparay District, Bandung Regency, a strategic peri-urban area that serves as one of the pilot rice warehouses yet faces very high pressure for land conversion. This novelty is expected to make a theoretical contribution to the development of rural sociology and counseling, particularly regarding the effectiveness of security actors in community development governance.

Based on the background and analysis of the gap, this study formulates three main *research questions* as a guide for the flow of discussion: (1) What are the dimensions of Babinsa's role in assisting and empowering farmer households in peri-urban areas? (2) What are the conditions and level of empowerment of smallholder households in the midst of land conversion pressures and resource limitations? (3) To what extent is the real contribution of this military-civilian territorial collaboration able to strengthen the stability of food security of farmer households in Ciparay District, Bandung Regency? Practically, the answers to these questions are expected to serve as a policy reference for local governments and territorial agencies in formulating harmonious, effective, and institutionalized multi-actor partnership models to reduce food vulnerability at the site level.

■ METHODS

Design and Research Approach

This study used a qualitative approach, employing a descriptive, exploratory case study method (Denzin & Lincoln). This case study aims to explore in depth the contemporary phenomenon of local food governance, particularly the dynamics of the role of non-conventional military in the structure of civil partnerships in peri-urban areas (Galli et al., 2024). The research was conducted in Ciparay District, Bandung Regency, West Java

Province. The selection of this location was deliberately (directed) based on the consideration that Ciparay District is one of the strategic areas of peri-urban rice cages in Bandung Regency, which experiences high land conversion pressure due to industrial and residential expansion, but has a military-civilian territorial collaboration model that is active in maintaining food security stability. Field data collection and informant confirmation are carried out intensively (Chandra & Warlina, 2023).

Information and Research Subjects

The subjects or informants in this qualitative research were selected using a combination of purposive sampling and Snowball Sampling to obtain credible, in-depth data from various stakeholder perspectives (*Multiple Pentahelix*) (Creswell & Creswell, 2018). The total number of informants actively involved in this study is 52 people, consisting of: 4 Village Supervisors (Babinsa) from the Ciparay Military Rayon Command (Koramil) who are tasked with assisting in the agricultural sector; 4 ASN/civilian Field Agricultural Extension Workers (PPL) from the local Agricultural UPTD; 4 representatives of the village government; 13 heads of farmer groups (Poktan); and 27 heads of families/members of smallholder households who were directly targeted by the mentoring program. The criteria for determining farmer households are based on ownership or management of peri-urban agricultural land of less than 0.5 hectares, active involvement in socio-technical interactions with Babinsa and PPL, and having received intensive agricultural assistance for at least one year (covering at least two planting-season cycles). This minimum time limit of one year is set as a methodological prerequisite to ensure that cognitive, psychological, and functional changes in farmers' households can be observed and evaluated validly.

Data Collection

The data collection procedure is systematically designed through three main stages to ensure the validity of qualitative data. The first stage is passive participatory observation, in which the researcher directly observes Babinsa's mentoring activities in the field, interactions in farmer group meetings, the mediation process for irrigation water distribution, and the supervision of subsidized fertilizer distribution. The second stage is a semi-structured, in-depth interview guided by an interview guide. The interviews were conducted to explore data on the dimensions of Babinsa's role (motivation, mediation,

facilitation), the conditions of farmer household empowerment (cognitive, psychological, material, and structural aspects), and the impact of collaboration on food access and availability. To extract the psychological dimension of empowerment, particularly farmers' self-efficacy in navigating the dynamics of farming in peri-urban areas, an in-depth interview instrument was developed based on the theoretical framework of self-efficacy belief (Bandura, 1997). The instrument contains at least three key questions that are asked directly to farmer households:

1. Generative Ability & Mastery Experience: "To what extent do you feel confident and able to adopt and apply new cultivation technologies or techniques introduced by Babinsa and PPL, even though you are faced with limited capital or land area?"
2. Coping Efficacy & Resilience: "What is your level of confidence in allocating self-sufficient resources to address urgent farming disruptions (such as sudden pest infestations, subsidized fertilizer shortages, or fluctuations in market prices) before help arrives?"
3. Decision-Making Autonomy: "Does the assistance provided by Babinsa increase your confidence to make farming decisions independently and actively voice your aspirations in the farmer group forum (Poktan)?"

The third stage is a documentation study to collect relevant secondary data, such as sub-district monographic data, conversion land area, farmer group profiles, wheat production reports, and Koramil Ciparay territorial work program records.

The main instrument in this qualitative research is the researcher himself, a key figure who is flexible in responding to field dynamics. To maintain objectivity and minimize bias, the researcher was assisted by supporting instruments, including validated in-depth interview guides, field notes, and digital audio recording tools. This interview guide is operationally prepared based on the conceptual integration of Collaborative Governance and Empowerment Theory. The instrument indicators focus on: (1) empowerment activities by Babinsa which include a humanist-persuasive approach and the function of bridges; (2) the status of farmer empowerment which includes decision-making capacity, access to capital, and group independence; and (3) household food security stability which includes aspects of availability, economic affordability, and grain absorption stability. Research Ethics and Informant Protection (*Research Ethics and Participant Protection*):

All stages of this research are conducted in accordance with the principles of strict social research ethics. Before data collection begins, the researcher obtains approval letters for ethical and official research permits from local government agencies and related territorial agencies. Each informant, especially civilian participants (smallholders and village community leaders), was given a transparent explanation of the purpose of the research, the confidentiality of the data, and the full right to participate voluntarily (*informed consent*). Given that this study involved observations and interviews with the military territorial apparatus (Babinsa), the researcher implemented a specific privacy protection mechanism to prevent potential effects of authority (*Coercion effect*) or psychological fear. In-depth interviews with farmers and farmer groups were conducted separately, without the military present, to ensure freedom and confidentiality in expressing opinions. The personal identities of all informants were disguised through anonymization techniques (using codes/initials), and all audio recordings and interview transcripts were stored in an encrypted digital repository that could only be accessed by the research team for academic purposes.

Data Analysis and Validity

Qualitative data were obtained through interactive analysis using a thematic data analysis model (Miles et al., 2014). To overcome the limitations of the cross-cut design (*Cross-sectional*) and the absence of baseline data (*baseline initially*). This research integrated retrospective memory excavation techniques (Retrospective Recall Technique) via structured, in-depth interviews. The researchers applied a "Before-and-After" retrospective evaluation approach (*Before-and-After Evaluation*) to isolate the effects of the Babinsa intervention from farmers' initial capacity (pre-existing knowledge). All informants were asked to explicitly compare their level of technical understanding before Babinsa's intensive assistance (condition *baseline* memory) with a post-mentoring level of comprehension (condition *ex-post*). The charging of cognitive instruments was tested

using cross-testing techniques (*cross-checking*) and triangulation with agricultural extension workers (PPL) and farmer group leaders (Poktan) to verify that the surge in information literacy (such as the adoption of balanced fertilization and supply chain management) is purely the result of the accumulation of interdisciplinary interventions, rather than farmers' initial innate knowledge. This data analysis process includes four stages that run simultaneously: Interactive Data Analysis is presented in Figure 1.

The qualitative data analysis stage of this study began with data reduction through interview transcription and cleaning, followed by NVivo-based thematic coding of the variables: Babinsa's role, farmer empowerment, and food security. The data were then transformed into a logical narrative, a matrix of actors' roles, and a military-civilian partnership flowchart to comprehensively map the phenomenon's pattern. In addition, conclusions and conclusions (conclusion-taking/verification) are carried out iteratively to formulate a consistent and accurate research proposition. To ensure the credibility of the findings, the study applied triangulation of sources and methods. Source triangulation was carried out by cross-testing information from the perspective of Babinsa, civil PPL, Pokut administrators, and gurem farmers. Meanwhile, the triangulation method compares interview results with field observations and secondary documentation. The tested data were then critically interpreted using the theoretical framework of rural sociology and community empowerment to generate conceptual novelty.

The dynamics of Babinsa's role in assisting peri-urban farmers do not operate in isolation but are interconnected and form complex relational slices. Based on a qualitative analysis of the Thematic Map (Figure 2), the functions of motivators, mediators, and facilitators appear to have interlocking roles that strengthen farmers' adaptive capacity. The role of a motivator serves as a driving force in building confidence and positive perceptions among farmers towards agricultural innovation. This motivational impulse intersects directly with Babinsa's role as a mediator in addressing structural obstacles, such as negotiating access to peri-urban land threatened with conversion and resolving water allocation conflicts. At the point of the slice, Babinsa served as a bridge between farmer groups, capital owners, and local governments.

Furthermore, the mediator function amounts to a facilitator role, in which Babinsa translates social agreements into concrete

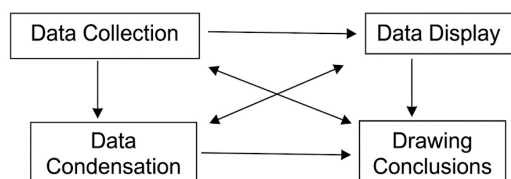


Figure 1. Interactive data analysis (Miles & Huberman, 1994)

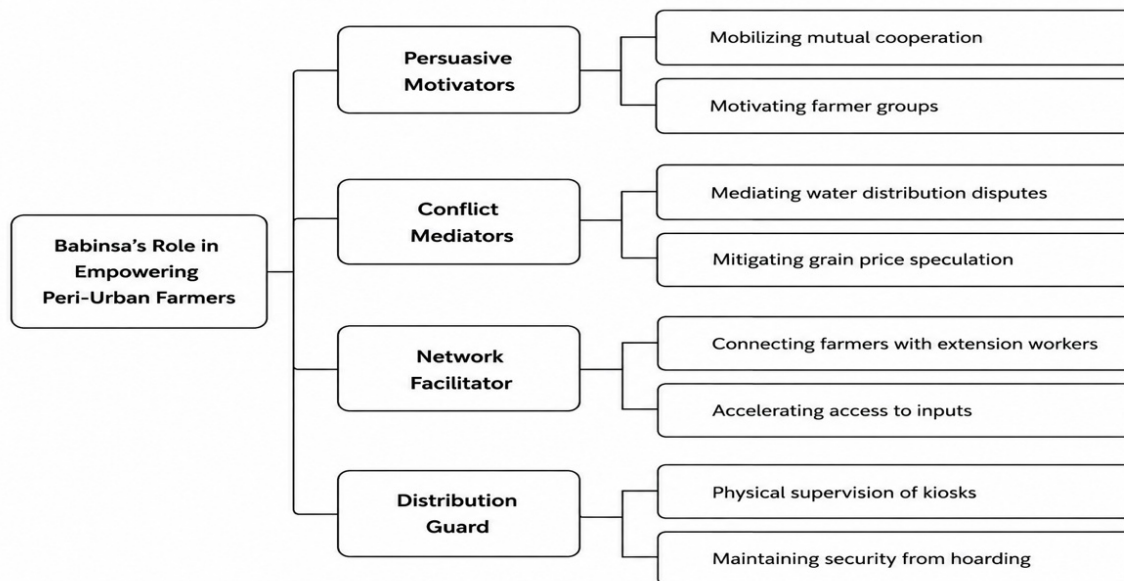


Figure 2. Thematic map of the role of the Babinsa dimension

actions in the field by facilitating the distribution of subsidized fertilizers, supporting the adoption of cultivation technology, and providing a crop distribution network. This thematic mapping emphasizes that empowerment is not achieved by a single action but by the synergistic interplay among the three roles in responding to the socio-economic dynamics of peri-urban areas. When

reviewed theoretically through the lens of Collaborative Governance (Ansell & Gash, 2008; Ulibarri et al., 2020; Douglas et al., 2020), Babinsa's position serves as a reinforcing element (security collaboration). This involvement complements the limited number of civilian PPLs, who are difficult to reach intensively across all Poktan in Ciparay. These results confirm (Qanti et al., 2021;

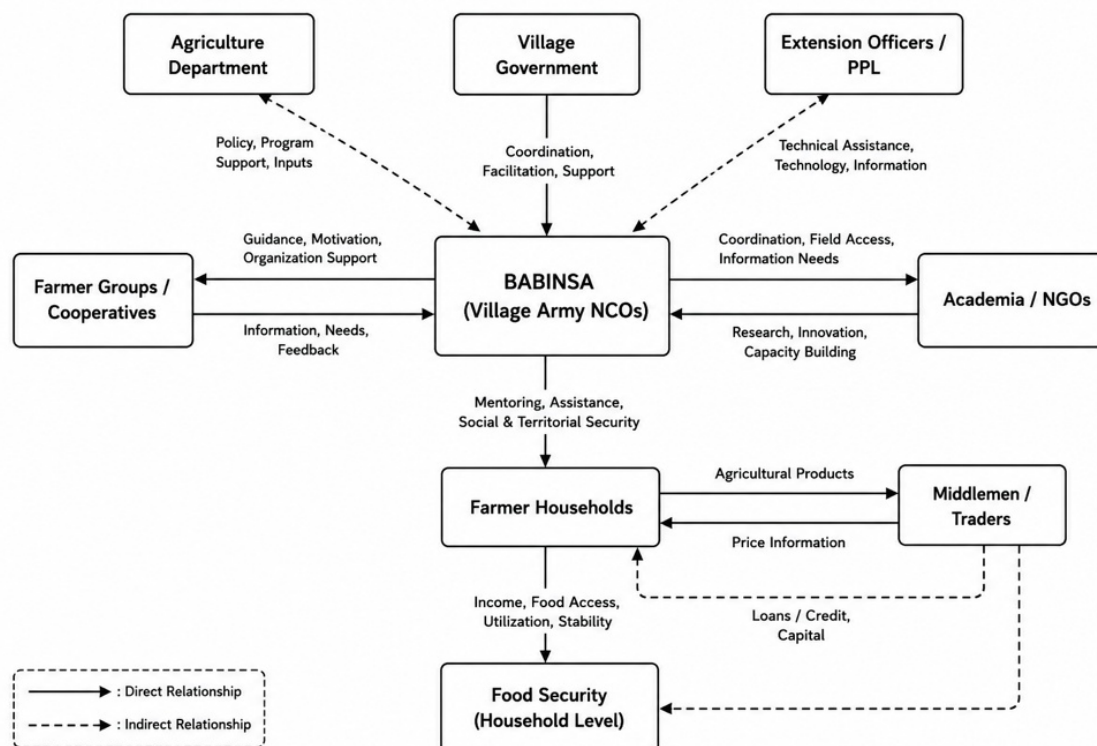


Figure 3. Comparative matrix of the role of actors in farmer empowerment

Jamillah et al., 2022; Nugroho et al., 2023) that the presence of interdisciplinary actors outside the purely agricultural sector can accelerate the accumulation of collective social capital when integrated into the multi-actor partnership ecosystem (Double Pentahelix).

In the presentation in Figure 3, we can see the structure of inter-actor relationships in peri-urban agricultural ecosystems forming a dynamic interaction pattern involving the exchange of material and non-material resources (Figure 3). The position of peri-urban farmers has historically been vulnerable due to financial dependence on middlemen. Middlemen control market access through the provision of fast loan capital (*informal credit*), but bind farmers in a unilateral pricing scheme that is detrimental, where Babinsa Intervention together with Field Agricultural Extension Workers (PPL) are present to map and unravel the asymmetry of these relationships through the redistribution of functions and strengthening the bargaining position of farmers. PPL supplies a balanced flow of technical information, cultivation technology, and fertilization education to increase the quantity and quality of harvest.

At the same time, Babinsa plays a role in channeling socio-territorial security resources, including supervising the distribution of subsidized production facilities to prevent misappropriation by speculators, as well as protecting farmers from intimidation related to the transfer of peri-urban land functions or being forced to sell to middlemen. The synergy between Babinsa and PPL gradually suppresses the space for middleman dominance. Through the facilitation of alternative supply chains and the institutional strengthening of farmer groups (Poktan), the flow of harvest products, previously dominated by middlemen, began to be distributed more equitably. The visualization of this concept map shows that Babinsa's

involvement is not just a physical action but also the provision of social security that ensures the flow of capital and information for farmers' resilience.

■ RESULTS AND DISCUSSION

The Dimension of Babinsa's Role in Empowering Peri-Urban Farmers

Based on the results of field exploration in Ciparay District, the role of Babinsa in agricultural empowerment in peri-urban areas can no longer be viewed through a rigid military-instructional perspective. The characteristics of the Ciparay area, which are under pressure to change land use, require Babinsa to adjust its territorial approach to be more humanistic and persuasive. The synthesis of qualitative data identifies four dimensions of Babinsa's main role within the framework of empowering farmer communities. The dimensions of these roles are briefly presented in Table 1 below.

Field findings suggest that the dimensions of "Conflict Mediators" and "Network Facilitators" play important roles in peri-urban areas. Scarcity of irrigation water due to spatial fragmentation and competition with the domestic sector is likely to trigger horizontal social disintegration among smallholders. The presence of Babinsa, through a coercive approach grounded in emotional closeness, can restore the order of water distribution regulation fairly without needing to enter the realm of formal law. This phenomenon answers the question of why local water governance has increased significantly when Babinsa is actively involved in a coalition of farmer groups (Gapoktan).

Table 2 shows a positive correlation between the increased intensity of integrated assistance (Babinsa and PPL) and crop yield optimization, supported not only by farmers' qualitative perceptions but also by empirical

Table 1. Matrix of the dimensions of Babinsa's role in empowering farmers in ciparay district

No	Role Dimensions	Empirical form in the field
1	Persuasive Motivators	Mobilizing cooperation to clean tertiary irrigation canals; motivating farmer groups (Poktan) that are vacant due to land conflicts.
2	Mediator Conflict	Mediating water distribution disputes between upstream and downstream farmer groups during the dry season; reducing the pressure of wheat price speculation by intermediaries.
3	Network Facilitator	Connect farmer groups with civilian Field Agricultural Extension Workers (PPLs) and related agencies to accelerate access to superior seeds and subsidized fertilizers.
4	Distribution Guard	Conduct physical supervision (monitoring) at the level of official kiosks of agricultural production facilities to minimize scarcity due to hoarding of goods.

Table 2. Secondary data on average harvest productivity of milled dry grain (GKG) of peri-urban agricultural land

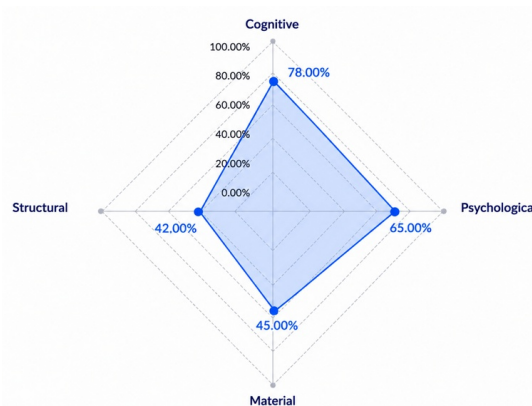
Mentoring Period	Average Yield (Tons/Ha)
Before Intensive Intervention (<i>Pre-Assistance</i>)	4.2 – 4.5 tons/ha
Post-Intensive Intervention (<i>Post-Babinsa & PPL Assistance</i>)	5.6 – 6.1 tons/ha

evidence from secondary data provided by the local Agriculture Office. Based on the secondary data report on food crop production, the average productivity of Milled Dry Rice (GKG) in peri-urban agricultural areas has increased significantly from 4.35 tons/ha under pre-intensive intervention conditions to 5.85 tons/ha after integrated escort. This increase in productivity is driven by the efficiency of production input allocation, the accuracy of planting schedules, and the suppression of yield losses through strict supervision of the distribution of subsidized production facilities and the supervision of cultivation technology in the field, which confirms the effectiveness of territorial supervision in preventing vulnerability of local supply chains (Renting et al., 2012). This quantitative data confirms that the synergy between territorial security and technical counseling can significantly boost land production capacity amid the pressures of peri-urban environmental vulnerability.

Conditions of Domestic Empowerment of Peri-Urban Farmers

The evaluation of the internal capacity of smallholder households in Ciparay District was conducted using Empowerment Theory to measure the extent to which the mentoring process led to real independence (Kabeer, 2005; Iriani & Suprianto, 2024; Zikri et al., 2022; Duaja et al., 2020). The conditions of farmer empowerment are categorized into four main dimensions: cognitive (agricultural information literacy), psychological (self-efficacy), material (asset/market access), and structural (bargaining position in groups/institutions). The level of participation and achievement of this empowerment dimension is illustrated in Figure 4

Figure 4 shows a qualitative data quantification (coding coverage rate) that reflects the inequality in the depth of achievement across the empowerment dimensions. The cognitive (78.00%) and psychological (65.00%) dimensions recorded the highest levels of thematic fullness. This is confirmed by the narratives of 52 informants, who reported increased technical understanding of cultivation and a revival of *farmers' self-efficacy* after receiving integrated assistance from Babinsa and PPL. The intensity of face-

**Figure 4.** Visualization thematic coding coverage radar chart (coding coverage rate) peri-urban farmer empowerment dimension

to-face interaction and escorting in the field effectively erodes smallholders' psychological inferiority. In contrast, the material (45.00%) and structural (42.00%) dimensions are at a relatively limited level of qualitative achievement. The limitations in the material dimension are driven by farmers' lack of independence in controlling production assets and their dependence on informal capital. Meanwhile, the low structural dimension is rooted in systemic obstacles, namely, the status of farmers as tenants without legal ownership of the land. The results of this analysis reinforce the theoretical limitation that field assistance based on territorial relations can transform the cognitive and psychological realms (process empowerment) but requires macro policy interventions to overcome structural and material barriers (status empowerment).

Empirical facts in this area reveal the reason why the material and structural dimensions are slow. The majority of peri-urban farmers in Ciparay are tenants, with leased land vulnerable to eviction for non-agricultural projects. Due to the absence of formal land ownership certification, smallholders lack access to formal banking financing, leaving them dependent on traditional intermediaries for capital.

This condition emphasizes the theoretical boundary between the empowerment process

and the empowerment status (Chambers, 2005). External interventions by Babinsa have proven effective in stimulating aspects of agricultural knowledge and mentality (empowerment). However, they are powerless to change the agrarian structure and the unequal ownership of production assets (empowerment). This analysis is in line with criticism (Charina et al., 2018; Torres-Lima et al., 2022; Méndez-Lemus & Vieyra, 2017). The empowerment of peasant communities in peri-urban areas will face a structural barrier if fundamental issues such as agrarian reform and land tenure stability are not addressed by macro-level government policies.

- Contribution of Territorial Collaboration in Strengthening Food Security

The final synthesis of the cause-and-effect relationship between Babinsa's territorial role and the level of farmer empowerment projects real implications for household-level food security in Sipirari District. Food security is evaluated through the pillars of availability, accessibility, and price stability. The contribution of this collaboration is captured in the institutional relationship scheme shown in Figure 5.

Figure 5 conceptualizes the role of Babinsa as an institutional *bridging* that connects formal authorities with the social networks of local communities (Crona & Bodin, 2010; Kowalski & Jenkins, 2015). The most significant contribution of this collaboration is the creation of protective security in the pillars of supply stability and economic affordability. Babinsa's physical presence during the harvest period is a psychological barrier for cartel and middleman practices that often lower the price of harvested dry wheat (GDP) below the Government Purchase Price (HPP). This impact was emphasized by a farmer who stated that "*when Babinsa is present who monitors or comes to the field during harvest, the intermediary is usually more careful so that it is not too convenient to sell because it is too low*", "*we as farmers feel safer selling our crops with more reasonable yields*". In addition, Babinsa supervision of subsidized fertilizer distribution minimizes the risk of fertilization delays and is positively correlated with per-hectare rice yield.

Through the management of this logistics chain, farmers' income stability can be maintained, which in turn guarantees the purchasing power (right) for their family's food. In addition, Babinsa's supervision of the distribution of subsidized fertilizers minimizes the risk of fertilization delays, which is positively correlated with per-hectare rice yield in Ciparay. Scientifically, these findings expand the discourse in rural sociology and agricultural extension by challenging the notion that food stability in vulnerable peri-urban communities comes solely from the introduction of pure agronomic technology. Non-conventional external factors in the form of institutional strengthening based on security-territorial instruments have been shown to accelerate the recovery of market failures (market failures) and bureaucratic limitations of civil agricultural extension (Kusumo et al., 2019). The existence of humane security instruments has transformed regional development into the collective adaptive capacity of farmer households to maintain local food sovereignty amid the urgency of urbanization.

■ CONCLUSION

This study concluded that the territorial role of the Village Supervisory Officer (Babinsa) in Ciparay District has expanded beyond conventional military functions, serving as a key institutional bridge within the peri-urban local food governance structure. Through the realization of four main dimensions, namely as a persuasive motivator, conflict mediator, network facilitator, and distribution guard, Babinsa effectively fills the role void due to the limitations of civilian Field Agricultural Extension Workers (PPL). This humanist territorial intervention has made a tangible contribution to stabilizing wheat prices at the site level against middleman speculation, reducing the potential for horizontal conflicts over irrigation water distribution, and re-gluing the social capital of farmers who are vulnerable to fragmentation under the pressures of massive urbanization.

Although the external empowerment process driven by Babinsa appears to enhance smallholders' cognitive and psychological capacities, independent smallholder households

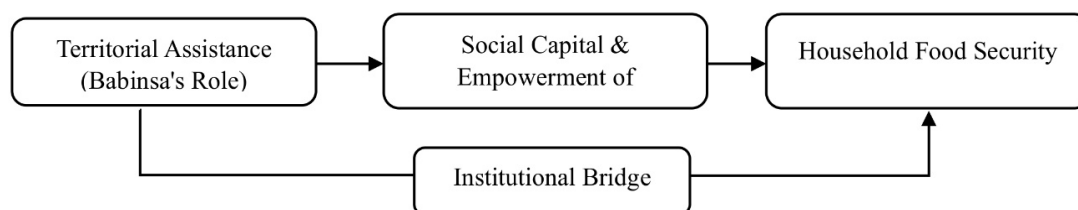


Figure 5. Institutional bridge models to support food security

still face complex structural and material constraints. Farmers in the peri-urban area of Ciparay remain predominantly non-landowners and are isolated from formal access to capital, limiting their long-term adaptability. Nevertheless, multi-stakeholder synergies within the framework of Collaborative Governance have helped maintain the pillars of household-level food supply stability and affordability. The scientific innovations resulting from this study confirm that food security institutions in peri-urban areas vulnerable to spatial conflict require the integration of security instruments that serve humanist-facilitative functions to overcome market failures and civil bureaucratic failures.

Therefore, to ensure the sustainability of assistance without sacrificing the effectiveness of social interaction in the field, the formulation of regulations and formal Standard Operating Procedures (SOPs) needs to implement a strict separation of authority boundaries. Formal SOPs are recommended to be limited to the managerial realm and inter-institutional coordination between the territorial command (Babinsa/TNI AD) and the technical service (PPL/Agriculture Service). This standard procedure regulates aspects of administrative governance, such as periodic data exchange mechanisms, synchronization of assistance schedules, mapping potential land conflicts, and clarity in the division of supervisory functions for the distribution of subsidized production facilities. On the other hand, in the realm of conflict resolution and mediation with farmers at the site level, policies should explicitly provide flexibility for Babinsa and PPL to implement a kinship-based cultural approach and informal dialogue. The standardization or formalization of mediation methods risks damaging the mutual trust and social ties that have been key to successful water dispute resolution and peri-urban land conversion. Thus, formal SOPs serve as a basis for administrative legitimacy among agencies, while the humanist, informal approach remains the primary operational strategy in the field.

■ DECLARATION ON THE USE OF GENERATIVE AI IN THE WRITING PROCESS

During the preparation and revision of this manuscript, the author used Gemini AI, ChatGPT, and scispace AI Writer as support tools to improve the publication's clarity and quality. In particular, these tools were used to refine sentence structure, polish academic English prose to make it easier to read, refine typography and stylistic nuances, and generate conceptual diagrams to improve the visual

presentation of research models. These tools serve only as complements for language editing and visual representation; no AI is used to generate primary empirical data, perform qualitative thematic analysis, or develop theoretical interpretations. After using these tools, the author has thoroughly reviewed, verified, and revised all content to ensure academic rigor and accepts full responsibility for the final content of this article.

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