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Strengthening the Understanding of the Village Community on the Administrative Area of Kasturian Village, North Ternate District, Ternate City

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A R T I C L E I N F O

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A B S T R A C T

This community service activity aims to strengthen public understanding and awareness of the administrative boundaries of Kasturian Village, North Ternate District, Ternate City. The activity involved 30 participants with a participatory-educational approach. Evaluation was carried out using questionnaires before and after the activity based on five indicators, then analyzed quantitatively descriptively. The results showed that the average percentage of community understanding and awareness increased from 54.88% to 87.32%, with an increase of 32.44 percentage points. The highest increase was found in the indicator of awareness of reporting regional boundary problems, which was 36 percentage points. These results showed positive changes after the education was implemented.

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INTRODUCTION

Kasturian Village is one of the villages located in the administrative area of Ternate City with urban area characteristics characterized by social dynamics and increasing population density. Urban areas with rapid population growth generally face complexities in spatial management and regional administration (Bintarto, R. 1989). Geographically, Kasturian Village is directly adjacent to several other urban villages so that the clarity of administrative boundaries is a crucial aspect in the implementation of government, public services, and region-based development planning (Law of the Republic of Indonesia Number 23 of 2014). Clarity of regional boundaries is the main prerequisite for orderly government administration and effective development management (Ministry of Home Affairs of the Republic of Indonesia, 2016).

However, based on the results of initial observation and coordination with the Kasturian Village Government, there is still a limited public understanding of the legal boundaries of the village administrative area. This condition is in line with the finding that low spatial literacy of the community is often the main cause of unclear boundaries at the local level (Goodchild, 2007). The existing conditions show that some communities do not have clear spatial references regarding the boundaries of the village area, either in the form of easy-to-understand maps or other visual information media. Regional boundary information is generally only known by a small number of village officials and community leaders, while the general public still relies on hereditary perceptual knowledge. This informal spatial knowledge pattern has the potential to cause differences in perceptions and conflicts of interest between regions (Tuladhar et al., 2005).

This situation can have an impact on the emergence of administrative problems, such as inaccuracies in the management of population documents, overlapping service areas, and potential social conflicts related to territorial boundary claims. Several studies show that unclear administrative boundaries often have direct implications for social conflicts and weak public services at the local level (Wehrmann, 2008). From an institutional perspective, the Kasturian Village Government does not have a map of administrative boundaries that is compiled in a participatory manner and validated with the community. In fact, participatory mapping has proven to be effective in increasing the accuracy of spatial data while building understanding and social legitimacy towards regional boundaries (Chambers, 2006).

In addition, the available maps are still limited and have not been integrated with geospatial information that is easily accessible and used in village planning activities. The limited capacity of the community and village apparatus in understanding and utilizing simple geospatial information is also the main obstacle in data-based area management (McCall & Dunn, 2012). Therefore, the problems of partners in this activity can be formulated as follows: (1) low spatial literacy of the community related to the boundaries of the urban urban administrative area; (2) the lack of an informative, easy-to-understand, and mutually agreed map of the administrative boundaries of Kasturian Village; and (3) the limited involvement of the community in the process of identifying and affirming regional boundaries. This condition emphasizes the need for a

partnership-based community service effort through educational approaches and participatory mapping (Chambers, 2006; Brown & Kyttä, 2014).

THEORETICAL REVIEW

Administrative boundaries play a role as a determinant of the scope of the government area as well as a reference in the implementation of administrative affairs and the provision of public services. In Indonesia, the basis for the implementation of local government is determined through Law of the Republic of Indonesia Number 23 of 2014 concerning Regional Government (Republic of Indonesia, 2014). The procedure for determining and affirming village boundaries refers to the Regulation of the Minister of Home Affairs of the Republic of Indonesia Number 45 of 2016 (Ministry of Home Affairs of the Republic of Indonesia, 2016). Although the regulation focuses on village boundaries, the principle of clarity of boundaries can still be used to explain the importance of administrative boundary information. In line with that, Listiana et al. (2023) examine the development of hamlet boundaries in supporting regional management.

People's understanding of administrative boundaries grows from their knowledge of the area of residence, the surrounding environment, and the boundaries that need to be respected. This knowledge can develop through daily experiences, relationships with other residents, and information received from the surrounding environment. Goodchild (2007), through the idea of volunteered geographic information, shows that the community can also participate in providing geographic information. Therefore, local knowledge can help describe the condition of an area. In order not to cause mistakes, the information still needs to be matched with administrative data that can be accounted for, so that people understand the boundaries of their residential areas appropriately.

In order for the community to understand the boundaries well, information needs to be conveyed clearly and the local government needs to open up a space of communication with residents. Chambers (2006) underlines the importance of paying attention to the involvement of the community and their position in the process related to spatial information. McCall and Dunn (2012) also discuss how participatory geographic information tools can support spatial planning and governance. Meanwhile, Brown and Kyttä (2014) highlight a number of things that need to be considered in the participatory approach, including community knowledge and interests. These ideas support the involvement of citizens in understanding the issue of administrative boundaries. However, this understanding still needs to refer to the applicable official information.

Education can be a way to strengthen the community's knowledge and concern for the boundaries of the administrative area. Through this activity, residents are expected to better understand the scope of the area, respect the applicable boundaries, and know to whom they can convey problems related to the boundaries. Wehrmann (2008) reminded that the handling of land problems and conflicts needs to consider the local situation, the parties involved, and the right solution options. Therefore, education about administrative boundaries is relevant to be carried out in community service activities in Kasturian Village.

The impact of activities on residents' understanding can be assessed by comparing the results of measurements before and after education.

METHODOLOGY

PKM Research Methods

This community service activity uses a participatory-educational approach based on geospatial analysis involving 30 participants. Data collection was carried out using questionnaires before and after the activity based on five indicators related to public understanding and awareness of the administrative boundaries of Kasturian Village, North Ternate District, Ternate City. The data was analyzed in a quantitative descriptive manner by comparing the percentage of measurement results before and after the activity to illustrate changes in public understanding and awareness.

Procedure of PKM Research

The procedure for implementing activities includes seven stages, namely preparation through coordination with the Kasturian Village government, identification and verification of spatial problems through discussions, participatory mapping of regional boundaries by involving the community, processing and analysis of geospatial data using Geographic Information Systems (GIS), education and socialization about regional boundaries and spatial literacy, monitoring and evaluation through measuring community understanding before and after activities based on five indicators, and follow-up on the use of maps and educational media by the village government to support the sustainable dissemination of regional boundary information.

RESULTS

The results of the measurement of 30 participants showed that the average public understanding increased from 54.88% before the PKM activity to 87.32% after the activity, with an average increase of 32.44 percentage points. The highest increase was in the indicator of awareness of reporting boundary problems (36.0 points), while the lowest was in the indicator of awareness of respecting boundaries (28.3 points).

Table 1. Percentage of Community Increase to the Administrative Area Boundaries of Kasturian Village

Indicator	Before PKM	After PKM	Improvement
Understanding the position/boundaries of the Kasturian Village area	54,4%	87,3%	32,9%
Understanding the function of administrative boundaries	52,0%	84,3%	32,3%
Understanding the importance of territorial boundaries	57,7%	90,4%	32,7%
Awareness of respecting territorial boundaries	62,0%	90,3%	28,3%

Awareness of reporting boundary problems	48,3%	84,3%	36,0%
Average	54,88	87,32	32,44

A comparison of the level of public understanding and awareness before and after the implementation of PKM activities is also presented in the form of a graph in Figure 1. Panel A showed that all indicators of community understanding increased after PKM activities. The average understanding increased from 54.88% to 87.32%. Before the activity, the lowest score was in the awareness of reporting boundary problems (48.3%), while after the activity all indicators reached above 84%, with the highest score on understanding the importance of boundaries (90.4%). The difference between indicators also narrowed, which indicates that participants' understanding became more even.

Panel B: Increased understanding after PKM, Based on the graph above, it can be stated that the vertical axis indicates an increase in percentage points, i.e. the difference in value after subtracting before. A higher point means that the increase is greater so that Average increase of 32.44 points, the highest increase there is in the awareness of reporting boundary problems, namely 36.0 points. This indicator starts from the lowest value, so there is the greatest room for improvement. Lowest increase there is an awareness of respecting territorial boundaries, namely 28.3 points. This indicator starts from the highest value, so the room for increase is narrower. Three other indicators (position/boundary of 32.9; function of administrative boundary 32.3; importance of boundary 32.7) is very close to the average. This shows that PKM material has a fairly uniform impact on the aspect of knowledge. The difference between the highest and lowest increase is 7.7 points. Panel A shows the position of understanding before and after, while Panel B shows the magnitude of the change. PKM activities succeeded in increasing public understanding and awareness on all indicators, with more even final results.

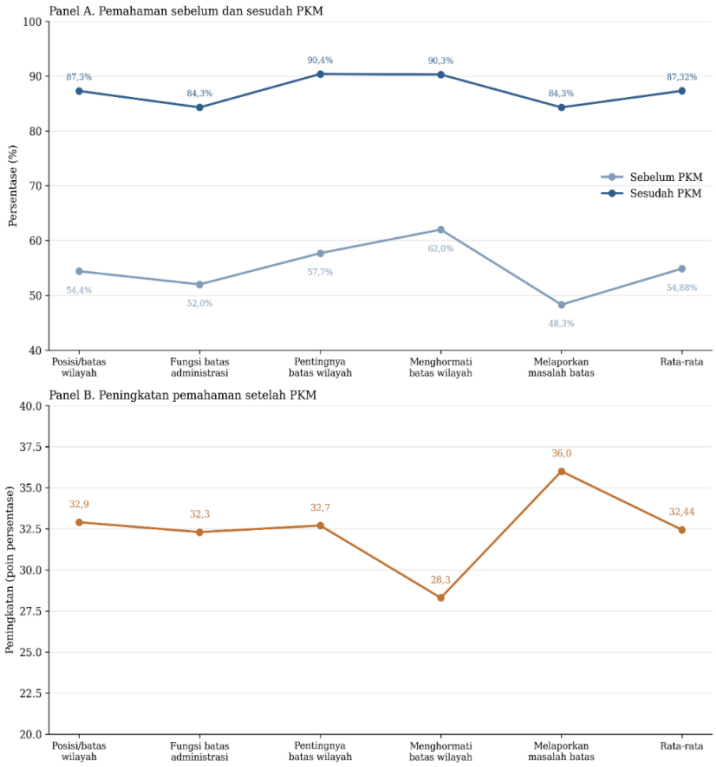


Figure 1. Increasing Public Understanding and Awareness before and after PKM

DISCUSSION

The general picture of the increase in understanding can be seen from the results of the pre-test and post-test of 30 participants showing an increase in all indicators. The average understanding and awareness increased from 54.88% to 87.32%, or an increase of 32.44 percentage points. The increase occurred in all aspects, both knowledge (position, function, and importance of boundaries) and attitudes (respecting and reporting boundary problems). These findings are in line with regional boundary education activities in other places. The service in Ponteh Village, Pamekasan, is motivated by the fact that there are still few residents who understand the boundaries of the area, so residents need education and assistance, and these activities were concluded to be effective in increasing residents' understanding of the importance of boundaries (Listiana et al., 2023). The initial condition of participants in Kasturian Village, which is only about half (54.88%), shows that the need for similar education also exists in this area. PKM activities are carried out through lectures, discussions and maps, which are suspected of contributing to the increase.

The understanding of the Kasturian Village Boundaries has increased from 54.4% to 87.3% (32.9 points). The low initial value is reasonable because administrative boundaries are generally not clearly visible in the field, especially in densely populated areas. According to BPS data, Kasturian has an area of about 0.43 km² with 3,659 residents (BPS Ternate City, 2020), so the boundaries are likely to cross many tight residential environments and are difficult to recognize without markers or maps. A similar problem was found in Kota Baru Village, Pontianak. In the study, it was stated that residents' claims for territorial boundaries arose due

to the lack of socialization of boundaries and the lack of community involvement in determining boundaries (Mustofa et al., 2026). Thus, the improvement in understanding of boundary positions in this study shows that socialization equipped with [maps/visual explanations] is effective in closing the information gap.

The understanding of the function and importance of territorial boundaries increased from 52.0% to 84.3% (32.3 points), and the understanding of the importance of territorial boundaries from 57.7% to 90.4% (32.7 points). The final value of the importance of territorial boundaries was the highest among all indicators, which showed that participants easily accepted the reasons why the boundaries were necessary. Institutionally, territorial boundaries are not just lines on a map. National guidelines state that boundary determination is the process of determining territorial boundaries, while boundary affirmation is the activity of determining boundary coordinate points (Ministry of Home Affairs, 2016). It should be noted that the Permendagri regulates village boundaries. For urban villages, the determination of boundaries is usually carried out through regional head regulations, for example Banyumas Regent Regulation Number 66 of 2025 concerning the boundaries of Karangwangkal Village (Banyumas Regency Government, 2025). Boundary certainty supports the smooth administration of population, updating regional profiles, developing development policies, licensing, collecting voter data, and asset inventory (Mustofa et al., 2026). In addition, clear boundaries can prevent conflicts and make resource allocation and infrastructure development more efficient (Listiana et al., 2023). Information like this is likely to make participants consider regional boundaries to be more important after PKM.

Awareness of Respecting Regional Boundaries, this indicator increased from 62.0% to 90.3% (28.3 points). Although the final value was very high, the increase was the smallest among all indicators. The most plausible cause is that the initial value is already the highest (62.0%), so there is a narrower room to rise (ceiling effect). This means that the attitude of respecting boundaries is basically enough for residents, and PKM strengthens it with a clearer understanding. Correct understanding also helps to straighten out misinterpretations. In activities in Pamekasan, the determination of administrative boundaries is often considered the same as the eviction or acquisition of land occupied by residents, so many areas do not have clear boundaries (Listiana et al., 2023). In the study in Pontianak, the increase in geospatial understanding was also associated with the growth of awareness of orderly spatial planning and compliance with legal administrative boundaries (Mustofa et al., 2026). These findings support the hypothesis that understanding is the basis for border-respecting attitudes.

Awareness of Reporting Boundary Problems, this indicator experienced the largest increase, from 48.3% to 84.3% (36.0 points), and at the same time had the lowest initial value. This pattern shows that before PKM, most residents did not know that boundary problems needed to be reported or where to report them. After the activity, [explain the information provided, e.g. reporting mechanisms through RT/RW and sub-districts] is likely to make residents more ready to act. According to Mustofa, et al, (2026) that an approach involving residents and the

village government has proven to be helpful in practice. In activities in Kota Baru Village, overlapping boundaries are identified, discussed through dialogue between residents, and formally reported to the village as a basis for settlement (Mustofa et al., 2026). This shows that clear reporting channels and the involvement of village officials are important to build reporting habits.

Strengthening public understanding of administrative boundaries is important because the existence of maps does not automatically guarantee that all communities understand the information presented in the area. The community can recognize areas based on environmental conditions, roads, settlement history, and local knowledge, while formal administrative boundaries refer to area information that needs to be understood appropriately. In the context of PKM in Kasturian Village, the average percentage of community understanding and awareness increased from 54.88% before the activity to 87.32% after the activity, with a difference of 32.44 percentage points. These results show positive changes after the implementation of education. In line with that, Sejati et al. (2023) discuss the importance of integrating mapping technology with discussions with the community and related parties in handling the issue of territorial boundaries. However, the increase in evaluation scores has not ensured that the understanding has been applied in daily behavior so that continuous education and communication between the community and the village government are still needed.

CONCLUSIONS AND RECOMMENDATIONS

Community Service Activities (PKM) on Strengthening Village Community Understanding of the Administrative Area Boundaries of Kasturian Village, North Ternate District, Ternate City has made a positive contribution to increasing public knowledge and understanding of the administrative boundaries of Kasturian Village. By delivering information about territorial boundaries, the community gains a better understanding of the position and function of administrative boundaries in community life and government administration. The community is also increasingly aware that understanding of territorial boundaries is important to support administrative order, public services, community data collection, development planning, and prevent misunderstandings or potential conflicts between regions. This PKM activity strengthens communication and synergy between the community and the Kasturian Village government. The community is encouraged to play an active role in maintaining, respecting, and conveying information related to the condition of territorial boundaries found in the field. With this increased understanding, it is hoped that the community can be an important part in supporting the creation of administrative order and better regional management. Overall, PKM activities have had a positive impact on increasing knowledge, awareness, and community participation in understanding and maintaining the boundaries of the administrative area of Kasturian Village.

Recommendations that can be given based on the results of this PKM research are that specifically, the results of PKM recommend that Kasturian Village build a simple, open, and easily understood regional boundary information system for the community, through a combination of regional boundary maps,

periodic socialization, digital media, and the involvement of RT/RW and community leaders. These efforts are expected to increase the certainty of regional administration, reduce the potential for misunderstandings, and strengthen community participation in supporting governance and development of Kasturian Village.

FURTHER STUDY

PKM research still has limitations, therefore for future researchers, it is recommended to research about measuring impact, and developing media.

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