

## Conference

# Impact of a Spatial and Regional Planning Policy for Sustainable Food Agricultural Land Protection in Banten Province

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**Abstract.** The development strategy within the regulations on Spatial and Regional Planning (Bahasa Indonesia: *Rencana Tata Ruang dan Wilayah - RTRW*) intersects with social, cultural, and environmental conditions. One impact is the conversion of agricultural land, plantations and forestry into industrial and residential areas. In the context of Banten Province, the regional regulation on Spatial and Regional Planning (Bahasa Indonesia: *Peraturan Daerah Rencana Tata Ruang dan Wilayah - Perda RTRW*) is considered to have played a major role in the conversion of agricultural land on a large scale in several regions in Banten Province. This study aimed to determine the impact of spatial and regional planning policies in Banten Province on efforts to protect sustainable food agricultural land (Bahasa Indonesia: *Lahan Pertanian Pangan Berkelanjutan - LP2B*), which is a national priority. The impact evaluation methodology was used to compare the condition of agricultural land before and after the implementation of this regional and spatial planning regulation. This study found a lack of strong commitment to the protection of LP2B, and that the conversion of agricultural land into industrial and residential areas largely occurred in areas that were included in the regional regulation as agricultural designation areas.

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## 1. Introduction

The spatial and regional planning for Banten Province is contained in Banten Province Regional Regulation (Perda) Number 5 of 2017, which is a revision of Banten Province Perda No. 2 of 2011 regarding RTRW of Banten Province for 2010-2030. Perda RTRW contains a strategic project for the spatial plan of Banten Province within 20 years and can be reviewed every 5 years. One of the reasons for the existence of this Perda RTRW of Banten Province is to realize integrated sectoral development between regions in Banten Province to support regional economic growth and achieve community welfare (1).

Perda RTRW of Banten Province is one of the guidelines in the preparation of the regional long-term (Bahasa Indonesia: *Rencana Pembangunan Jangka Panjang*

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*Daerah* - RPJPD) and medium-term (Bahasa Indonesia: *Rencana Pembangunan Jangka Menengah Daerah* - RPJMD) development plans. In general, the preparation of RPJPD and RPJMD must be suitable with the spatial and regional planning that have become regional development guidelines for a certain period. Furthermore, the Perda RTRW of Banten Province for 2010-2030 also serves as a guide in realizing the integration, linkage, and balance of expansion and development between regencies/cities as well as inter-sectoral harmony.

In Perda Number 5 of 2017, the scope of the Banten Province RTRW is divided into 3 Development Work Areas (Bahasa Indonesia: *Wilayah Kerja Pembangunan* - WKP). WKP 1 covers Tangerang City, Tangerang Regency, and South Tangerang City. WKP 2 covers Serang City, Cilegon City, and Serang Regency. WKP 3 covers Pandeglang Regency and Lebak Regency. Each WKP has its regional characteristics and spatial planning concepts which are regulated in detail in the mentioned Perda.

WKP 1 is an area planned to be an area of industrial development, services, trade, agriculture, settlements or housing, and education. WKP 2 is designed to be a development area for government activities, education, forestry, agriculture, industry, tourism, services, trade, and mining. While WKP 3 is an area planned to be a concentration of forestry, agricultural, plantation, mining, tourism, marine, and fishery activities.

The division of WKP based on region characteristics above shows that Perda RTRW of Banten Province is made to synergize development in the regions according to their respective characteristics so that development plans can be implemented optimally. This the development strategy designed by the Banten Provincial Government is expected to increase welfare equality for the people of Banten, as well as reduce the level of welfare disparity between regions in Banten Province.

However, the implementation of Perda RTRW in Banten Province, both those owned by the Provincial or Cities Districts Government, is faced with the condition that there are many land conversions, especially agricultural and plantation land which has been converted into settlements and industries. A study by the Faculty of Agricultural Industrial Technology, the University of Padjadjaran in 2019, collaborated with the Department of Agriculture and Livestock, Banten Province, showed that during the 2018-2019 period, land conversion in Banten Province reached 3.861,09 hectares, of which most of it was agricultural land. (Faculty of Agricultural Industrial Technology, University of Padjadjaran: 2019)

In the Technical Study of Perda RTRW for Banten Province in 2017, an agricultural designation area of approximately 196.000 hectares has been designated, consisting of both wet and dryland agriculture. The allotted plantation area is 191.065,09 hectares

consisting of dry land plantation cultivation, as well as the fishery designation area of 1.620,02 hectares. Especially for agricultural designation areas, the concept of Sustainable Food Agricultural Areas (Bahasa Indonesia: *Kawasan Pertanian Pangan Berkelanjutan* - KP2B) has even been made which is strengthened through Perda Number 5 of 2014 regarding the Protection of LP2B which stipulates an area of 169.515,47 hectares as special agricultural land. (LP2B Study Document, Banten Provincial Agriculture Office: 2019).

However, in practice, the conversion of agricultural land and plantations continues. The evaluation study of Perda on the Protection of Sustainable Agricultural Areas at the Department of Agriculture and Livestock, Banten Province shows that the implementation of RTRW is still the biggest contributor to the reduction in agricultural and plantation land in all of Banten Province. Further mixes of agricultural and plantation designation areas with industrial, residential, and mining designations in the division of WKP in Banten Province RTRW pattern opens space for the conversion of agricultural land into residential and industrial areas. In this case, the land conflicts that occur between the community and property entrepreneurs that are rife in Banten Province today are an indirect impact of interests friction in maintaining agricultural and plantation areas with the opening of industrial areas and new settlements.

In the review of the policy evaluation of the Banten Province RTRW 2010-2030 which is carried out periodically every 5 years in 2015(1), it can be seen that one of the strategic issues that underlie the issuance of Perda Number 5 of 2017 regarding RTRW of Banten Province is a lot of conversion of agricultural land, plantations, and forestry into industrial areas and settlements. Land conversion occurs on a large scale, especially along the north coast of Tangerang Regency in line with the North Coast reclamation plan which will be used as an integrated residential area, Maja and Bayah areas in Lebak Regency which have changed functions into residential areas, industrial areas, and warehousing, as well as Economic Zones. Specifically, Tanjung Lesung Pandeglang is projected to become a tourist and industrial and residential area.

The decrease in agricultural land is aggravated by the increasing escalation of disasters such as floods and landslides as a result of illegal mining and mineral exploration. Many mining and mineral explorations are also carried out in areas designated as protected areas and for plantation and agricultural cultivation. The conversion of agricultural land and plantations for industry and settlements ultimately makes the Banten Provincial Government's efforts to maintain food security and self-sufficiency less than optimal.

Based on the description of the problem indications that the authors have put forward, the authors are interested in conducting more in-depth research on the Impact of Spatial and Regional Planning Policy for the Protection of Sustainable Food Agricultural Land (LP2B) in Banten Province.

## 2. Problem Formulation

Based on the background of the problem above, this study identifies the research problem as follows, **"How to determine the impact of the policy on spatial and regional arrangement plans for the protection of sustainable food agricultural land (LP2B) in Banten Province."**

## 3. Research Benefits

The results of this study are expected to provide an overview to the policymakers of the Banten Provincial Government on how to evaluate the impact of Perda on RTRW for the Protection of LP2B in Banten Province. In addition, this research is also expected to provide evaluation material for the Banten Provincial Government on the planned revision of Perda Number 5 of 2017 regarding RTRW of Banten Province for 2010-2030.

## 4. Literature Review

One theory of area-based development, especially related to the development of agricultural and plantation areas is the theory of Land Rent. The classical land rent theory was developed by David Ricardo (1809) regarding economic rent or location rent which states that 1. Cities only have 1 centralized place. 2, The city is located in a flat area. 3, transportation costs according to the distance to be traveled in all directions, transportation costs to the city center increase the farther the distance from the city center. The City Center is considered an area that has the highest degree and dependence, the farther outward the lower the degree of accessibility. 4, Every inch of land will be sold to the highest bidder. In this case, everyone has the same opportunity to own land according to their financial capacity, and there is no limit to the amount of land that can be owned. In Ricardo's concept, there are also no restrictions on land use (land use zoning) or environmental pollution standards and eliminate state interference.

According to (2), there are at least 4 types of land types. First, the Ricardian rent is related to the function of land quality and scarcity. Second, the locational rent is related

to the land accessibility function. Third, the ecological relates to the ecological function of land, and fourth, the sociological rent which concerns the social function of the land. In this case, Ricardo's theory is built on the level of fertility and land quality or Ricardian rent, especially in the agricultural sector. The assumption that Ricardo builds in this theory is on land, which even though it is fertile, if the land is only used for farming and sufficient for daily needs, then the land has no rent value. The land rent will only be of value if there is an increase in population which has an impact on increasing demand for land and food so that the demand for infertile land also begins to increase. The value of land rent is influenced by the land quality, while the degree of land quality is determined by the surplus of the land concerned when good land is increasingly scarce and expensive.

Meanwhile, Von Thunen at almost the same time saw that land rent was not only assessed from the aspect of land fertility but also the function of its location. The difference in land rent is determined by the costs needed to manage it. The farther the location of the land from the center, the greater the transportation costs needed thus the rent value of the land will be smaller. On the other hand, the closer a piece of land is to the city center, the greater the rent value of the land.

Raleigh Barlowe (1978) then developed the theory of land rent from a different point of view. According to Barlowe, Land Rent contains two meanings, namely contract rent and economic rent. Contract rent contains the meaning of land rent, which is the value of the land that is rented for a certain period. While economic rent implies economic value added or value-added income above the cost of land used in the production process. According to Barlowe, the allocation of land resources is determined more by economic value-added, not by rent value. In other words, the shift in land allocation, including the conversion of agricultural land into non-agricultural land, is largely determined by economic rent or land rent(3).

Based on Barlowe's theory, land that has a larger economic land rent value will have the potential to shift land that has a smaller land rent. In the general situation, according to Barlowe, the economic value of land is occupied by industrial activities, followed by trading activities, settlements, and finally agriculture, both intensive and extensive. Based on this order, if the allocation of land resources is left entirely to the market mechanism, it is certain that large-scale conversion of agricultural land will occur for industrial, residential, and trade activities.

The research also looks at RTRW concerning agricultural space from the perspective of the agropolitan concept. The concept of agropolitan development was first introduced by McDouglas and Friedman(4) as a rural development strategy. Agropolitan is a concept

that wants to provide urban services in rural areas, or to borrow Friedman's term is "city in the field". Thus, farmers and rural communities do not have to go to cities to obtain facilities and necessities both related to agricultural production and other social and daily needs.

Service centers are provided as close as possible to village community settlements, such as services related to agricultural production, capital credit, and agricultural cultivation techniques, to market information so that the cost of agricultural production can be reduced. Also included are services for agricultural activities, namely production support facilities (fertilizer, seeds, equipment, etc.), as well as marketing support facilities, such as road infrastructure, ports, terminals, markets, and so on. The agropolitan concept at the same time reduces the potential for capital and labor outflows from the countryside. On the contrary, it encourages investment and labor in rural areas to strengthen the village economy.

The agropolitan area consists of agricultural towns and villages surrounding agricultural production centers with boundaries not determined by government administration, but rather determined by the scale of existing economic activities. Thus, an agropolitan area is an agribusiness area with a set of urban facilities it has. The development of agropolitan areas is designed by synergizing various potentials to realize competitive, people-based, sustainable, and decentralized agribusiness businesses.

## 5. Methods

This study also uses the method of measuring the dimensions of policy impact presented by Thomas R. Dye (1972), where to find out the impact of a policy can be done by measuring the effect dimensionally through (5): a. The impact of policy on public issues and the impact of policy on the people involved. b. Policies may have an impact on circumstances or groups beyond the goal or objective of the policy. c. The policy may have an impact on current and future conditions.

## 6. Research Results and Discussion

The RTRW of Banten Province as contained in Perda Number 5 of 2017 has determined the area for agriculture, both wet and dry land, covering an area of 196,000.10 (hectare), consisting of 124,263.54 which is designated for wetland agriculture, and 71,736.56 is dry land use. While the areas designated as agricultural areas include Pandeglang Regency, Lebak Regency, Serang Regency, Tangerang Regency, Serang City, and

Cilegon City. The area designated for agriculture in Perda Number 5 of 2017 appears to be under the area of agricultural areas in Perda Number 5 of 2014 regarding the Protection of LP2B of Banten Province covering an area of 169,515 hectares.

However, the area of land allotted for agriculture, whether stipulated in the Perda RTRW of Banten Province and those stipulated in the Perda on Protection of LP2B, does not appear to be accommodated in City-Regency RTRW Perda. This can be seen from the accumulation of agricultural land in the Regency/City RTRW Perda which is much smaller than the agricultural land designation in the Provincial RTRW Perda. Even when compared to the allotment of agricultural land in Perda LP2B, the area of land allotted for agriculture in the Regency/City RTRW in Banten Province is also smaller.

TABLE 1: Comparison of rice land in banten province's regulation

The Ministry of Agriculture Rice Field Audit (2010)	LP2B Area (2014)	Agricultural Area (ha)			Regional Regulation on RT RW Banten Province (2017)	Regency/City RTRW Regional Regulation (2020) (accumulated)
		Citra 2017	Satelite	Rice Field Area (BPS Banten)		
191.020	169.515	199.185		193.810	196.000	136.216

Source : Banten Province RTRW Perda : Regency/City RTRW Perda : BPS Banten in Numbers of 2021

The discrepancy in the area of agricultural area designation in supporting regulations for the protection of agricultural land, both RTRW and LP2B regulations, ultimately opens up space for land conversion on a large scale in several areas in Banten Province. From the table above, the potential conversion of agricultural land can be seen from the difference between the actual rice fields, plus the determination of the area of agricultural designation in the RTRW of Banten Province, as well as LP2B with the designation of agricultural land in the RTRW of the Regency/City. From this difference, the potential for land conversion is 60.2016 hectares when referring to the comparison of the Provincial and City Regency RTRW, or 33.299 hectares when referring to the area of rice fields in Perda LP2B.

In addition to the discrepancy between the area of land designated for rice fields in the supporting regulations, several regulations in the Perda on Spatial Planning both at the Provincial and Regency/City levels also directly open up a lot of space for the conversion of land functions. In article 92H, point c of Banten Province Perda Number 5 of 2017 for example in the area of agricultural designation it is still permitted to use space for residential, industrial, recreational, trade, and mining activities, provided that it is not an LP2B area.

The problem is that not all Regencies and Cities in Banten Province determine their agricultural spatial patterns in a precise manner based on LP2B. Even some regions have not accommodated the LP2B Protection program in their spatial planning. Tangerang City and South Tangerang City are cities that are claimed to have no LP2B space. Meanwhile, Pandeglang Regency has not yet established its Perda LP2B. The issue of the timeline for drafting regulations then became a crucial issue in efforts to synchronize regulations related to the protection of the conversion of agricultural land in Banten Province.

The difference in the extent of protection for agricultural land in various regulations, both those owned by the Provincial or Cities Districts Government resulting in the widespread conversion of agricultural and plantation land into industrial and residential areas. From 2018 to 2019 the conversion of agricultural land in Banten Province totaled 3,861.09 hectares. This is much higher than the trend of land conversion before 2014, which was only around 1,365 hectares.(6) Even though the commitment to protect agricultural land has been strengthened by the promulgation of the Regional Regulation on the Protection of Sustainable Food Agricultural Land (LP2B) in 2014.

TABLE 2: Comparasion of Agricultural Land (ha)

No	Kabupaten/Kota	2019	2018	2014
1	Kab Serang	8.475	8.543	8.565
2	Kota Cilegon	1.626	1.715	1.735
3	Kota Tangerang	1.076	1.113	1.114
4	Kota Tangsel	-	54	213
5	Kab Tangerang	38.580	39.065	41.125

Sumber: BPS Provinsi Banten

The decrease of agricultural land also has an impact on the tendency of farmers in Banten Province to switch professions from farmers to workers. This was revealed in the survey of Banten Provincial Statistics Agency which released that approximately 150 thousand farmers in Banten, most of whom were in the northern region, switched professions to become workers/laborers in some companies that spread along the northern coast of Banten Province. (BPS, Dec 2019) Although other factors have contributed to the trend of shifting the profession of farmers, such as the long dry season, and falling prices for agricultural commodities, the conversion of agricultural land is considered to have a major contribution for encouraging farmers in Banten Province to leave their profession as a farmer.

However, this study found an anomaly behind the shrinking of rice fields in Banten Province. In the last 3 years, rice production has increased. Even Banten Province is



included in the top 9 national rice producers. BPS data on March 1, 2021, showed that Banten Province produced 1,655,170 tons of dry unhulled rice, equivalent to 937,815 tons of rice(7).

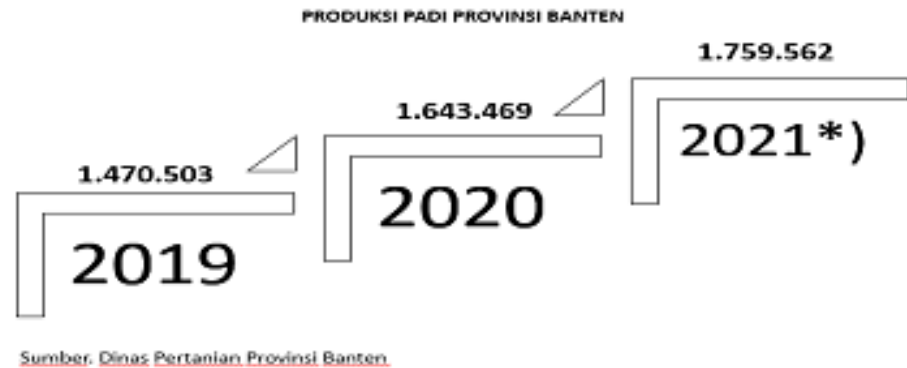


Figure 1

The Governor of Banten, Wahidin Halim, in this research interview revealed that agricultural incentives play an important role in overcoming the problem of land conversion. Agricultural incentives are given in the form of agricultural production assistance such as fertilizers, seeds, and other equipment, as well as agricultural support infrastructures, such as roads, reservoirs, irrigation canals, reservoirs, and others. Agricultural incentives, especially in areas that are not affected by land conversion, are considered to provide a balance so that rice production in Banten Province is maintained.

## 7. Conclusion

This research ultimately found that the issue of the Perda RTRW, both those owned by the Provincial and City District Governments, contributed to the issue of the conversion of rice fields. The discrepancy in the area of agricultural land designation, both in the Perda RTRW and the Perda LP2B Protection provides space for the widespread conversion of agricultural land into residential areas, trade, industry, and so on. The content of Perda on Spatial Planning, both Provincial and City Regency, also still tolerates land-use changes with certain criteria which are considered not to have a strong implementation effect, so that commitment to the implementation of Perda to protect food agricultural land is reduced.

However, the reduction in rice fields does not affect the productivity of Banten Province in producing rice. Rice production in the last 3 years still shows an increase. The impact of land conversion in some areas can be covered by increasing agricultural

incentives in other areas so that the ability to produce rice in Banten Province is maintained.

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