

The search for a common livelihood space between rural and industrial areas

Mencari ruang penghidupan bersama antara kawasan perdesaan dan kawasan industri

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Abstract

Rural areas, according to Law Number 6 of 2014 concerning Villages, are placed as the economic power behind the villages themselves, especially concerning the agricultural sector. Ideally, the village focused on the development of the agricultural sector. However, there are 158 factories in Purbalingga Regency located in rural areas. While the protection of the rural areas and the spatial planning of industry is unclear, there are conflicts primarily related to the designation of rivers, irrigation canals, agricultural features, settlements, and water and air pollution. This research explains the study of industrial space and the related functional arrangements, especially in the agriculture-based rural and industrial areas of Purbalingga. This paper based on the research results, which were determined using qualitative methods and a case study approach. The data collected through observations, a document-based study, and interviews. The informant selection techniques used were purposive and =. Data validity was confirmed using an interactive analysis model. This study interviewed eleven informants who were from the Agricultural Office in addition to the Chief of the Urban Village, a Former Chief of the Village, a Former Chief of the Urban Village, a Chief from Village, Village Officers, Public Society Institution activists, and affected farmers. The results of the study are as follows is 1) Purbalingga Government has an unclear vision concerning its long-term planning for industrial areas. The lack can see it of harmony present in the development of rural and industrial areas causing conflict between the actors involved, 2) the high investment from Purbalingga Government brings in a new problem, which is the neglecting of both the agricultural and environmental interests present. This research concludes, the government allowed for the development of rural areas that otherwise prioritized the development of the industrial sector. It is done without considering spatial planning, causing a sustained conflict between the actors.

Keywords: conflict space; rural area; industrial area; agricultural; Purbalingga

Abstrak

Kawasan perdesaan dalam UU Nomor 6 tahun 2014 tentang desa ditempatkan sebagai kekuatan ekonomi desa khususnya di sektor pertanian. Idealnya, desa difokuskan pada pembangunan di sektor pertanian, namun ada 158 pabrik di Kabupaten Purbalingga yang berada di wilayah perdesaan. Sementara itu, perlindungan atas kawasan perdesaan dan penataan ruang untuk industri tidak jelas sehingga menyebabkan konflik pemanfaatan ruang terutama untuk peruntukan sungai, saluran irigasi, pertanian, permukiman bahkan konflik akibat pencemaran air dan udara. Penelitian ini menjelaskan tentang kajian penataan fungsi ruang ekonomi khususnya kawasan perdesaan berbasis pertanian dan kawasan industri di Purbalingga. Penelitian ini menggunakan metode kualitatif dengan pendekatan studi kasus. Data diperoleh melalui observasi, studi dokumentasi dan wawancara. Teknik pemilihan informan menggunakan teknik purposive dan snowball. Validitas data menggunakan model analisis interaktif. Penelitian ini memawancarai sebelas orang informan dengan latar belakang pegawai Dinas Pertanian, Kepala Kelurahan, Mantan Kepala Desa, Mantan Kepala Kelurahan, Kepala Dusun, Perangkat Desa, aktivis LSM, dan Petani terdampak. Hasil penelitian ini adalah 1) Pemerintah Purbalingga belum memiliki visi yang jelas tentang perencanaan jangka panjang untuk kawasan industri. Hal ini tampak dari tidak harmonismya pembangunan kawasan perdesaan dan kawasan industri yang menimbulkan konflik antar aktor, 2) investasi yang sedang gencar dilakukan oleh Pemerintah Purbalingga menimbulkan persoalan baru yaitu pengabaian terhadap kepentingan pertanian juga lingkungan. Simpulan dari penelitian ini adalah pemerintah

telah melakukan pembiaran atas pembangunan kawasan perdesaan yang lebih diprioritaskan untuk pembangunan sektor industri. Ini dilakukan tanpa berpegang pada nomenklatur tata ruang sehingga menyebabkan konflik antar aktor yang berlarut-larut.

Kata kunci: konflik ruang; kawasan perdesaan; kawasan Industrial; pertanian; Purbalingga

Introduction

The development of rural areas is an action used to collect and solidify some of the resources from the villages that have been separated into one pillar of social, economic, and political power to seek out the unity, synergy, competitiveness, independence, and sustainability of the development between villages. Law Number 6 of 2014 concerning the village mentioned those rural areas are an area where agriculture was the main activity. It includes the management of natural resources through an area's functional arrangement, including the countryside settlements, government, and social services and economic activities. The plan, implementation, and utilization of the arrangement of the rural areas in the Purbalingga Regency have never existed before, according to Law Number 32 of 2004 concerning Region Government and Government Regulation Number 72 of 2005 concerning the Village. It is as well as being based on Law Number 6 of 2014 concerning the Village and Government Regulation Number 43 of 2014 concerning the Law Executor Regulation Number 6 of 2014 concerning the Village.

The development of rural areas should be accurate because the development of rural areas will facilitate society in participatory mapping development. It is related to district spatial planning, custom society acknowledgment, and the district expansion of society management on a large scale. In the spatial planning context, the law concerning spatial planning emphasizes the allocation areas in spatial planning through the use of six instructions that were equal for the urban, industrial, mining areas, and so on. These were translated spatially in the area spatial arrangement (*RT/RW*). In contrast, for the rural areas, the law concerning the villages was formed through a bottom-up (Village Regulation and District Policy) process, including things related to the physical infrastructure of a village (street, electricity, telecommunication, market network). It is in addition to the non-physical infrastructure like the technology used in the production and consumption processes, paired with the cooperation institutions between the villages.

The study of rural area regulations is essential because Purbalingga Regency has become a place of industrial investment activity rapidly. Purbalingga had around 158 industrial factories that can produce a lot of valuable products. They opened up and saturated the surrounding level of employment and increased the District Own Source or *Pendapatan Asli Daerah (PAD)*. Behind all of the positive sides, some threats mentioned that it was hazardous for the village and the agricultural sector. From 2014 until the middle of 2016, some urban villages in Purbalingga have been worried by some of the incidents related to the contamination of industrial waste in rivers, irrigation flows, and the associated air pollution. The sequence of this incident appeared in some of the print media outlets. *Harian Banyumas* (2014) thousands of fish were found dead suddenly because of being contaminated by factory waste. Society has demonstrated its intention to sue the company and to provide compensation to the fish cultivation farmers who were affected. *The Radar Banyumas* (2014) also wrote similar cases, that thousands of fish were found dead suddenly. It was expected that the hair factory waste was contaminating the fish. A couple of days later, the results of the water sample calibration done by the Regency Environmental Agency stated that a substance was found. *Radar Banyumas* (2015a) also reported that conflicts between the farmers and factories still happened continuously up until the middle of 2015. *Radar Banyumas* (2015b) wrote that society should sue PT. Boyang because of waste contamination. *Radar Banyumas* (2015c) reported the news that the Environmental Agency had brought in the police. The Environmental Agency of Purbalingga was going deeper when investigating the river contamination case with the assistance of the police. Society pushed the responsibility away from the factory that was expected to have contaminated the river.

Purbalingga was known as the producer of supreme rice and gourami fishes. At the moment, however, Purbalingga does not produce all of the products mentioned earlier. The river and irrigation canals always contaminated by waste, especially factory waste, which decreased the quality and

quantity of production in the agricultural sector. In 2010, when Purbalingga Government opened up the investment sub-sector in the industrial sector without it being accompanied by adequate spatial planning. As a result, factories spread in some locations, and both the urban and rural areas that were adjacent to the agricultural areas. Therefore, it is essential to study spatial and area planning between the rural areas based on agriculture alongside the industrial sector in order to lessen the chance of industrial disasters not happening, especially for farmers and society.

There have been some interesting studies about rural areas. One of them was discussed by (Barus et al. 2010), which pointed out the importance of interventions in spatial planning as well as rural areas related to the obedience of essential principles in rural area development. It is because it has involved discipline, justice, sustainability, and productivity. The essential areas that have already been arranged in terms of spatial planning are rural, protected, and urban areas. The principals of rural area development include the empowerment of rural society, the defense of the environmental quality by its supporting power, local resource conservation, the maintenance of local cultural heritage, the defense of agricultural land sustainably, and maintaining balance in the development between rural and urban areas.

The relevant research into rural areas refers to a study about sustainable agricultural models used to create food endurance in Banyumas, Central Java, as done by (Firdaus & Sugiarto 2014). There were obstacles when trying to guard the productive agricultural land. One of them was the lack of synchronicity in the thoughts between the executives and legislative because of the Area Legislation or *Badan Legislasi Daerah (Balegda)*. The Regional House of Representatives in Banyumas crossed out the submission of the Regional Regulation Program or *Rancangan Peraturan Daerah (Raperda)* in sustainable food of agricultural land protection as the executives conveyed them. Banyumas was known as the national food holder for years, but this has decreased continuously because of land shrinkage. Every year, there has been around 300 ha of productive land shifting to the non-agricultural sector in Central Java. The Agricultural, Forestry and Plantation Offices have recorded the speed of the agricultural functional shift as being around 100 ha in Banyumas. The second vulnerability is the farmers' poverty. The vulnerability makes a significant contribution to the land selling practices and urbanization. The third area of vulnerabilities is when the Sumbang sub-district became a productive land priority in the Banyumas areas, located chiefly in the fertile villages around the slope of Slamet Mountain. It was also near to the urban areas, so the selling value and strategic position could make this place a coveted area for housing developers.

The ecological and industrial convergences also happened in the southern coastal areas of Lebak Regency, especially in the Bayah sub-district, with the entry of the cement industry to PT. Cemindo Gemilang in 2014. Rahayuningsih (2017) said that this factory brought in functional changes concerning the environment and the socio-economics of society. The natural circumstances disappeared because of the crushing and coastal beach hoarding used to build the dock for loading and to unload the cement. It ruined the coastal ecosystem. Another problem happened when the air and sound pollution reached the point of harming society's health. On the other hand, it also brought in an increase in the district's resources, and it opened up the level of employment in society to a positive impact.

Research Method

This research used a qualitative method and a case study approach—the data collected through observations, a documentation study, and in-depth interviews. Informant selection used purposive and snowball. There were eleven informants in this study consisting of officers from the Living Environment Agency, officers from the Agricultural Agency, Public Society Institution activists from Purbayasa Community Movement or *Gerakan Masyarakat Purbayasa (Gempur)*, the Former Chief of the Urban Village, the Chief of the Village, and affected farmers. The data was analyzed using an interactive analysis model. The data validity did use source triangulation. This research used rural area development theory to explain the importance of spatial planning in agriculture. Agricultural development theory elaborated on the principles of welfare and sustainability in agricultural development.

Results and Discussion

Rural area development

The rural arrangement as the space in development has become more critical when observing the poverty of rural society. Spatial reversal is therefore needed. This study is concerned with the working and living spaces, the professionals involved, the distribution of resources, the reversed flow of policy values, and the preferences of the professionals when determining priority, including which one should be the foremost priority and which one should be a lesser priority. The rural development theory by Chambers (1988) stated that the development should take precedence in the outskirts and when concerning the poor in terms of spatial priority. Three spells have had a significant impact on spatial reversal: space, professional values, and specialization. Spatial reversal involves the centralization of skill, wealth, and main power, which has distributed and erased the resources from the outskirts. This circumstance showed in two main aspects. First, there is where those in society live and work. Second is where the power and resources are. The key to the reversal of support is decentralization. Society has centralized the professionals' power and resources in the hands of urban society.

In the basic theory of poverty, as stated by economic nobel prize receiver Professor Amartya Sen, it has been proven that it is present in Indonesia. According to Sen in Arifin (2005), farmers are poor because they do not have either skills or freedom. Farmers do not have either an adequate income or access to land as the essential factors in the production of agriculture. Over three decades, the agricultural sector has been advantageous at being an income multiplier in terms of society's poverty alleviation, employment creation, the decrease in income disparity in rural areas, and streaming labor to the other economic sectors (Arifin 2005).

The arrangement of rural area development has been published in Article 123 in Government Regulation Number 43 of 2014 concerning the Law Implementing Regulation Number 6 of 2014 concerning Village in Article 123 (1). It has been explained that the rural area development is in itself a compound development between the villages held in order to accelerate and increase the service qualities, development, and rural society empowerment through a participative developmental approach. In verse (2), it has been explained that the rural area development should consist of a) the arrangement of spatial planning in rural areas, b) the development of the primary growth between the villages in an integrated manner, c) the affirmation of societal capacity, d) institutional and economic partnership, and e) the infrastructure development between the villages. Verse (3) explains that the rural area development is concerned with origin rights and local authorization at the village scale and mainstreaming peace and social justice through the prevention of social and environmental impacts that harm partial and/or entire villages in the rural area.

The Law Regulation has emphasized the importance of rural area development based on society and synergized to the importance of government area development, referring to the district/urban and province. All of these aspects synergized in law, which manages the rural development areas, spatial planning, agriculture, the environment, and forestry. In other words, the planning of rural area development is the result of the development planning that was not done, not because of the rural administrative unit but because of the same functions in the rural areas.

Law Number 6 of 2014 also stated that a rural area is an area where agriculture is the main activity, including the management of natural resources with a functional arrangement that is inclusive of the rural settlements, government services, social services, and economic activity present. The facilitation of the activities in the area based on each rural area pushing economic growth. The conformity with living environmental preservation and natural resource conservation done by observing the importance of the areas, the public's perception of the importance of the rural areas, and the public importance of the rural areas in terms of participation, productivity, and sustainability based on societal empowerment. Facilitation has also helped society in the identification of the integrated growth between the villages, referring to a central growth planned and focused on villages as the mover of rural economic growth. This facilitation has also helped society to formulate the planning

pattern of the village. The planning pattern refers to the use of the land and rural space for economic activity and cultivation by society, the facilities, and infrastructure of the village government and the centrality of the social services. The increase in the quality of the activities conducted based on the rural economic supporting areas.

The cooperation between rural areas has already been oriented to strengthen the capacity of rural bargaining to provide an arena for rural development as part of a network with other actors. This paradigm had already been placed in the village in full meaning. Rural areas are a starting point in the presence of cultural identity. Rural politics and economic autonomy need to be integrated and sustainable. In the process of creating justice in rural society, this concept considers that the rural entity has the power to prop up society in terms of importance. Even national importance can be improved. The area identity is an affirmation that the potency and capacity of society cannot be substituted by developmental logic, which dissociates the rural from the ecological environment.

The consequence was that the rural areas could not be changed by urban development logic, industrial logic, and commercial services. The village supra, which had already been involved as the village's equal partner when formulating area potency, had an obligation to recognize the pattern of the agricultural villages as an essential issue when arranging district spatial planning. A district should develop an aligned and balanced area development policy between urban and rural areas, between the agricultural and industrial sectors and also between personal and commercial areas. Furthermore, the village and district should develop connectedness in each sector. For example, the superior agricultural commodity in rural areas has an industrial infrastructure that supports the urban areas. The rural economic growth adopted by the Japanese Government is known as the One Village One Product (OVOP) program. The OVOP spirit presents the village, and there are different products made in each village.

Rural areas development should be aware of the juridical aspects. First, rural areas should be involved in spatial planning (district) which could restrict the investment undertaken in a large scale, provided the area allocation to agricultural or forestry or mining and society plantation businesses, supporting these areas to manage their own sustainably and using the physical and non-physical infrastructures that are suitable according to the rural condition. Second, in the forestry context, it needs to be affirmed as in the revision of Government Regulation 44/2004 concerning forestry planning as introduced by the definition of rural areas and what we could do there. In the 72/2010 revision concerning Perhutani Public Company and the revision of Government Regulation 40/1996 concerning the right of business function or *Hak Guna Usaha (HGU)* and the right of construction function or *Hak Guna Bangunan (HGB)*, it explained that the Perhutani Public Company working areas and *HGU* would not enter the rural areas. It is because these areas have already been prioritized for use by society on a small scale. Third, to protect the farmers' business in terms of food production, there is the Law concerning Sustainable Food Land for Agricultural Protection (UU 41/2009) that incorporates everlasting agricultural areas in rural areas to protect agricultural food lands from land conversion. The Law of Farmers Protection (UU 19/2003) Article 12 protects explicitly small farmers when they have to face wealthy farmers in rural areas. Small farmers need to be protected by the specialized areas that allocated to the farmers who do not have any land to execute agricultural reformation at the local level (village or cultural area).

Agricultural development

There was an interesting study conducted about the principles of sustainable agricultural development by Arifin (2005). The principles that have already submitted have relevance in the rural area's development mission based on the main activity in the agricultural sector. Arifin has already initiated sustainable agricultural principles, and they prioritized the retarded areas, even though the natural resources in those areas were not good enough. They give priority to environmentally sustainable-oriented research concerning the agricultural technological developments that are going to be applied. It could help to expand the natural resource management spectrum, especially in the river stream area or *Daerah Aliran Sungai (DAS)* and in areas with limited resources. It increases the

farmers' rights and ownership concerning natural resources, finishes with the externality problems through the optimal taxation system, adequate fines or compensation provided by the local society and organizational empowerment, and increases the government institutions' performance related to who is responsible for natural resource management. Fixing the price distortion may exaggerate the use of production factors. The last was the creation of a natural resource monitoring system to learn and monitor the changes that happened.

The policy formulation process, like the District Regulation of Rural Area Development for agriculture, should watch for the following factors. First, there is the physical aspect which is concerned with agricultural land being the absolute pre-requisite for the district's regulation. Starting from area determination certainty, land spaciousness, land quality, and the mainstay agricultural commodity have already prepared. All of these requisites had implications through mainstay area mapping with all of the social-political consequences. Second, there is the political aspect. The involvement of the political actors refers to who plays a vital role in inadequate planning preparations and the implementation of the Regional Regulation Program or *Rancangan Peraturan Daerah (Raperda)*. The village government, urban villages, sub-districts, regional government, and the Regional House of Representatives or *Dewan Perwakilan Rakyat Daerah (DPRD)*, in addition to society's organization and private sector, are domiciled in the working area, which has been planned to be the agricultural areas. These parties become critical when it comes to an understanding of their position and role in order to create a compromise.

Third, there is a social-economic aspect. Economic vulnerability is also essential when remembering that most of society has a farmer's livelihood. They are still burdened by poverty because of land limitations and the weakness of the local farmer's competitiveness. Because of that, the Regional Regulation or *Peraturan Daerah (Perda)* should make a formula to provide solutions for farmers so then they could increase their welfare through the comparative superiority formula and sustainable agriculture's competitive superiority.

The attention paid to the agricultural sector is a reverse flow from the uncertainty in the sector after the political decentralization in Indonesia. Many districts competed to increase the industry's economic and natural extraction in the form of mining goods and minerals. The innovations in the agricultural sector were limited. The districts that had an overflow of natural resource potency or that occupied a strategic trading position tended to neglect the farmers and the environment. In terms of the connection between environmental issues, some essential matters should get attention too.

According to Lay (2007), The granting of autonomy to the regions through the politics of decentralization, as argued in the literature is the best way to solve regional problems, and accurately to solve the problem of tension between the central and regional relations. Nevertheless, concerning environmental issues, several essential things must get attention too. One of the essential lessons that can draw from the experience of many regions is that economic development plans overly placed on the exploitation of natural resources, especially for areas that have abundant natural resources. This strategy, as evidenced by the experience of many countries, can lead to the collapse of the regional economy, especially when natural resources drastically depleted. The problem is getting more complicated because the difficulties created do not merely end with the collapse of the economic base, but can also extend to other sectors. The nature of the economy based on natural resources everywhere is the same, namely its large scale with its shortest chain of effects. Therefore, even though the exploration of natural resources will undoubtedly lead to an increase in the fiscal capacity and cumulative Gross Regional Domestic Product (GRDP) of a region, its sustainability remains a big question mark.

Indonesia has a gloomy historical record of the forestry sector. For example, the development not initially concern farmers and the environment. In 2002, 43 million hectares or 33% of the forest torn down, escalating to around 1,6 million hectares per year in Indonesia. In 2003, the Head of Department's Planology Agency stated that the broken forest condition reached a total of 101,79 million hectares, rapidly approaching 3,8 million hectares per year (Iskandar & Nugraha 2004). The portrait painted of the broken spatial planning, governance, forestry, and ecology ethic made the government apply a radical policy. For the last five years, Jokowi the President Indonesia stopped permitting to open up the forest land.

The experiences related to the rural development in Thailand, Philippines, and Indonesia, as stated by Winarno (2008), emphasize the problems related to food production enhancement concerning sacrificing poor farmers. The government policy deviated from the landlords and elites the village away from the farmer's organization, which sponsored by the government or the bank the village. Furthermore, according to Winarno (2008), it had already been revealed that the government helped the bigger landlords by providing cheap credit. The inputs have already subsidized. The aim was for the farmers to quickly get assets in the form of land and access to a modal input in addition to agricultural technology. The spirit of regional autonomy and the government's food of sovereignty vision should pave the way for the farmer's organization to grow transparently, quickly, and in a participative manner. The organizations in this scheme were not dominated and corrupted by the elites and the local bourgeoisie like what happened to the farmer's business organization in the New Order era. Modern agriculture and food sovereignty have alienated the region from the industrial investment and natural resource dependency going on elsewhere. It has impacted on the broken environment because the rural development areas are not well-organized.

The environment becomes the veins that make the agriculture sector sustainable. Agricultural and environmental politics are now a primary variable. The environment is no longer only seen as the support system for political and economic activities. These days, ecology has been developed into one of the "stars" among the sciences. Ecological principles can explain and inspire those searching for a better life. Ecology is a science that studies the influence of the environmental factors on the living corpse. It is a science that studies the relationship between living creatures with the environment where they live, how their lives work, and why they are where they are. The latest ecology has reached the stage of studying the structure and function of ecosystems or nature, where humans are part of that nature (Irwan 2005). Environmental politics are a framework for understanding the complexities between local society, national and global economic politics, and the ecosystem (Hidayat 2011).

The practice of environmental politics has placed the impact of environmental damage as a logical consequence of economic progress. This practice also referred to as the material ecology perspective. The ecology should be compromised according to human material demands. If a society becomes advanced, then the ecology becomes more damaged. Human beings should choose one or the other, not both of them. As a result, ecology always considered to be an unimportant aspect of development achievement planning. In the long-term, ecology damage accumulation has the most significant damage potency concerning human wealth assets. Hundreds of roads, bridges, houses, agricultural lands, rivers, and settlements have all broken as a result of the ecology damaged. Meanwhile, the calculation for the ecology to return to a state of normalization shows that it would be costly to do because of the sustained emissions (Kurniawan 2012).

Another ecology movement style is environmental fascism, referring to the struggle for survival experienced by the environment. The environment should be protected. There are also other parties struggling for the environment in terms of sustainable economic growth and modal fertilization (capitalism). This movement could refer to as eco-developmentalism. The environment needs conserving to ensure the raw material supply for industry and to ensure continued economic growth. The sustainable development slogan introduced to legitimize the growth and development of economics and capitalism (Dietz 2005).

A glance at the spatial arrangement in Purbalingga

The development in Purbalingga had grown since the regent's leadership in the election of 2000, Triyono Budi Sasongko (TBS). Purbalingga city was known as a retired city, a quiet city with a usual crowd— at 09.00 PM, the streets become quieter. Entering into the period of the new leadership under TBS, there were many development policies drawn up in Purbalingga. There were also many changes in the spatial arrangement. There was growth in the industrial activities that needed space to accommodate their activities. There was no localization for the industries in Purbalingga, which caused sporadic growth only in the industrial areas.

Purbalingga's area spatial arrangement (*RT/RW*) in 2004-2014 stated that the development instruction sent to the location intended for industries in Purbalingga and Kalimanah sub-district. In terms of growth, the Purbalingga became the center of the government and its services, which involved a high level of urbanization. It was therefore not possible for there to be growth in the industrial sector as well. Kalimanah sub-district is the sub-district that is the closest to the district capital city, so it became the storage area. The abundance of city growth caused large-scale urbanization for the Kalimanah sub-district (Hardini et al. 2007).

Principally, the beginning of company development in Purbalingga did not shift away from the progress and growth of the former factories' condition, which had already been there since the New Order era. Purbalingga, Kalimanah, Padamara, and Kemangkong sub-district areas became the favorite areas for investors. The reason why was simple. The easiness of transportation access made the selling of their production results easier. The four sub-district areas were close enough to the capital city, and the tracks headed to Banyumas and Banjarnegara. As a consequence, many investors wanted to develop a factory and their businesses in the four areas.

According to the Badan Pusat Statistik in 2017, the number of big companies in the Purbalingga Regency is 41 companies with 45,684 employees. Out of the 41 companies, 15 companies are in the Kalimanah sub-district, while the next rankings in terms of the size found in Purbalingga and Padamara sub-districts. Practically, the agricultural areas in the three sub-districts have started to be eliminated by the factory buildings. Most of the big companies in Purbalingga are companies that produce false eyelashes and hair. The production of the companies oriented towards exporting, especially to the United States and Korea. Purbalingga, Kalimanah, and Kemangkong sub-district areas became the areas with many factory developments. There was much foreign investment that developed the factories in those three areas. One of the biggest foreign investment factories in the Purbalingga sub-district was PT. Boyang. This factory had around 6,000 employees with a large factory building of around six ha. The factory closed the agricultural land in Penambongan and Kadanggampang Urban Villages. This factory was close to PT. Indokores Sahabat, a false eyelash and hair factory that built in the New Order era. Both of the factories forced their waste into the river, which became the irrigation water source for the rice fields. In Kembaran Kulon Urban Village, this also happened in the Purbalingga sub-district. There was a big false eyelash and hair company that had also dumped its waste in the river. However, this company was the fastest company to obey the rules related to both its employees and environmental safety.

In Kalimanah Sub-district area, Mewek, Kalikabong, and Karangmanyar Urban Villages have become targets for factory development. Along Soekarno Hatta's roads, there are dozens of investors' factories on a medium and large scale that have grown and developed in the area. There were a lot of productive agricultural areas before buildings replaced them. The real change was the growth of factory development in the Kemangkong sub-district, where Toyareka and Jetis villages are. Both of the villages are not far from the sub-districts border. The growth of some investments and the shift to the Kemangkong area has become attractive because both areas have become agricultural cultivation-based areas. In the long-term, this pattern threatens the farmers' fortune. It because the land annexation and ecology impact damaged the potential for agriculture. Farmers are pioneers for the nation advancing. If they did not do their work and the production from the agricultural land reduced, then the Indonesian nation advance would sink. There would be more food poverty as a result. According to the Central Bureau Statistics data from 2014, Indonesia had around 45% of food poverty in 2013, which is estimated to rise to around 50% in 2045 (Rusdiana & Aries 2017).

The area of spatial arrangement neglected by the companies

Purbalingga was an industrial area with a pleasing investment growth trend. From the 1990s up until the present, there have been hundreds of factories. The factories have spread into many sub-districts in Purbalingga in both the urban and rural areas. Industrialization, in the beginning, gave hope for increased employment and a higher level of income in society. Thousands were absorbed into the industrial area, especially as the majority were labor-intensive. The factories prioritized the

employee's power over tools, and they minimized the use of machines. Hair and wood factories dominated (Badan Pusat Statistik 2017). According to Lewis et al. in Widodo (2007), an optimistic view that the capacity of the industry to eradicate unemployment cannot be denied. In economic theories of development view, the agricultural sector as a source of labor. This theory states that the limited production of the agricultural sector is low. Because of that, the industrial sector, which has a higher level of limited production, could tempt employees even with low payments.

The previous paragraph discussed the 1990s. The factories in existence had not yet caused any problems. The total number of factories was still low, the settlements were not spreading, and there was no waste contamination. However, the condition nowadays is different. There are many industries, and this number is increasing every year. Investment proposals have come and continued until they can be implemented into the investment program. Upon entering the year 2000, industrial activities were widespread with higher investment value. Purbalingga declared to be the highest investment area in Central Java, with many awards from both provinces and national bodies.

Referring to the society around the factory in the 1990s, society did not find there to be any economic and environmental problems related to factories yet. However, when there were many factories with a larger area, it caused air, sound, and water pollution in many places. The air and river quality started to get worse, and this disturbed the socio-economic activities near to the river. The impact of industrialization pushed for an increase in the land that often located in potential areas for agriculture. It did not include the multiplier effect where every factory that had already built followed by new settlements and trading locations that also targeted the agricultural area. The settlements for housing could also refer to the farmers who changed their land to become a settlement for factory employees. The land could also change into a department store or another type of shop. The assumption was that there would be growth, showing that the money rotated between the house-renting service and shops in a manner that was bigger and faster than farming alone.

The industrial enhancement trend not followed by long-term planning from the government. The assumption was that it should only to reconcile the short term needs related to the agricultural sector still being more comprehensive than the industrial sector. The economic value of factories is higher than that of agriculture. The other reason is that the construction of industrial areas is complicated, and the government is worried that this would harm the region's economy. The technocratic consideration and material were strong enough, although there have been a lot of ecological and agricultural damage cases over the past few years. The contamination of fish cultivation due to the water resources contaminated, the high number of acute respiratory tract infections, or *Infeksi Saluran Pernafasan Akut (ISPA)* because of air pollution and the noise of sound pollution in the settlements are just some of the issues. The industrialization in Purbalingga had been assigned 'RED' in terms of its waste management. It means that the factories in Purbalingga Regency are not capable of providing a wastewater management installation or *Instalasi Pengolah Air Limbah (IPAL)* and that they do not obey the environmental rules. The Environmental Agency released this red label, and it has become the current supervision's priority area. The cases are still not yet pushing the government to pioneer better waste management in the industrial area. Industrial and natural disasters are happening because of the ecosystem imbalance and resulting damage. Thus the consequence of development has economic growth as the focus of its ideology without considering the next generation's needs (Rohwulansih 2017).

The era of Heru Sudjatmoko followed the leadership era of Regent Triyono Budi Sasongko (2000-2010) in Purbalingga. In the Heru era in 2011, the Regional Regulation Number 5 of 2011 concerning the Area Spatial Arrangement in Purbalingga Regency 2011 – 2031 created. The Regent of Purbalingga, Heru Sudjatmoko, said that he found there to be a dilemma when he had to switch the function of the rice fields to allow it to become an industrial location. If the rice fields switched to becoming a factory, then the food and environmental balance would be threatened. The rate of unemployment and the low youth interest in becoming a farmer, however, made the functional switch to a factory a feasible solution. The Head of Food Endurance and Counseling Executor Agency,

Zainal Abidin, stated that generally, Purbalingga had a food surplus. For example, rice had a surplus of 63.118 tons, cassava had a surplus of 151.877 tons, and coconut sugar had a surplus of 43.756 tons. In contrast, some of the products still had a deficit, including wheat (flour), coconut oil, and sugar (Dinas Komunikasi dan Informasi 2013).

Since the Regional Regulation executed, Purbalingga Regional House of Representatives assumed that many investors had violated Regional Regulation Number 5 of 2011 concerning the Area Spatial Arrangement (Radar Banyumas 2016). The Regional Regulation for the Area for Spatial Arrangement measured that it was not suitable concerning the last Regional Regulation, especially in industrial areas. In the area that previously included in an industrial area like Kalimanah, the land already gone. Even if it was there, it could not be an industrial area or built on by big industry. Many investors had built companies in an area that not included in the industrial zone. Moreover, the housing area also used many lands that were from the agricultural zone. The plan for the spatial policy revision has not yet determined a new policy.

In terms of its growth, the industrial development used in the rice fields was in trouble. The increase in the agricultural land function had switched, causing a decrease in the level of primary food production significantly. The protection effort put into sustainable food agricultural land had already been secured by the Regional Government in the form of Regional Regulations. However, the regulation that arranged did not include the location and spread of agricultural land for food and food stockpiling land. Because of this, the Central Government, through the Ministry of Agraria and Spatial and the Head of the National Land Agency, released Regulation Number 19 of 2016 concerning Sustainable Food Agricultural Areas or *Kawasan Pertanian Pangan Berkelanjutan (KP2Bs)* (Kementerian Agraria dan Tata Ruang/Badan Pertanahan Nasional 2016).

For Purbalingga, the Sustainable Food Agricultural Area (*KP2B*) has already been determined by the Province Government to be around 23,000 Ha. This area cannot be used for other activities besides production related to agriculture. In other words, the Purbalingga Regional Government does not permit company development in *KP2B* areas. The *KP2B* areas in Purbalingga are Kalimanah, Padamara, Kemangkon, and Bukateja sub-districts, which have become the favorite for company development.

Industrial and agricultural

Agricultural land diversification into becoming either settlement or industrial land has become a severe obstacle for the achievement of local and national food endurance. The government expected to be capable of making a blueprint for the agriculture sector's development in the form of a location map based on the different area's productivity levels and concerning the production of agricultural products. Using the location map, the government restricted agricultural land diversification to settlements and industry, respectively. They optimized the increase in agricultural production in the given locations, which in turn expanded the area of agricultural land (Prabowo 2010).

Food needs increasing, along with the growth of society. The growth of society was not the only problem that inhibited the rate of national food production. The decrease agricultural land available, due to it converted to become settlements and industrial land, already established as both a threat and a challenge to an Indonesia seeking to become an independent nation in the food sector. The increase in society worldwide peaked after 1960. It can be seen from the global population in 2000, which totaled around six billion people. This growth can cause many problems, one of which is food vulnerability. Two United States researchers explained in 2001 that the world would end up facing a food crisis (Prabowo 2010).

This reality was that the New Order era has already caused multiple failures. The strategy of the New Order era was not only based on the growth model, as expressed by so many people. It can be concluded that the pragmatism approach and broad-base spectrum strategy have been used. The grand strategy that overshadowed the rest was to achieve either increased economic growth or an increase in production. Many strategies have been intended to be used in a more important strategy to meet

the growth target. However, we can see that there was a direct poverty alleviation strategy, including a credit reform program in rural areas and a focus on the group targets of Small-Medium Enterprises or *Usaha Kecil dan Menengah (UKM)*. Most were in urban areas. There were also programs to achieve the meeting of basic needs (clothing, food, jobs, education, and health) conducted by Gunnar Myrdal and the International Labor Organization (ILO). There was a prominent self-sufficiency program involving a green revolution. The results were significant enough. However, there were also negative impacts due to pragmatism, such as where the grand growth strategy put forward. For example, there were socio-economic gaps between the different areas, societies, and sectors. The gap between the sectors (agricultural and industrial) involved the comparison of the exchange rate, which was more harmful to the farmers and agricultural sector (Damanhuri 2000).

The increase in industry, primarily focused on false eyelashes and hair, has made Purbalingga one of the central producers in Central Java. False hair production uses chemicals like ammonia (NH_4OH) as the washing material and chromium (Cr(VI)) as the dye. The waste comes from both the natural and synthetic hair material washing process. The water waste content includes dirt that has stuck to the hair, adhesive, and washing and dye materials. Most of the false eyelash and hair industrial factories do not yet have a proper Water Waste Management Installation or *Instalasi Pengolahan Air Limbah (IPAL)*. The impact due to the industrial waste disposal into the environment is the focus of the complaints from the local society. There was a stinging odor from the gas coming from the factory chimney and liquid waste going into the river near to the factory in Kandang Gampang Urban Village, Purbalingga sub-district. The farmers who worked the rice fields behind the factory complained that the plant's growth obstructed because the water from the river contaminated. It also made their skin itchy and irritated.

The impact of industrial waste contamination in 2014 resulted in dead fish such as tilapia, Nile, and gourami in a pond located in Penambongan Urban Village, Purbalingga sub-district. The water resource sourced from the Kramaian River, whose stream was from Kandang Gampang Urban Village. This incident caused a loss in local society. Fish cultivation nowadays has been switched to catfish. Catfish are resistant enough to any changes in the water's environmental condition. In Padamara sub-district, there were around 400 Purbayasa Village society members that protested against the wood processing factory built by CV Purbayasa. It was regarded as contaminating the environment. The wood processing factory that built-in 1993 had already contaminated the environment through smoke, dust, and liquid waste pollution. Pollution-related incidences have been happening over and over again.

The critical contest is not only between society and entrepreneurs but also between the respective government officials who are managing the industrial policies in Purbalingga. There are always logical differences between the Public Works Agency and the Agricultural Agency about the regional spatial arrangement process. The factory investigation was focused on the agricultural zone in class 1 as it had good quality soil and irrigation. The Agricultural Agency protected the agricultural condition, so it often showed there to be an assumption made by the Regional Government of the Work Unit or *Satuan Kerja Perangkat Daerah (SKPD)*. It is as it did not have the same perception and regulation preferences. It is better to make an arrangement in one sector and not cause problems in another sector. A state of the contest could happen if not all sectors included when formulating the spatial details. The Agricultural Agency is committed to keeping the agricultural land free from waste, and the land switch function maintained.

The alternative also appeared in the compromising context of agricultural importance and industry. If the industry had to build on class one land, the compensation was that the government should build productive agricultural land in other areas; thus, the agricultural area itself preserved. If the land is not fertile, then the government should provide tools for the rice fields, in addition to dam-building and irrigation. In terms of cost, it is the same as that of the building in another industrial area. The class one farmer's land in Purbalingga located in the district track, which has the best infrastructure, including roads, irrigation, electricity, settlements, and trading. As a result, the location was also targeted by investors to switch the function to that of factory land. Up until now, this logic used when

formulating the industrial area's spatial arrangement. The term 'industrial' means that the factory can be in the middle of class 1 agricultural land illegally without any regulations. This pattern cannot be the long-term solution or strategic policy used for reconciling the agricultural and industrial functions found in Purbalingga.

Reconciling the living space

Regional autonomy caused the appearance of the thought that the region is competing to advance its districts by optimizing the potential therein. Land appearance is often seen of as the best sector if it is used or exploited optimally. This condition means that the development in one sector has to sacrifice other sectors without knowing what will happen in the long-term. The principle was that what makes the best profit should make without any long-term considerations (Syaukani et al. 2003).

Because of the polar pull between agricultural and industrial development, it is not proper to treat them as entities that negate each other. It is because the associated adaptations and changes are like two sides of the same coin that cannot be separated. Adaptation applies to every living creature as they live in environmental conditions that are always changing. Bennet (1976), as also stated by Rahayuningsih, saw adaptation to be a human responsive behavior to changes in the environment. Responsive behavior helps them to organize specific systems for their actions and behavior in order to help them to adapt to certain situations and conditions. These behaviors are related to life necessities after surpassing certain conditions, building a strategy, and making the decision to face other conditions. Finally, adaptation is a strategy used by humans to anticipate physical or social changes in the environment.

The continuation of the physical arrangement of a development that has less social and ecology risks started by arranging the area according to the spatial planning process. The spatial policy often occurs without involving society. After the spatial arrangement is confirmed, the plan is rarely known, and it is often hard to access by society. It is this information distortion that has a fatal impact. Because society only partially has access to the government, they can buy land that can be used for the development of society with speculative aims. In this condition, the robust model sometimes happens according to the scale of the business unit, which brought to them through land authority polarization. A society with weak economics will be displaced to a marginal area. In rural areas, this polarization will limit the small farmers' wiggle room and that of the poor in society, meaning that agricultural lands are more susceptible to these changes (Freastoni & Sirajuddin 2010).

There are two terminologies used in spatial planning and the area paradigm: industrial allotment area and industrial area. First, the industrial allotment area used to explain some of the factory locations that have spread into the zones between settlements, including agricultural zones. This concept refers to industrial activities that are not big and that do not need a large amount of land yet. Factories can be built in areas that not yet considered to be necessary, especially in terms of waste pollution, irrigation, and land switch function problems. Second, there is an industrial area. This concept refers to the automated exclusive zone decision that arranged and integrated, starting from the production process and waste management. It refers to an area that can be rented or bought by a factory that has the road facilities, electricity, and water resources that it needs. The location is far from settlements and other natural resources, such as agricultural land. The location is also central to ease the processes involved in environmental quality supervision. The industrial area prerequisite is having a large amount of land available, around 50 hectares as the minimum number, in addition to street infrastructure, electricity, water, connectivity between the areas, the distance not being far from the raw material resources, and considering the social conditions as well.

This concept presupposes the readiness of the regional government when it comes to providing funding and political decisions concerning the conflict. The costs are high concerning the arrangement of the infrastructure required, in addition to the liberation of land and promoting it to the new investors occupying the area. It has not been included in the plans yet. The regulations require the factories to be relocated to the industrial area. Automatically, this will bring in much friction to the entrepreneurial and political circles.

The positive side of the industrial area is the optimism related to continuing with more significant industrialization projects with smaller socio-economic risks. The regional government could explore potential locations for the agricultural sector, far from the settlements, in addition to a Water Waste Management Installation (*IPAL*) system. In the long term, if industrialization continues with the development of industrial estates, the absorption of labor in the industrial sector will increase while minimizing ecological conflicts with citizens.

Conclusion

The industrialization trend in Purbalingga is still high. It marked by the investors' high interest in embedding a labor-intensive model. The labor-intensive model provides a chance to absorb many employees. It is profitable, especially for Purbalingga Government and for society in general. The high employee absorbance comes with the consequences of settlement needs, public facilities, and other social facilities. However, the developing industry in Purbalingga still believes in the modern allotment area nomenclature, which could be mixed with the agricultural zone. If the regional government lets this problem continue in both the short- and long-term, then there will be sustainability followed by rural area development conflict concerning the perceived industrial importance.

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