

ANALYSIS OF GROWTH IN THE AGRICULTURAL SECTOR IN THE ANGEK WATER VEGETABLE PRODUCING AREA, X KOTO DISTRICT, TANAH DATAR REGENCY

*Silvia Angraini¹ and Erianjoni²

¹ Master of Social Sciences Education, Universitas Negeri Padang - Indonesia

² Sociology Departement, Universitas Negeri Padang, Indonesia

Email: sylviaangraini@gmail.com

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ABSTRACT: The aim of this study is to analyze the growth of the agricultural sector in the Angek Water Vegetable Producing Area, X Koto District, Tanah Datar Regency. The method used in this study is descriptive with a qualitative approach. Data collection techniques used observation and interviews. From the data analysis conducted, the research results show that Aia Angek's natural resources are rich in natural resources, especially vegetables, and good soil conditions provide a comparative advantage for agriculture in the area. In addition, the role of a skilled and qualified workforce in increasing production productivity and efficiency is also an important factor. The market acts as a bridge between agricultural producers and consumers, and has a direct impact on the sustainability and growth of the agricultural sector. Investments in transportation and logistics infrastructure, access to market information, and building strong partnerships are important strategies to increase market access for farmers and agricultural producers. Through Weber's location theory framework, this study also explains the relationship between these factors and the location of the agricultural industry in Aia Angek.

Keywords: *Analysis, Growth, Agriculture*

1. INTRODUCTION

Indonesia is a country that has a wealth of abundant natural resources. This resource wealth consists of water resources, land resources, forest resources, marine resources, as well as the biodiversity contained therein and widely distributed in every island in Indonesia. This natural wealth can be used as capital for the implementation of economic development for Indonesia [1]. Indonesia itself also has a large area so that it can be said that a large area is a source of wealth of resources [2].

Territory is a natural unity and human unity, namely the community and its culture which have the same characteristics, so that the region can be distinguished from other regions. Meanwhile, another meaning of the region is that geographically united by the existence of similarities in culture, economy, and then with a consensus of the same thoughts, education, recreation and others that distinguish it from other regions [3]. Furthermore, there are four classifications in determining the area. The first is commonly referred to as a functional area, the second is a formal area, the third is a planning area and the last is an administrative area [4].

Each region has different capabilities to encourage regional development processes. Factors that influence regional development include (1) the condition of social and economic facilities in each region, (2) location, (3) accessibility, (4) tourism potential [5]. From these factors, will give birth to its own characteristics called identity. Identity refers to the special character of an individual or member of a particular group or social category. Identity comes from the word " *idem* " in Latin which means the same. Thus identity contains the meaning of similarity or unity with others in a particular area or matters.

The existence of an identity based on a region can be called a regional identity. Regional identity is based on the territorial boundaries of a group or community, and in a larger area it can become a national identity. Regional identity is usually formed from cultural, geographical, historical and social elements that are unique to the region. One of the identities formed from geographical conditions is the Air Angek area which is known as a vegetable producing area.

The Air Angek Vegetable Producing Area is an area located in Tanah Datar Regency, West

Sumatra, Indonesia. This area is known as a producer of quality and varied vegetables, which is especially famous for the *aneke* water vegetable which is an icon of this region. Geographically, the *Angek Air* Vegetable Producing Area is located at an altitude of about 1,000 meters above sea level, with an average temperature of around 18-24 degrees Celsius. The favorable geographical and climatic conditions make this region one of the ideal areas for vegetable farming.

The Vegetable Producing Area in Air *Angek* kanagarian consists of 4 *lorong*s which are specifically engaged in vegetable farming, including (1). *Lorong Kandang Sampia* (2) *Lorong Kapalo Koto* (3) *Lorong Kayu Tanduk* (4) *Lorong Koto Nan Gadang*. Each *Lorong* has its own uniqueness and advantages in the production of the vegetables they produce. This area is known as a producer of quality and varied vegetables. This is inseparable from the natural factors that support it, such as fertile soil, abundant water, and a climate that is suitable for growing vegetables.

In studying economic geography, the *air anek* vegetable producing area can be used as a case study to study various aspects related to the regional economy, such as the potential and challenges faced in agricultural development, the role of the government and the private sector in economic development, and the impact of economic activity on the environment [5-8]. One of the discussions discussed was the agricultural sector. Agriculture is an economic sector which is the main base in the *Angek Air* vegetable producing area.

The agricultural sector is still the mainstay of job creation in quite a large number compared to other sectors in the economy in Indonesia [9-10]. This makes the opportunity for the agricultural sector to influence the economy in Indonesia. Because basically economic activity is a process of using factors of production to produce output, this process in turn will produce a flow of remuneration for the factors of production owned by the community [11-12]. The development of regional resources originating from the agricultural sector is an alternative to be developed because the development of regional agricultural resources is expected to reduce regional development gaps [13].

However, the development of agriculture in the *air anek* vegetable-producing area is also faced with several challenges, such as a lack of adequate capital and technology, lack of access to markets and marketing, and a lack of skilled human resources in agriculture [14]. This shows the importance of the government's role in providing support and facilities for farmers in this region, such as providing capital and technology, developing infrastructure, and increasing access to

markets and marketing [15].

In an effort to develop the agricultural sector in the *Air anek* vegetable-producing region, it is necessary to make efforts to improve the quality and quantity of vegetable production, increase market access and marketing, and develop the potential for tourism and the creative economy. In this case, the role of the government and the private sector is very important to provide support and facilities for farmers and entrepreneurs in this region. Of course this will have an impact on the socio-economic activities of the community around *Aia Angek*. From the description of the background above, the researcher is interested in carrying out research with the title "Analysis of the Growth of the Agricultural Sector in the *Air Angek* Vegetable Producing Area, X Koto District, Tanah Datar Regency. The purpose of this study is to determine the growth of the agricultural sector in the *Aia Angek* vegetable-producing region, X Koto District, Tanah Datar Regency.

2. RESEARCH METHODS

2.1 Method

Type the data used in this research is qualitative data. Qualitative data is data in the form of words, sentences, schemes and pictures [16]. Sources of data in this study are primary data and secondary data. According to Hassan Primary data is data obtained or collected directly in the field by the person doing the research or the person concerned who needs it, while secondary data is data obtained or collected by the person doing the research from existing sources [17].

Data collection is the most strategic step in research activities, because the main purpose of research is to obtain concrete data related to the research being conducted. The technique used in collecting data in this study is the *field research* technique, which is carried out by the writer going directly to the field to conduct research and look for concrete data related to the research being carried out [18]. The techniques used to obtain data in the field are in accordance with data of a technical nature, namely observation and documentation techniques.

2.2 The Weber Region Development Model

Weber focuses on the analysis of industrial location and the factors that influence the decisions of companies in determining the location of their factories or production facilities. Weber believed that economic factors, such as production, transportation, and market costs, had a significant influence on determining the location of an industry. Weber's approach is based on three main concepts, namely resources, labor and markets [19]. Data collection techniques are carried out by means of observation and documentation.

3. RESULTS AND DISCUSSION

3.1 Analysis of the Air Angek Vegetable Producing Area, X Koto District

The Air Angek Vegetable Producing Area in X Koto District has several physical aspects that affect vegetable production in the area. The topography of the Air Angek Vegetable Producing Area can affect vegetable production. If the area has steep slopes, certain farming methods such as terracing or slope cultivation can be applied to maximize land use. Climate is an important factor in vegetable production [20-22]. The Air Angek Vegetable Producing Area can have certain climates such as tropical climates. Climatic conditions, including temperature, rainfall, and sunshine duration, can affect the type and growing season of vegetables. Selection of vegetable varieties that suit the local climate is very important to achieve optimal results.

In addition, the quality of the soil in the region also plays an important role in vegetable production. Factors such as nutrient content, drainage, soil structure, and acidity (pH) can affect the ability of vegetable plants to grow properly [23]. Good soil management, including fertilization and maintenance of soil fertility, can increase vegetable production. The above factors are driven by the map presented in Figure 1 as follows:

In market analysis, the Air Angek Vegetable Producing Region has a central vegetable market that functions as a center for vegetable trading

activities in the region. This market usually offers various types of vegetables produced by local farmers. Farmers can sell their crops directly at this central vegetable market. This central market is usually the meeting point between farmers and traders as well as consumers, and is the place where the process of selling, buying and price bargaining takes place.

Apart from the central vegetable market, several vegetable farmers in the Air Angek Vegetable Producing Area also sell their wares in other markets around the area, one of which is the Padang Luar Market . This can happen for a number of reasons, such as to increase access to a wider market, find different potential buyers, or follow certain market demands. These alternative markets can be traditional markets, modern markets, or local markets around the nearest village or town. Farmers can sell their fresh vegetables directly to consumers in these markets.

In the accessibility analysis of the Angek Air Vegetable Producing Area, X Koto District, the existence of good and well-connected roads is a key factor in accessibility. Good road conditions facilitate the transportation and distribution of vegetables from farmers to markets or to further processing sites [24]. If the main road or access road to the area is good, then farmers can easily transport their crops and connect with the local or wider market. In this area the market conditions are located on the main thoroughfares so that it requires future improvements so as not to disturb other activities. In terms of transportation, it is very easy for farmers to reach because there are many vehicles that provide access to go to the area.



Fig 1. Map of X Koto District, Tanah Datar District .

3.2 Natural Resources of Aia Angek in Improving the Agricultural Sector

Angek is an area that is blessed with rich natural resources, especially in terms of vegetables. Good soil conditions are an important capital for developing the agricultural sector in this region. In the context of improving the agricultural sector, the existing potential can be utilized optimally to increase agricultural production,

increase the welfare of farmers, and make a positive contribution to the local economy.

Vegetable farming is one of the sectors that can be developed with the potential of natural resources owned by Aia Angek. With rich vegetable natural resources, this region has a great opportunity to become a center for quality and sustainable vegetable production. Local farmers can be empowered and equipped with knowledge and skills in modern agricultural techniques,

including the use of efficient irrigation technologies and good crop management methods. Organic farming practices can also be introduced to improve crop quality and maintain environmental sustainability.

In order to improve the agricultural sector, collaboration between farmers, government and related institutions needs to be built. Farmers can be assisted by providing superior seeds, organic fertilizers, and technical assistance in crop management. Training and mentoring programs can also be organized to increase farmers' knowledge and skills in managing their agricultural business. The government can play a role in providing incentives and subsidies for farmers, building agricultural infrastructure such as irrigation and distribution networks, and facilitating market access for local agricultural products.

In addition, agricultural diversification is also an important strategy. Apart from vegetables, the potential of Aia Angek's natural resources may also include other agricultural commodities such as fruits, food crops and spices. Diversification will help reduce risks associated with fluctuations in price and demand, as well as provide opportunities to increase farmer incomes.

3.3 Labor in Aia Angek Agricultural Sector Improvement

In the context of improving the agricultural sector in Aia Angek, the role of the workforce is very important to achieve success and sustainable growth. By maximizing the potential of the existing workforce, steps can be taken to improve the quality, productivity and competitiveness of the agricultural sector as a whole. The following is an explanation of the role of labor in improving the agricultural sector of Aia Angek.

First of all, training and education are key factors in improving the quality of the workforce in the agricultural sector. In an effort to increase productivity and efficiency, farmers and agricultural workers need to have adequate knowledge and skills. Training programs can be organized to provide an understanding of modern agricultural practices, use of technology, management of natural resources and management of agricultural enterprises. With good education, farmers can adopt new and advanced farming techniques and increase their decision-making capacity.

Furthermore, improving the working conditions and welfare of farmers and agricultural workers is also important in efforts to improve the agricultural sector. Good working conditions and fair rewards will motivate the workforce to contribute optimally. The government and related

stakeholders must pay attention to this aspect by providing social protection, employment rights, and access to health and education services for agricultural workers. This also involves increasing access to basic infrastructure facilities such as clean water, sanitation, and adequate housing.

In addition, the development of agricultural cooperatives and partnerships between farmers is an important step in optimizing the potential of the workforce. By working together in the form of cooperatives or farmer associations, they can share knowledge, experience and resources to increase production and gain better profits. Agricultural cooperatives can facilitate market access, obtain financial resources, and increase bargaining power in negotiations with suppliers and buyers.

In addition, involving the younger generation in the agricultural sector is also important in improving Aia Angek's agricultural sector. In recent years, many young people tend to leave agriculture and switch to other sectors. Therefore, it is important to create awareness of the opportunities and benefits that exist in agriculture, and to encourage young people to get involved in agricultural business. Support in terms of education, training, and access to resources such as land and capital will help attract young people to become involved in agriculture.

3.4 Market in Aia Angek Agricultural Sector Improvement

The market acts as a center of economic activity in the agricultural sector. Increasing access to markets, both local markets and regional or international markets, will provide better opportunities for farmers and agricultural producers in Aia Angek to market their products. By having an effective distribution channel, farmers can reach more consumers, increase the marketability of their products, and increase their income. Improved market access will also provide incentives for farmers to improve product quality and meet higher market standards.

In an effort to improve market access, it is important to pay attention to supporting infrastructure, such as good transportation and an efficient logistics system. Investments in infrastructure will make it easier to transport and distribute agricultural produce, so that products can get to market quickly and fresh. In addition, the development of modern processing and storage facilities will also help improve product quality and durability, as well as expand the range of markets that can be reached by agricultural producers in Aia Angek.

In addition to physical infrastructure, it is also important to pay attention to access to accurate and up-to-date market information. Farmers and

agricultural producers need to get information about market trends, consumer demand, prices and market requirements. This will help them in making production decisions, product diversification and developing the right marketing strategy. Governments and related institutions can play a role in providing agricultural producers with reliable and easily accessible market information services.

In addition, it is also important to build strong partnerships between agricultural producers, collectors, distributors, traders and other private sectors in the agricultural supply chain. These partnerships can include long-term agreements, increased access to finance and working capital, and support in terms of technology, training and marketing. With strong partnerships, agricultural producers will have market certainty, technical support and access to the resources needed to increase the production, quality and competitiveness of their agricultural products.

In addition to the local market, the export market is also an important aspect in improving Aia Angek's agricultural sector. Market diversification through exports will help reduce risks associated with fluctuations in demand in the domestic market. Through exports, farmers and agricultural producers in Aia Angek will have the opportunity to market their products to a wider international market. This will increase farmer incomes, expand market reach, and provide access to technology and best practices in global agriculture.

3.5 The Relationship of the Three Factors with Weber's Location Theory

Weber's location theory, put forward by the German economist Alfred Weber in 1909, provides a relevant framework in linking the three previous discussions: natural resources Aia Angek, labor in the agricultural sector, and markets. This theory explains the factors that influence industrial location based on considerations of production, transportation and market costs. In the context of agriculture in Aia Angek, Weber's location theory can provide insight into the factors that can affect the improvement of the agricultural sector.

4. CONCLUSION

By linking these three discussions with Weber's location theory, it can be seen how factors such as Aia Angek's natural resources, labor, and markets interact with each other in improving the agricultural sector. Through the utilization of rich natural resources, developing the quality and skills of the workforce, and increasing market access, the agricultural sector

First of all, Aia Angek's natural resources are rich in natural resources, especially vegetables and good soil conditions, are factors that can be seen in the context of Weber's location theory. According to this theory, natural factors such as fertile soil, a climate that supports plant growth, and the availability of natural resources will influence industrial locations. In this case, the existence of Aia Angek's rich natural resources and good soil conditions can be a comparative advantage in the development of the agricultural sector in the area. Farmers and agricultural producers can utilize existing natural resources to produce agricultural products at lower production costs, thereby increasing their competitiveness in the market.

Second, the role of labor in improving the agricultural sector can also be linked to Weber's location theory. This theory emphasizes the importance of labor costs in determining industrial location. In this case, improving the quality and skills of the workforce in the Aia Angek agricultural sector can be an important factor in attracting investment and developing the agricultural industry. By engaging a skilled workforce, adequate training, and good working conditions, farmers and agricultural producers can increase their productivity and production efficiency, thereby reducing labor costs per unit of product. This will make the agricultural location in Aia Angek more attractive to investors and other stakeholders.

Finally, increasing market access in the context of Aia Angek's agricultural sector can also be linked to Weber's location theory. This theory highlights the importance of access to markets in determining industrial locations. In this case, investment in supporting transportation and logistics infrastructure, as well as access to accurate market information, will influence the location decisions of farmers and agricultural producers. With good infrastructure in place, agricultural products can be transported quickly and efficiently to local and export markets, minimizing transportation costs. In addition, access to market information will assist farmers in planning production, meeting market demands, and making the right decisions regarding product diversification and marketing strategies.

in Aia Angek can achieve comparative advantage, increase competitiveness, and increase the economic contribution of the agricultural sector. In the context of Weber's location theory, these factors can influence the location of farmers and agricultural producers, thereby creating an environment that is conducive to the growth of the agricultural sector in Aia Angek.

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