

THE IMPACT OF CORN AGRICULTURE ON ECONOMIC GROWTH IN KARO REGENCY (2010-2015)

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ABSTRACT

This study examines the influence of corn agriculture on the economic growth of Karo Regency, North Sumatra, between 2010 and 2015. As a key agricultural commodity in the area, corn plays a crucial role in driving the local economy by generating income, providing employment, and fostering market expansion. The research evaluates the impact of corn farming on the Gross Regional Domestic Product (GRDP), labor absorption, and other relevant economic indicators. The findings reveal a consistent rise in corn production and prices throughout the study period, which contributed to increasing farmer incomes and boosting regional economic growth. However, challenges such as market price volatility, climate change, and inadequate infrastructure were identified. This study underscores the need for strategic policies to strengthen corn farming's contribution to sustainable economic development in Karo Regency.

Keywords: *Corn farming, economic growth, Karo Regency, agricultural policy, GRDP*

INTRODUCTION

In Karo Regency, North Sumatra, agriculture plays a key role in shaping the local economy. Among the crops grown here, corn is particularly important because it adapts well to local conditions and is crucial for both small-scale and commercial farming. Corn farming helps ensure food security for the local population while also driving economic growth in the region. It contributes to the local economy in several ways, such as through direct sales, processing for industry, and creating jobs in both agriculture and related fields. The corn value chain also supports the development of infrastructure, improves market access, and encourages rural entrepreneurship, all of which help boost economic development in the area. However, corn farming in Karo Regency faces challenges like fluctuating market prices, climate change, and competition from other crops. To support sustainable agriculture and strengthen the region's economy, it's important for policymakers and stakeholders to understand how corn farming impacts economic growth.

Agriculture has long played a crucial role in driving economic development across different regions in Indonesia, including Karo Regency in North Sumatra. A strong agricultural sector, supported by both supply and demand, can help boost and connect with other areas of economic activity (I. Abidin, M. Yafiz, & M. I. Harahap, 2023). Known for its fertile soil and abundant agricultural products, Karo Regency serves as a valuable example of how agriculture can impact a region's economic growth. Karo Regency, located in the highlands of North Sumatra, covers an area of about 2,127.25 km² and has a population of over 400,000. This region is well-known for producing vegetables, fruits, and other horticultural crops that not only satisfy local demand but are also exported to various parts of Indonesia and even internationally. According to data from the Karo Regency Central Statistics Agency, the agricultural sector contributes more than 40% to the Gross Regional Domestic Product (GRDP) of the area. This highlights the importance of agriculture in Karo Regency's economy and its potential to drive economic growth. However, the agricultural sector faces several challenges, including climate change, price fluctuations of commodities, and global competition, all of which can affect productivity

and profitability. Therefore, it is essential to analyze how the agricultural sector influences economic growth in the region.

This study aims to examine how corn farming affects economic growth in Karo Regency, particularly in terms of income generation, job creation, and overall economic development. By looking at the current state of corn cultivation and its effects on the local economy, this research seeks to provide insights that can guide future agricultural policies and strategies to enhance corn's role in promoting sustainable economic growth in the region. Using time series data from 2010 to 2020, the study will analyze the agricultural sector's contribution to the Gross Regional Domestic Product (GRDP), labor absorption rates, and other economic indicators. Additionally, it will assess the policies implemented to support agriculture and their impact on the regional economy. The research aims to offer valuable insights for policymakers, business leaders, and academics about the agricultural sector's strategic role in Karo Regency's economic development. Furthermore, the findings may serve as a reference for creating more effective strategies to maximize the agricultural sector's potential as a driver of economic growth in similar regions across Indonesia.

METHODOLOGY

This research will use a qualitative descriptive approach along with secondary data analysis to examine the agricultural sector's role in the economy of Sumatra and the challenges it encounters. The study will aim to identify trends and changes in the sector's contributions over time through a comparative analysis. Data will be gathered through interviews with staff from the Agricultural Service of Karo Regency, along with secondary data from government reports, BPS (Statistics Indonesia), and relevant academic sources. This methodology seeks to provide a detailed understanding of the agricultural situation in Sumatra, emphasizing its economic importance and the challenges that limit its growth.

RESULT AND DISCUSSION

This research employs a qualitative descriptive approach along with the analysis of secondary data related to the agricultural sector. The first method involved conducting an interview with a representative from the education office in Karo Regency, specifically in the Tiga Binanga area. Below are some of the questions we asked during the interview:

1. Apa saja komoditas pertanian yang paling banyak dihasilkan di Kabupaten Karo?

Jawaban : Kalau di bilang komoditas itu per-Kecamatan, kalau dominan di dataran tinggi itu hortikultura sayur. Tpi kalau di daerah Munthe, Tiga Binanga, Mardinding, Lau Baleng, sama Kutabuluh itu adalah Jagung dan Padi, bukan berarti pertanian lain tidak ada ya, hanya saja tidak sebanyak Jagung dan Padi.

2. Diantara jagung dan padi, mana yang memiliki kontribusi terbesar terhadap pertanian daerah, khususnya di Tiga Binanga?

Jawaban : Itu sama saja, kalau musimnya jagung ya jagung, begitupun sebaliknya, sesuai dengan musimnya. Kalau musim jagung, kontribusi terbesar adalah jagung dan sebaliknya begitu juga.

3. Apa tantangan utama yang dihadapi pertanian di Kabupaten Karo pada saat ini?

Jawaban : Kalau dibidang tantangan itu sangat banyak, misalnya harga saprodi pertanian itu semakin hari semakin meningkat tidak sebanding dengan harga komoditi pertanian, namun terkadang sebanding juga, namun seringkali tidak sebanding. Sementara harga komoditi itu naik turun, tetapi harga saprodi pertanian tidak pernah turun tetapi terus naik dikarenakan itu barang pabrik. Disamping itu ada tantangan lain

yaitu hama penyakit, iklim, alam juga jadi masalah seperti kemarau, itu sangat bermasalah, apalagi ditanaman jagung, itu tidak memungkinkan untuk penyiraman. Kalau di hortikultura. Terutama di Kabupaten Karo penggunaan pestisida itu sangat tinggi sehingga penyebaran kekebalan hama penyakit itu juga semakin tinggi dan itu menjadi tantangan terbesar.

4. Apa Solusi yang dilakukan petani dalam menghadapi tantangan tersebut?

Jawaban : Penyemprotan yang pasti, kalau ke hama, solusi satu-satunya yaitu penyiraman kalau tanamannya memungkinkan, tetapi kalau sudah hama penyakit harus dilakukan pestisida.

5. Bagaimana kualitas dan kuantitas pertanian di Kabupaten Karo dibandingkan dengan daerah lain di Sumatera Utara?

Jawaban : Kalau itu, saya pribadi belum pernah mengadakan banding ya, saya belum pernah diutus untuk itu, tapi pada umumnya itu hampir sama karena misalnya, di Kabupaten lain itu harga melonjak sementara di Kabupaten kita harga rendah, pasti itu terjadi saling memasukkan barang (symbiosis mutualisme) dan itu yang menyebabkan pendapatannya seimbang.

6. Pada pertanian Jagung di daerah Tiga Binanga setiap tahun pendapatannya bertambah atau berkurang?

Jawaban : Umumnya bertambah, kare petani punya teknologi dengan pupuk organik, anorganik dan nutrisi-nutrisi pada tanaman dapat memberikan pendapatan yang meningkat. Tetapi untuk harganya menurun, kalau diambil grafiknya umumnya meningkat, tetapi sebenarnya pada saat musim kemarau berkepanjangan hasil akan menurun dan kalau cuaca tetap pada umumnya hasil dapat dipastikan meningkat.

The second method uses government reports, BPS (Indonesian Statistics), and relevant academic publications. Karo Regency corn harvest data from 2010 to 2015 can be presented as follows:

| Years | Production (Tons) | Income (Rp) |
|-------|-------------------|-----------------|
| 2010 | 120.000 | IDR 180,000,000 |
| 2011 | 130.000 | IDR 208,000,000 |
| 2012 | 140.000 | IDR 238,000,000 |
| 2013 | 150.000 | IDR 270,000,000 |
| 2014 | 160.000 | IDR 304,000,000 |
| 2015 | 180.301 | IDR 360,602,000 |

Corn farming income in Karo Regency from 2010 to 2015 experienced a significant increase. In 2010, corn production was 120,000 tons at an average price of IDR 1,500,000 per ton generating income of IDR 180,000,000. Year after year, both corn production and prices increase, so income continues to grow.

- In 2011, production increased to 130,000 tons at a price of IDR 1,600,000 per ton, generating revenue of IDR 208,000,000.
- 2012 showed production of 140,000 tons at a price of IDR 1,700,000 per ton, producing IDR 238,000,000.
- In 2013, production increased to 150,000 tons, with revenues of IDR 270,000,000.
- In 2014, revenue reached IDR 304,000,000 from production of 160,000 tons.
- Finally, in 2015, production reached 180,301 tons at a price of IDR 2,000,000 per ton, producing IDR 360,602,000.

The consistent increase in production and prices reflects significant growth in the corn farming sector in Karo Regency during this period.

1. Corn Cultivation

a) Production process

In Karo Regency, corn farming benefits from the use of high-quality seeds and modern agricultural practices, including effective fertilizers and irrigation systems. Reports indicate that these advancements have raised production yields from about 6-7 tons per hectare to approximately 10 tons per hectare. Additionally, proper post-harvest management—such as effective drying and storage—significantly impacts the quality of the corn.

b) Contribution to Income

The income of corn farmers in Karo has grown considerably due to government initiatives that promote corn farming. One example is the Makmur Program, introduced by the Ministry of BUMN, which assists farmers in boosting their productivity and directly increasing their earnings. Additionally, the quality of the corn produced meets national standards for animal feed, enabling farmers to sell it at higher prices.

c) Food Security

Corn is a crucial crop for food security in Karo. It can grow in different types of soil, which makes it essential for ensuring a steady food supply for local communities. Additionally, corn serves as a primary ingredient for animal feed, supporting the local livestock industry.

2. Processing

a) Value-Added

Corn in Karo can be transformed into different products, including corn flour, animal feed, and raw materials for industry. This processing not only boosts the economic value of corn products but also generates new job opportunities in the processing sector.

b) Job Creation

The process of corn processing requires a large number of workers in both farming and processing. Each step, from handling raw materials to distributing the final products, creates job opportunities, particularly for local communities.

c) Entrepreneurship and Innovation

Many farmers and small businesses in Karo are beginning to innovate by producing corn-based products like snacks and animal feed. This promotes local entrepreneurship and increases the market for processed corn goods.

3. Distribution and Marketing

a) Distribution Process

A major challenge in distributing corn products in Karo is the state of the infrastructure. Being a highland area, accessibility becomes an issue, particularly during the rainy season. To ensure more efficient product distribution, improvements to roads and storage facilities are essential.

b) Marketing

In Karo, corn marketing takes place through different channels, including local and national markets. The prices of corn are influenced by its quality and the overall market conditions. While farmers often enjoy good profit margins, slow distribution can sometimes impact the prices they receive.

c) Market Access

The government and private sector have worked to improve market access for corn farmers by offering training in marketing and providing technical assistance. Additionally,

collaborations between farmers and corn processing companies help to enhance distribution channels.

4. Job Creation

a) Impact on Labor

Every step in the corn value chain—from growing and processing to distributing—requires a significant amount of labor. Research shows that improving corn productivity leads to more job opportunities in both agriculture and processing industries.

b) Socioeconomic Impact

Raising the income of corn farmers affects not just the economy but also enhances the living standards of the community. With higher incomes, farmers can access better education, healthcare, and other essential needs.

5. Local Infrastructure Development

a) Agricultural Infrastructure

Investing in infrastructure like irrigation systems, roads, and storage facilities is essential for improving corn productivity in Karo. With better infrastructure, the distribution of corn will be faster, making the products more competitive in the market.

b) Impact on the Local Economy

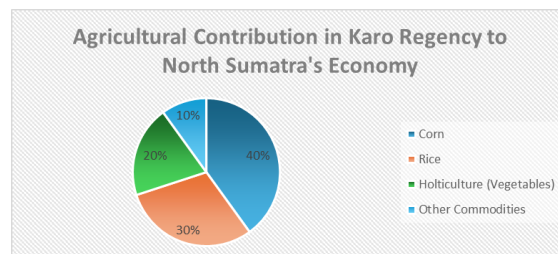
Improving infrastructure not only boosts agricultural production but also enhances the connections between agriculture and other sectors of the regional economy. This helps promote sustainable economic growth.

c) Community Participation in Infrastructure Development

Getting the community involved in infrastructure projects, like road upgrades or building storage facilities, can enhance the program's success. When the community actively participates, it also ensures that the projects meet local needs.

The use of Value Chain theory in Karo Regency demonstrates how every step in the corn value chain helps increase farmer income, create jobs, and boost economic growth.

CONCLUSION



The diagram shows how the agricultural sector in Karo Regency contributes to the economic growth of North Sumatra, emphasizing the important roles of different commodities. Corn represents 40% of the sector's total contribution, while rice accounts for 30%, making them the main contributors to the region's economic growth. These essential crops are vital for ensuring food security and providing income for local farmers. Horticultural products, like vegetables, add another 20%, highlighting their role in diversifying agriculture and offering additional income sources. Other agricultural goods make up the final 10%, showing that even though their contribution is smaller, they still help improve the region's economic stability. In summary, the variety of products from the agricultural sector plays a key role in boosting the economic development of North Sumatra, with corn and rice as the leading contributors.

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