Analysis of cocoa trade between Karo Regency and Deli Serdang Regency

Nelva Ginting[1]*, Reflianta Br Sinaga[2], Mulani Purba[3]
University of Mahkota Tricom Unggul
Corresponding Author: Nelva Ginting nelva.meyriani@gmail.com

A R T I C L E I N F O

Keywords: Cocoa, Trade, Value chain, Efficiency

A B S T R A K

The research focuses on analyzing the marketing structure and distribution channels that link cocoa farmers to traders and exporters. The longest chain, involving multiple intermediaries, proved to be less efficient and costly for farmers. In contrast, the shortest chain, involving direct interaction between farmers and major traders, was found to be the most efficient. Similarly, in Deli Serdang, the study compares two marketing channels, with the direct connection from farmers to major traders and factories proving to be the most effective. The findings highlight the importance of optimizing marketing channels to reduce costs, increase farmer income, and improve the quality of cocoa products for international markets.

INTRODUCTION

Agricultural products and production have specific characteristics that distinguish them from industrial products. Production-related characteristics include seasonal, location-specific and conditional production, decentralisation of production decision- making by many farmers, weather and price uncertainty, geographical concentration of production, variable production costs, and highly influenced by the agricultural input industry; while product characteristics include mostly raw materials, bulky, perishable, and quality variations (Muadzin et al., 2023).

Cocoa beans are the seeds produced by cocoa plants that are cleaned and dried. The quality of cocoa beans is one of the most important things

in determining the price level in the international market (Nurdin, 2024). The low productivity of cocoa both in quantity and quality is caused by unproductive planting materials, unproductive utilisation of protective plants, low knowledge of farmers and also the existence of a track period (cocoa plants do not bear fruit) (Sulfirani et al., 2024).

Karo Regency and Deli Serdang Regency are the largest cocoa producing regencies in North Sumatra. As a cocoa bean producing region, an effective and efficient trade chain is needed so that the trade channel at each level from farmers to wholesalers or exporters can run well. The availability of markets in Karo Regency and Deli Serdang Regency will make it easier for farmers to market their agricultural products. Because although production can be increased, but failing to market the production, then the effort to increase production is in vain. In the distribution of cocoa beans to the final consumer, the cocoa bean trading tataniaga in the region plays a very important role. The distribution of cocoa bean tataniaga in the region is also influenced by the state of infrastructure in each regency which causes the role of different tataniaga actors which will have an impact on the efficiency of tataniaga in each tataniaga channel.

A long and extensive marketing chain greatly affects farmers' income. The long market chain is one of the causes of the low profit received by farmers in each volume of cocoa bean sales. Therefore, it is necessary to have a short marketing channel (trade chain) so that the marketing of cocoa beans for each existing marketing level runs well (Sari & Marta, 2024). Tataniaga on Cocoa Beans channel pattern needs to be done so that it can be known which channel is more efficient. With the existence of an efficient channel pattern (trade system), it can be known which trade channel can provide benefits to farmers and institutions involved in an efficient trade channel by looking at the state of infrastructure in Karo Regency and Deli Serdang Regency.

TINJAUAN PUSTAKA

Cocoa

Cocoa is the only one of the 22 species of the genus Theobroma, tribe Sterculiaceae, that is commercially cultivated. Several traits (characteristics) of the fruit and seeds are used as the basis for classification in taxonomic systems. Based on the shape of the fruit, cacao can be categorised into four populations. Bulk cacao, which has become widespread in the tropics, is a member of the sphaerocarpum subspecies. The seeds are

oval, flat and dark purple in colour. Quality varies but is inferior to the cacao sub-type. The surface of the rind is relatively smooth as the furrows are shallow. The skin of the fruit is thin but hard (clay). In commerce, criollo cocoa is classified as fine flavoured, while farastero cocoa is classified as bulk, and trinitario cocoa is a hybrid of criollo and farastero. Its morphological and physiological characteristics are very diverse as well as its yield and quality. In the trade system, the trinitario group can be categorised into noble and bulk cocoa, depending on the quality of the beans (Rahmadona & Nauly, 2023).

Trade

Trade is the economic activity that carries or conveys goods (agricultural products) from producers to consumers. Commerce is also part of marketing, which is a social process in which individuals and groups get what they need and want through creating, offering, and freely exchanging agricultural products of value with others. Meanwhile, the process of transporting goods and services from the point of producers to consumers is the marketing channel (Armstrong, 2015). After the farmer harvests his farm produce, he will then carry out the sales process. The sales process is one of the trading functions. In this function, farmers will look for potential buyers who are considered to have the potential to provide benefits to farmers (Makbul & Ratnaningtyas, 2017).

Before carrying out the sales function, the farmer first seeks market information on how much price he should set in order to make a profit. Price information is usually obtained from fellow farmers who have sold their farm products, from the radio regarding the prices of agricultural products in several places, and price boards in the market, from agricultural service officers, asking subscription buyers about the desired price, or going to the market to see the sale and purchase transactions of the price of their farm products.If he sells directly, he will be deceived by traders who buy his farm products (Dewi, 2012).

There are approaches that are commonly used, namely the functional approach, the institutional approach, and the managerial approach (Hermawan et al., 2022). The all-function approach studies commerce in terms of the many activities carried out to channel products from producer points to consumer points. These activities are called trading functions and these activities can be carried out by cooperatives and private trading institutions. There are 3 kinds of trading functions, which are as follows: Exchange functions, including buying and selling, physical functions, including transportation, storage, and processing, facilitating functions, including standardisation and grading, financing, risk bearing, and collection. Interpretation and dissemination of information (market intelligence).

The all-institutional approach focuses on the role of individuals or corporate organisations that carry out trade functions. The institutions involved in trading activities are: merchant middlemen, such as wholesalers and retailers, agent middlemen, such as brokers and commissioners, speculative middlemen, Support organisations for transport companies, warehouses, advertising agencies and banks.

All these institutions together with producers and consumers form a trading system. The trade management approach is based on the opinions of marketing managers

and the decisions they make. Here, commerce is viewed as a framework consisting of controllable variables, such as the firm's product, place (distribution channels), price and promotion, plus uncontrollable variables (environmental/external variables such as market competition, demand and consumer society). This approach is commonly used to examine trade in agricultural companies (agribusiness) (Zakiah & Bagio, 2023). Marketing Channels are Channels used by Producers to distribute Products from Producers to Consumers or User Industries. according to the length of the short, Marketing Channels can be divided into 3 groups, namely:

1. Direct Distribution
   Direct Distribution is the shortest marketing channel where products are delivered from producers directly to consumers. For example, freshly picked vegetables or fruits are sold on the side of the road.
2. Semi-Direct Distribution
   Semi-Direct Distribution is a marketing channel that passes through one new intermediary to consumers. For example, cocoa crops are sold by farmers to intermediary traders, then intermediary traders sell directly to consumers. then processed into drinks by a new factory then marketed by retailers and purchased by consumers (Musfiah, 2019).

Marketing institutions play an important role in determining marketing channels. This marketing institution carries out marketing function activities which include activities: Purchasing, Sorting or grading (distinguishing goods based on their size or quality), Storage, Transport, and Processing. Each marketing institution, according to its capabilities, will perform this marketing function differently (Lestari et al., 2024)

METHODOLOGY

This study used a descriptive quantitative approach with a comparative method to compare cocoa marketing channels in Karo and Deli Serdang Regencies. Primary data was obtained through in-depth interviews with farmers, intermediary traders, wholesalers, and exporters in both districts. Secondary data were obtained from relevant documents, reports, and literature. Marketing channel analysis was conducted by calculating efficiency based on the length of the distribution chain, marketing costs, distribution time, and profit margins received by each market actor. The results of this analysis are used to identify the most efficient marketing channels in each region and compare the performance of the cocoa trade system between the two districts (Soejono et al., 2021).

RESEARCH RESULT

Cocoa Trade System in Karo Regency

Based on the cocoa bean distribution channel pattern scheme, there are three channel patterns formed in cocoa bean trading activities in Karo Regency, namely:

1. Channel I → Cocoa Farmers → Village Collecting Traders → Sub-District Collecting Traders → Wholesalers → Exporters

2. Channel II → Cocoa Farmers → Village Collecting Traders → Wholesalers → Exporters
3. Channel III → Cocoa Farmers → Wholesalers → Exporters

Cocoa Trade System in Deli Serdang Regency

Deli Serdang Regency has two marketing channels, the marketing channels in Deli Serdang Regency are as follows:

1. Channel I → Cocoa Farmers → Collecting (Wholesalers) → Factories → Processed in the form of cocoa powder/chocolate flour → Marketed processed cocoa domestically or abroad
2. Channel II → Cocoa Farmers → Small Agents → Large Agents → Factories → Processed in the form of cocoa powder/chocolate flour → Marketed processed cocoa domestically or abroad

DISCUSSION

This section allows you to describe your research findings academically. You may not enter figures related to your statistical tests here; instead, you should explain those numbers here. You should structure your discussion with academic support for your studies and a good explanation according to the specific area you are investigating (Romadhon et al., 2022).

The development target to be achieved in cocoa bean marketing is to increase the quality and quantity of cocoa beans produced by farmers. Until now, the implementation of cocoa bean fermentation to obtain good quality cocoa beans has not been applied by farmers in Karo Regency. This is due to the fact that farmers' awareness to produce good quality cocoa beans is still very low because of economic problems due to urgent household needs that demand the sale of crops to be done as quickly as possible. Marketing institutions involved in the cocoa marketing channel in Karo Regency are: farmers, village traders, sub-district traders, and provincial traders/exporters. Based on the cocoa bean distribution channel pattern scheme, there are three channel patterns formed in cocoa bean trading activities in Karo Regency, namely:

I. Channel I → Cocoa Farmers → Village Collecting Traders → Sub-District Collecting Traders → Wholesalers → Exporters

The trade channel in Karo Regency involves farmers, village collecting traders, sub-district collecting traders, wholesalers and exporters. Cocoa farmers in Karo Regency sell their products in the form of dried cocoa beans to village intermediary traders at a mutually agreed price. The village intermediary traders then sell the dried cocoa beans to sub-district traders who cover several villages. The differentiating transaction flow system is that sub-district traders channel to other large traders by delivering to the destination of large traders, in this section large traders have been observant to see the quality and quantity of dried cocoa beans, because for export purposes if the quality of cocoa produced is good. In channel I, the marketing chain at each marketing institution is quite complicated because at each level there is a marketing institution that accommodates the cocoa beans, so because of the length of

the cocoa trade chain, marketing channel I can be said to be inefficient (Prihadianto et al., 2022).

II. Channel II → Cocoa Farmers → Village Collecting Traders → Wholesalers → Exporters

The second trade channel is the one that consists of farmers, subdistrict collectors and large traders. This channel does not involve village traders because farmers prefer to sell to sub-district traders. Cocoa farmers sell cocoa beans that have been dried for several days to sub-district traders. Then the sub-district trader will sell to a large trader. . There are several sub-district traders involved in this channel, all of whom compete fairly so that there is rarely a gap between traders originating from the cocoa commodity. This is because the traders set the same ceilings and the wholesalers to whom each trader goes are the same. In addition, the perishable nature of cocoa beans means that traders do not dare to take the risk of holding too large quantities of beans for a long period of time (Rachmawati & Gunawan, 2020).

The service of the wholesaler who picks up the goods according to the request of the sub-district trader makes a lot of satisfaction. The wholesaler then sells the dried cocoa beans to the cocoa bean exporter, in which case the quality and quantity of the dried cocoa beans are highly considered in order to be well received according to the criteria given by the cocoa bean importing country. In channel II, the marketing chain at each marketing institution is quite long, the only difference from marketing channel I is that there are no village intermediary traders. The only difference from marketing channel I is that there are no village intermediary traders. The length of the cocoa trade chain for marketing channel II makes a lot of costs to be borne by each marketing institution so that this makes marketing channel II inefficient (Muhammad Helmy Abdillah et al., 2022).

III. Channel III → Cocoa Farmers → Wholesalers → Exporters

The third trade channel of dry cocoa beans in Karo Regency involves farmers, wholesalers and exporters. The existence of relationships allows cocoa farmers to deal directly with wholesalers without intermediary traders. However, in this section, farmers must fulfil the criteria of dried cocoa beans as requested by the wholesaler. Both in terms of the quality of cocoa beans in terms of drying and fermentation, the quantity desired by wholesalers and also the packaging and storage of dried cocoa beans must be given more attention by farmers. Thus, cooperation between farmers and wholesalers can run for a long time. Then after the wholesaler has obtained the dried cocoa beans according to the criteria, it will be sold to the exporter (Purnami, Widuri Susilawati, 2018). Wholesalers also conduct sorting and grading again so that the quantity and quality of dried cocoa beans are maintained and received by exporters properly. This is so that during the distribution process to cocoa bean importing countries, the quality is maintained so that importing countries can buy back the dried cocoa. In channel III, the marketing chain at each marketing institution is quite short and efficient because it only uses 2 marketing institutions, namely Wholesalers and Exporters. The shorter the trade chain, the more the quality

and quantity of cocoa beans are maintained, and the costs borne by each marketing institution are quite low due to the short trade chain. It is concluded that of the three cocoa marketing channels in Karo Regency, the most effective and efficient is marketing channel III (Wijaya, 2020).

Cocoa Trade System in Deli Serdang Regency

The marketing channel system is a group of specific marketing channels used by a company and decisions about this system are among the most important decisions facing management. The main role of marketing channels is to convert potential buyers into profitable customers, not only serving the market but must shape the market. The main role of the cocoa marketing channel is to turn potential buyers into profitable customers, not only serving the market but having to shape the market. In this marketing process the cocoa marketed is dry cocoa. Deli Serdang Regency has two marketing channels, the marketing channels in Deli Serdang Regency are as follows:

1) **Channel I → Cocoa Farmers → Collecting (Wholesalers) → Factories → Processed in the form of cocoa powder/chocolate flour → Marketed processed cocoa domestically or abroad**

   In marketing channel I, intermediary traders in Deli Serdang Regency buy cocoa directly from farmers in Deli Serdang Regency and some farmers sell cocoa directly to intermediary traders, who then sell the cocoa to PT Cocoa Ventures Indonesia (Medan - Belawan Km 10.5, Medan City). PT Cocoa Ventures Indonesia processes the dried cocoa beans into chocolate powder. The production of cocoa powder or flour is then marketed by the company within the country and some are marketed abroad. In this channel, farmers directly sell their products to intermediary traders (large agents) because they will get a higher selling price than selling to small agents. In marketing channel type I there are some farmers who sell their products by delivering directly to the collecting traders. Then the collecting traders (large agents) sell to the factory (Hendy, 2018).

2) **Channel II → Cocoa Farmers → Small Agents → Large Agents → Factories → Processed in the form of cocoa powder/chocolate flour → Marketed processed cocoa domestically or abroad**

   In marketing channel type II, farmers in Deli Serdang Regency sell their cocoa products directly to small agents. Small agents who buy cocoa from farmers directly pick up the farmers. Small agents sell cocoa to collective traders (large agents) located around the area in Deli Serdang Regency. In marketing channel type II, the selling price of farmers' cocoa is cheaper than in the first marketing channel because in marketing channel II there is an increase in marketing institutions. This causes farmers to sell their production to small agents:

   A. Farmers borrow capital to conduct cocoa farming to a small agent by making an agreement with the small agent that the production from cocoa farming is sold to the capital provider.
   B. Production from cocoa farming is small so farmers have to sell it to agents, because if farmers sell it to large agents farmers will incur additional costs for transportation.
   C. Social factors also influence farmers in selling their production to small agents, usually because the farmer is a neighbour of the agent and is related to the agent.

D. The distance between the farmer's location and the collecting trader is quite far.

The advantage of marketing channel type I is that marketing costs incurred by marketing institutions in the process of distributing cocoa to the factory are cheaper than marketing channel II, this is because in marketing channel type I the process of marketing cocoa to the factory does not go through many marketing institutions and the selling price of farmers at the marketing channel I level is greater than channel II The advantage of marketing channel type II is that in the cocoa marketing process farmers do not need to incur transportation costs again in marketing their cocoa production, and cocoa transactions can be carried out at the farmer's home. Based on the most effective and efficient trade system channel in Deli Serdang Regency is Marketing Channel I (Alkamalia et al., 2017).

CONCLUSIONS AND RECOMMENDATIONS

The effective and efficient cocoa marketing channel in Karo Regency is in Marketing Channel III which involves farmers, wholesalers and exporters. The effective and efficient cocoa marketing channel in Deli Serdang Regency is in Marketing Channel I which involves farmers, wholesalers and factories.

Based on the results of this study, it is recommended that cocoa farmers in Karo and Deli Serdang Regencies improve the quality and quantity of cocoa beans through training on standardised fermentation. Local governments also need to improve infrastructure, especially transport, to support more efficient distribution. Further research can be conducted to analyse the effect of price and subsidy policies on cocoa farmers' income and evaluate the socioeconomic impact of more efficient marketing channels.

ADVANCED RESEARCH

This study has some limitations, including its focus on only two regions, Karo and Deli Serdang, which may not represent other cocoa-producing areas. The reliance on interviews with key stakeholders could also introduce biases, and seasonal variations were not considered.

REFERENCES

Alkamalia, I., , M., & Budi, S. (2017). Analisis Pengaruh Luas Lahan Dan Tenaga Kerja Terhadap Produksi Kakao Perkebunan Rakyat Di Provinsi Aceh. *Agrifo : Jurnal Agribisnis Universitas Malikussaleh*, *2*(2), 56. https://doi.org/10.29103/ag.v2i2.369

Armstrong, K. (2015). *Marketing an Introducing Pretiece Hall* (Twelft Edi). Pearson Education, Inc.

Dewi, N. (2012). Analisis Peluang Pilihan Kelembagaan Pemasaran Kakao di Provinsi Sulawesi Tengah. *Indonesian Journal of Agricultural Economics (IJAE)*, *3*(1), 1–12.

Hendy, F. (2018). karakterisasi lemak biji kakao (Theobroma cacao L.) dari berbagai daerah sentra produksi di Indonesia. *Repository UGM*, 47849. http://etd.repository.ugm.ac.id/penelitian/detail/158677

Hermawan, H., Purnamayani, R., Andrianyta, H., Pengkajian, B. B., Pengembangan, D.,

Pertanian, T., Tentara, J., No, P., & 10 Bogor, I. (2022). PENDEKATAN DAN DESAIN PENGEMBANGAN KAWASAN KAKAO BERBASIS INOVASI DAN BERDAYA SAING Approach And Design To Develop A Cocoa Area Based On Innovation And Competitiveness. *Mahatani*, *5*(1), 64–88.

Lestari, S. L., Salsadila, C. K., & Maharani, H. W. (2024). Status Keberlanjutan Ekowisata Hutan Mangrove Di Desa Purworejo, Kecamatan Pasir Sakti, Lampung Timur. *Jurnal Teknologi Perikanan Dan Kelautan*, *15*(1), 21–31. https://doi.org/10.24319/jtpk.15.21-31

Makbul, Y., & Ratnaningtyas, S. (2017). Analysis of the integration of rice and paddy prices in Indonesia using a vector error correction model. *International Journal of Applied Business and Economic Research*, *15*(10), 209–225.

Muadzin, S., Nurfadilah, R., & Dinar, D. (2023). Analisis Tataniaga Ubi Jalar Varietas Ac Dan Manohara. *Journal of Innovation and Research in Agriculture*, *2*(1), 18–28. https://doi.org/10.56916/jira.v2i1.96

Muhammad Helmy Abdillah, Lidwina Reni Handika, & Muhammad Reza. (2022). Analisis Sistem Tataniaga Beras Siam Banjar di Kecamatan Mandastana Kabupaten Barito Kuala, Provinsi Kalimantan Selatan. *Prosiding Seminar Nasional Pembangunan Dan Pendidikan Vokasi Pertanian*, *3*(1), 191–201. https://doi.org/10.47687/snppvp.v3i1.305

Musfiah, P. Z. (2019). *analisis daya saing kakao Indonesia dan faktor-faktor yang mempengaruhi*. Universitas Muhammadiyah Surakarta.

Nurdin, M. F. (2024). Tata Niaga Dan Fungsi Pemasaran Bawang Merah Varietas Lembah Palu Di Kecamatan Palu Utara Kota Palu. *Jurnal Agro Nusantara*, *4*(1), 133–138. https://jurnal-lp2m.umnaw.ac.id/index.php/JAN/article/view/3449%0Ahttps://jurnal-lp2m.umnaw.ac.id/index.php/JAN/article/download/3449/1757

Prihadianto, R. D., Hariyati, Y., Ibanah, I., Muhtadi, K., Suwasono, S., & Sumarno, D. (2022). Model Ideal Sistem Manajemen Rantai Pasok Agribisnis Kakao: Pendekatan Soft System Methodology (SSM). *JSEP (Journal of Social and Agricultural Economics)*, *15*(3), 333. https://doi.org/10.19184/jsep.v15i3.35000

Purnami, Widuri Susilawati, A. I. (2018). Jurnal Agri Sains Vol, 2 No.01 Juni (2018). *Jurnal Agri Sains*, *2*(01), 1–9.

Rachmawati, R. R., & Gunawan, E. (2020). Peranan Petani Milenial mendukung Ekspor Hasil Pertanian di Indonesia. *Forum Penelitian Agro Ekonomi*, *38*(1), 67. https://doi.org/10.21082/fae.v38n1.2020.67-87

Rahmadona, L., & Nauly, D. (2023). Analisis Daya Saing Kakao Olahan Indonesia di Negara Tujuan Utama Dunia. *Jurnal AGROSAINS Dan TEKNOLOGI*, *8*(1), 39. https://doi.org/10.24853/jat.8.1.39-46

Romadhon, A., Sari, D. I., & Wicaksono, B. R. (2022). Multilevel Analysis: Household and Regional Factors Influence Agricultural Household Poverty in Indonesia, 2019. *Proceedings of The International Conference on Data Science and Official Statistics*, *2021*(1), 879–888. https://doi.org/10.34123/icdsos.v2021i1.173

Sari, R., & Marta, A. (2024). Evaluasi Kebijakan Tata Niaga Kelapa di Kabupaten Indragiri

Hilir Tahun 2019-2022. *… : Journal Of Social Science …*, *4*, 16252–16264. http://j-innovative.org/index.php/Innovative/article/view/12511%0Ahttp://j-innovative.org/index.php/Innovative/article/download/12511/8443

Soejono, D., Zahrosa, D. B., Maharani, A. D., Baihaqi, Y., & Amam, A. (2021). Kinerja Badan Usaha Milik Desa (Bumdes) Di Kabupaten Lumajang. *SEPA: Jurnal Sosial Ekonomi Pertanian Dan Agribisnis*, *18*(1), 26. https://doi.org/10.20961/sepa.v18i1.44240

Sulfirani, S., Sulham, B., & Idrus, M. (2024). Strategi Pemasaran Kakao dalam Meningkatkan Pendapatan Petani (Studi Petani di Kabupaten Kolaka Utara). *INTENS Jurnal Inovasi Sains Teknologi Dan Bisnis*, *1*(1), 1–8.

Wijaya, W. (2020). Relasi Kuasa Dalam Tataniaga Pertanian Komoditas Cabai di Desa Giri Mulyo, Kabupaten Kerinci, Jambi. *Indonesian Journal of Religion and Society*, *2*(1), 23–31. https://doi.org/10.36256/ijrs.v2i1.76

Zakiah, Z., & Bagio, B. (2023). Rantai Pasok Kakao Di Kecamatan Tangse Kabupaten Pidie. *Jurnal Bisnis Tani*, *9*(1), 32. https://doi.org/10.35308/jbt.v9i1.7086