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Competitiveness of Food Crop Commodity in Developing Countries: A Semi-Systematic Literature Review

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Abstract

Agricultural commodities remain the primary source of exports for both developing and developed countries. However, inequity in competitiveness has emerged as a key concern as a result of discrepancies in economies of scale, efficiency, and government protection. The purpose of this study is to assess the competitiveness of main agricultural commodities in a number of developing countries. A semi-systematic review of the literature was employed as an analytical technique. The study's data was gathered from earlier research. The findings suggest that food crop commodities in poor nations have a low level of competitiveness. This is owing to the fact that the agricultural labor force in developing countries is largely comprised of unskilled employees, particularly women who are underpaid. In developing countries, four factors may have an impact on the competitiveness of food crop agricultural commodities. Availability of particular plant resources, technology, external and domestic demand, and domestic commodity and export pricing are just a few of them.

Abstrak

Komoditas pertanian masih menjadi penopang ekspor bagi negara berkembang dan sebagian negara maju. Namun, ketimpangan daya saing sebagai bentuk dari perbedaan skala ekonomi, efisiensi dan proteksi pemerintah telah menjadi isu utama. Penelitian ini mencoba menganalisis daya saing komoditas pertanian utama di beberapa negara berkembang. Adapun alat analisis yang digunakan adalah semi sistematik studi literatur. Data dalam penelitian diperoleh dari penelitian terdahulu. Hasil penelitian menunjukan daya saing pertanian komoditas tanaman pangan di negara berkembang relatif rendah. Hal ini disebabkan oleh angkatan kerja pertanian di negara berkembang yang memiliki pekerja tidak terampil, terutama perempuan yang dibayar rendah. Ada empat faktor yang mungkin berpotensi mempengaruhi daya saing komoditas pertanian tanaman pangan di negara berkembang. Diantaranya adalah: ketersediaan sumber daya tanaman tertentu, teknologi, permintaan eksternal dan domestik, dan harga komoditas domestik dan harga ekspor.

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INTRODUCTION

Agriculture is a critical component in the national and regional economies. This is tied to the sector's ability to produce food, earn foreign currency, give employment opportunities, and serve as a market for industrial products (Juanda, 2001). According to Daryanto (2009), the agricultural sector has shown to play a significant part in a nation's economic development. This is based on the agriculture sector's contribution, which not only contributes to GDP formation, job creation, raising people's income, and generating foreign exchange.

The agricultural sector's role can also be viewed more broadly (Daryanto, 2009), including: (i) as a community food supply capable of playing a strategic role in the creation of national food security, which is closely related to social security, economic stability, political stability, and national security or resilience; (ii) the food sector generates raw materials for the improvement of the industrial and service sectors; and (iii) the agricultural sector can generate or save foreign exchange through exports or import substitute products; (iv) the agricultural sector is a potential market for industrial sector products; (v) the transfer of surplus labor from the agricultural sector to the industrial sector is one of the sources of economic growth; (vi) a net outflow of capital for investment in other sectors; and (vii) agriculture's role in environmental service provision.

Competitiveness is an indicator of a country's international commerce performance. Competitiveness is a broad term that refers to a country's dedication to international success through market competition (Bustami and Hidayat, 2013). The large value of imports of food plant items is believed to increase reliance on foreign products. Imported items with low prices might undermine the competitiveness of native products. Due to the importance of the agricultural sector of food crop commodities in developing countries as one of the economic sectors that has a major contribution to economic growth, the competitiveness of food crop commodities in developing countries in international markets needs special attention.

Food crop commodities, which are a component of agricultural goods, have attracted a great deal of attention in international commerce. The success of the Uruguay Round and succeeding Multilateral Trade Negotiations may be ascribed to the growth of food crop trade liberalization. The global agriculture and food trading system is experiencing fast transformation, with significant consequences for economic growth (Mergenthaler et al, 2009). According to Suharsih and asih (2012), The removal of agricultural trade barriers has an impact on: (1) decreasing production, exports, and imports in most of the sectors that have been subsidized so far, both in the form of domestic support and export subsidies in developed countries; (2) increasing imports of developing countries in general, though there are some commodities that have increased even after subsidies are removed; (3) Although there is a boost in people's wellbeing throughout the country, removing trade barriers totally benefits developed countries the most. (4) Developing nations have not been able to trade at zero tariff rates. Strategic sectors and commodities must still be safeguarded in order to develop. Developing countries require time to improve their competitiveness.

Crop commodity are becoming a more important source of export revenue for many developing countries. From 2014 to 2019, the average growth in the value of food crop exports in developing countries was 70.72 percent, which was still higher than the average growth in developed countries (35.64 percent) and the world (50.06 percent), according to Putri (2020). This demonstrates that food crop commodities are viable export commodities in international commerce for underdeveloped countries. As a result, there is a need for more study on the drivers of the competitiveness of food crop commodities in developing nations, with the goal of analyzing the competitiveness of food crop commodities in developing countries.

The capacity of a commodity to penetrate and survive in international markets is

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referred to as competitiveness (Daryanto, 2009). Consumers are eager to purchase a competing goods. A country's competitiveness in international commerce is driven by two factors: comparative advantage, natural advantage, and competitive advantage, which are advantages that may be generated (Tambunan, 2003). Meanwhile, according to Porter (2012), it may be described as a company's capacity to deal with the varied situations it experiences. Competitiveness is determined by a company's competitive edge, which is strongly dependent on the degree of comparable resources it possesses. Furthermore, Porter explains the importance of competitiveness because of the following three things: (1) it encourages productivity and increases self-reliance, (2) it can increase economic capacity, both in the context of the regional economy and the quantity of economic actors so that economic growth increases, (3) the belief that the mechanism market creates more efficiency (Porter, 2012).

According to Krugman and Obsfeld (2006) and Suharsih and Asih (2012), national prosperity may be achieved through international commerce, which helps both the selling and purchasing sides. The liberalization of global trade will necessitate an increase in a country's product competitiveness in the global market. The country's competitiveness is dependent on its industrial capacity to innovate and develop. Globalization is driven by international commerce, which is characterized by the growth of information technology innovation systems, political changes, financial systems, and investments.

METHOD

According to Hasibuan, Zainal A. (2007), the literature review includes a summary of the theory, findings, and other research materials gathered from reference sources to be utilized as the foundation for research operations. The explanation in this literature review is intended to build a coherent framework of thinking about fixing the challenges outlined before in the formulation of the problem. The literature review provides reviews, summaries, and the author's comments on many library sources (may be articles, books, presentations, material from the internet, etc.) concerning the themes addressed, and is normally located at the beginning of the chapter. The findings of other researchers' study might also be presented as a comparison to the outcomes of the research that will be assessed.

Review Protocol

Agriculture is a crucial industry in emerging nations, sustaining national and regional economy. This is due to the agricultural sector in developing nations' ability to supply food, employment opportunities, and a source of foreign exchange (Juanda, 2001). Daryanto's (2009). Due to the importance of the agricultural sector of food crop commodities in developing countries as one of the economic sectors that has a major contribution to economic growth, the competitiveness of food crop commodities in developing countries in international markets needs special attention.

The narrative portion of the evaluation allows for numerous interpretations of reading and comprehending information. To avoid double interpretation, this study finished the review by framing it with a sociotechnical approach that "localizes issues and solutions into an ensemble of players, regions, and tools particularly designed for this area" (Zunder and Dellinger, 2005, 2018). The selected protocol is depicted visually and flowchart-style in Figure 1.

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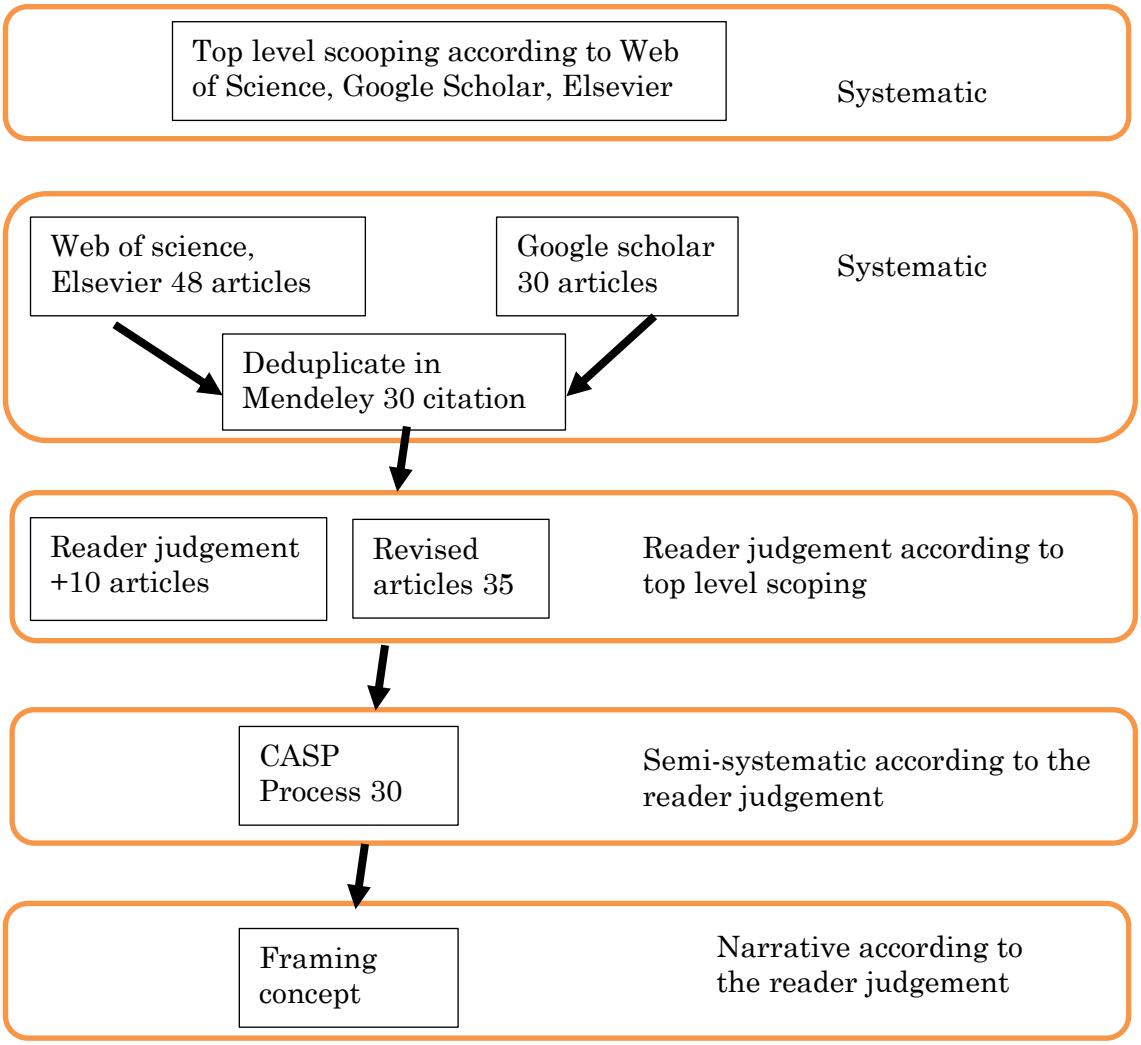

Figure 1. Semi systematic review protocol
Source: Zunder (2018).

Top Level Scoping

This research is intentionally designed with a broad and in-depth review of the literature on the competitiveness of the agriculture sector in developing nations in mind. Web of Science (WOS), Google Scholar (GS), and Elsevier were utilized to find the literature. Web of Science (WOS) is characterized as a unified research platform that allows users to quickly obtain, evaluate, and publish database information. This is accomplished by the development of a common language, known as an ontology, for various search words and data. The national Sinta 2 indexed literature utilized in this study was retrieved from Google Scholar (GS), whereas the international Scopus indexed material was obtained from Elsevier.

Grey Literature

The grey literature focused review was based on the initial 35 item citation articles discovered, as well as after examining the larger area and particular significant items, as shown in Figure 1. Following completion, the CASP systematic review process was used.

Critical Appraisal Skills Program (CASP)

As documented managers, articles and grey literature are imported. The resultant

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database is deduplicated before being filtered using an inclusion or exclusion protocol. After reading and judging, a source must earn a 'YES' in all CASP checklist boxes, as shown in Table 1 below. In the evaluation for question A2, literature that investigates theoretical and conceptual issues is given more qualitative weight. Works that are primarily empirical in nature are more likely to be published on A2, or on question C8 (ibid), with minor additions to knowledge and theory. Following the deployment of CASP, the number of literatures was decreased from 45 to 30, and concepts were then drawn to create and explain framing.

Table 1. Critical Appraisal Skills Program (CASP)

Critical Appraisal Skills Program (CASP)		Yes	No
A: Screening Questions: Does this work answer clear questions?			
1	Does this work address clearly focused issues?		
a	A clear statement of the research objectives?		
b	Have a suitable study design?		
2	Is the work related to the study topic and the literature review's objectives?		
B: Are the research results valid?			
3	Does the work clearly describe the research method?		
4	Does the job clearly describe its data collection?		
5	Does the work outline a concept or theory in a meaningful way?		
C. How is the result?			
6	Is the work explicit and easy to understand?		
7	Are the work and conclusions sufficiently presented to support the descriptive findings?		
8	Does the job add to knowledge or theory in the field?		
9	Do results matter in practice?		

RESULTS AND DISCUSSION

Increasing food crop exports in developing nations will result in a rise in foreign exchange revenues, which will be required not just to cover greater purchases of other commodities, but also to meet rising debt payments. As a result, emerging nations must identify opportunities for non-traditional exports at a time when conventional market growth is slowing.

Agriculture trade is hampered by price volatility and a variety of trade restrictions, including tariffs and non-tariff barriers. During the 2008-2009 food price crisis, market prices for global agricultural goods and food rose rapidly, increasing agricultural price volatility in the years that followed. Furthermore, as globalization and trade liberalization progress, it will provide new possibilities as well as new obstacles in future agricultural growth, particularly in food crop commodities.

The expansion of the commodity market, as a result of the removal of different trade obstacles between nations, might give chances for agricultural growth. However, trade liberalization can cause problems if locally produced commodities are unable to compete with those from other countries, causing the domestic market to become increasingly flooded with imported commodities, harming farmers. As a result, boosting competitiveness is an inescapable need in the future implementation of agricultural growth.

Some writers employ the notion of expressing comparative export advantage (RCA), first proposed by Balassa (1965). However, its application in agricultural products is still limited (see Rodas-Martini, 1998; Bojnec, 2001; Fertö & Hubbard, 2003; Leromain & Orefice, 2014; Nath & Goswani, 2018). Bojnec (2001) examines potential food crop

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trade in the world region during the period 1992-1997 using relative RCA, which is measured as the ratio between a region's share of total food crop agricultural products in total agricultural exports from all countries and the region's share of merchandise exports in total merchandise exports from all countries. His research discovered that Asia's relative RCA in agricultural food crop exports was less than one, indicating that Asia lacks a comparative advantage. In contrast, Oceania, South America, the Caribbean, and Africa were found to have RCAs in food crop agricultural products.

According to a review of the literature, the study employs a variety of methodologies to assess the relative competitiveness of food crops and agricultural commodities for export. The relative pricing of local and international nations over time are the most important indicators of export competitiveness. Smith (1988) and Lorenzini (1988) demonstrate this for wheat, rice, and maize exports (2015). Others, such as Jha, Srinivasan, and Landes, compare domestic and global pricing across time (2007). Another way is to compare the relative manufacturing costs of two nations. Xiaoping, Wentao, and Xingming (2004) analyze the costs of wheat production in India and Indonesia. Demont, Fiamohe, and Kinkpe (2017) analyze the factors of West African rice demand using primary data to generate the revealed price premium for increasing domestic rice relative to imported rice. The results showed that the RCA value was less than one, which means that developing countries do not have the competitiveness of food crops.

The inefficiency of food crop commodities in underdeveloped nations might also contribute to their low competitiveness. According to Avi (2018)'s research, food crop commodities like as rice, corn, and soybeans are inefficient. All of these commodities are not yet efficient in terms of technical efficiency, allocative efficiency, and economic efficiency (Patrick et al, 2014). This indicates that rice has a technical efficiency of 0.8789, maize has a technical efficiency of 0.7634, and soybean has a technological efficiency of 0.9619. Meanwhile, rice has an allocative efficiency of 1.08, maize has a value of 0.674, and soybean has a value of 1.7343. Rice has an economic efficiency of 0.94, corn has an efficiency of 0.513, and soybeans have an efficiency of 1.66. These findings (Chiang et al, 2004) advise farmers and stakeholders to limit the usage of production variables. The cause and the inefficiency of these commodities are caused by the excessive allocation of production factors. In addition, inefficient conditions are considered to make the government's target for the production of food crop commodities unable to be met (Orewo, 2012).

According to the findings of Amiruddin et al (2020), all grown food crop commodities are powerless. These findings (Zainuri et al, 2015) suggest that farmers' crop management methods and practices need to be revised. They should, at the very least, limit the usage of factors of production in order to maintain the level of technological efficiency. On the other side (Hadi et al, 2021), they must reduce the marginal cost in order to reduce the overall cost. Farmers will become more efficient as a result of this.

According to Naraya (2019), four factors may possibly impact the RCA of food crop agricultural commodities in developing nations. First, the availability of specific plant resources, which are expressed by production characteristics such as farm size, capital investment, and manpower. Second, there is technology, which has been monopolized by the Green Revolution. Third, trade agreements and GDP per capita incorporate both foreign and internal demand. Plant-specific export limitations and prohibitions, including external request restrictions and bans. GDP per capita is also used to estimate supply capacity, as are domestic commodity and export prices.

The International Monetary Funds (IMFs) (IMF). According to the World Economic Outlook: Legacies, Clouds, and Uncertainties (2014), agricultural resources in emerging nations remain restricted. As a response, the IMF (2014) mandated structural changes as a precondition for attaining long-term growth. Implementing education, labor, and product market reforms to boost competitiveness and productivity will be on the agenda for emerging nations.

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Several analyses of developing-country agricultural resources back up the IMF's concerns. According to Garikipati and Pfaffenzeller (2012), the agricultural labor force in developing nations is comprised of unskilled employees, particularly underpaid or unpaid women. Kannan (2015) shows in his analysis of crop performance and agricultural expenses and revenue for developing nations that, despite a considerable increase in agricultural income from 1981–1982 to 2007–2008, farm employees' actual pay grew only modestly. Given the recent success of developing-country agricultural exports and worries about finite agricultural resources, it is unclear if the recent boom in food crop agri-trade is sustainable.

Handayani et al. (2009) studied the policy simulation of food crop competitiveness in the domestic market and argued that increasing productivity by using agricultural technology and expanding the planting area to increase the cropping index was the strategy used to increase the competitiveness and production of domestic food crops. However, productivity enhancement measures must be backed by government price protection regulations in order to boost the competitiveness of local food crops (Song et al, 2009). Rante (2013), on the other hand, advocates the financial feasibility of growing local food crops. Capital help from bank and non-bank financial organizations is being used to increase food crop output (Sudaryanto et al, 2001).

CONCLUSIONS AND SUGGESTION

In developing nations, the competitiveness of food crop commodities agriculture is rather low. This is due to the fact that the agricultural labor force in developing nations is comprised of unskilled employees, particularly underpaid or unpaid women, making it difficult for food crop producers in developing countries to decide pricing. Four factors may have an impact on the RCA of food crops in underdeveloped nations. First, the availability of specific plant resources, which are expressed by production characteristics such as farm size, capital investment, and manpower. Second, there is technology, which has been monopolized by the Green Revolution. Third, trade agreements and GDP per capita incorporate both foreign and internal demand. Plant-specific export limitations and prohibitions, including external request restrictions and bans. GDP per capita is also used to capture supply capacity; and fourth, domestic commodity prices and export prices. Governments in developing countries need to make improvements related to food safety standard rules so that the quality of food crop commodities produced increases and in the end will increase competitiveness and export value as well as tighten the entry of imported agricultural products.

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