

Food Hubs and Short Food Supply Chain, Efforts to Realize Regional Food Distribution Center

(Case Study on the Establishment of a Food Distribution Center in Banten Province, Indonesia)

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Abstract— Agricultural development plays a role in providing food supply, maintaining food scarcity and maintaining food prices so as not to fluctuate and evenly distribute food, becoming a major problem in each region. Banten Province with regional potentials that have a surplus of food products and a wide area that is adequate has the potential to develop a food distribution center. The aim of a food distribution center is to meet food supply chain throughout the region, avoid food scarcity, stabilize food prices and maintain price disparities thus they can be properly met. The role of food hubs is to aggregate, distribute and market food at the farmer, trader level, and to function the role of the BUMD in realizing the operation of the food distribution center. Short food supply chain chains cut costs of crop production in farmers, food distribution costs and transportation costs from farmers to distribution centers. Government policies through relevant local government agencies must be able to move the role of stakeholders in this case farmers, traders, distributors, transportation services in realizing the operation of the food distribution center to provide food procurement services and able to provide welfare levels, especially small farmers as producers in the supply chain of food products.

Keywords— Food scarcity, supply chain, aggregation, food distribution costs, government policies.

1. Introduction

The agricultural sector is one sector that has an important role in supporting the Indonesian economy. Agricultural development is an integral part of economic development; agricultural development is not limited to increasing production, innovation and development to achieve

the welfare levels of farmers, especially in meeting food needs, supplies, and consumption. Agricultural development through the process of transformation and modernization is needed in the industry 4.0 era, limited resources, low access to knowledge and technology and increasing population growth are the challenges currently facing agriculture in Indonesia. The socialization of technology use and increasing access to resources is a priority that the government must give farmers to be able to increase their agricultural commitments. Food crop commodity is one of the commodities currently being developed and is a concern of the government in efforts to maintain food production and yield.

Problems with food security (rice) such as the lack of rice availability and rising rice prices can trigger the lack of supply chain and have an impact on rice shortages and economic instability, price disparities and can disrupt national stability [1]. The condition of food security is adequacy and stability of food availability, affordability / distribution of food and quality of food security. Distribution is the flow of processes from one process to the next. Supply chain Management includes management information systems, purchasing, customer service, resources, transportation, production schedules, demand fulfillment processes, inventory management, warehousing and marketing [2].

The distribution center serves as a buffer for commodity supplies, which maintains the continuity of supply chain, and records the needs of commodities in the area of service so that the availability of commodities can be guaranteed and price fluctuations / fluctuations can be minimized.

Food hubs is an emerging food distribution model that can link small and medium farmers with other institutions (consumers, distribution agents), by creating new value chains that strengthen local and regional food systems [3].

A Regional Food hubs is a business or organization that actively manages the aggregation, distribution and marketing of food products whose sources are identified primarily from local and regional producers to strengthen their ability to meet wholesale, retail and institutional demand [4]. Food hubs as a network and crossroads of grassroots, community-based organizations and individuals who work together to build a more socially, economically and environmentally friendly food system that connects farmers with consumers directly” [5]. Food hubs contributes to strengthening local and regional food systems and broader community goals of sustainability and health” [6].

Food hubs builds effective information flows and transparency among value chain partners, thus enabling each partner in the supply chain to fully understand the costs of production, processing, transportation and marketing operations, all of which help to ensure that value chain partners can negotiate acceptable returns [7].

In [8] revealed that supply chain is a dynamic that involves a constant flow of information, products, and funds between different stages. In [30] explained that there are 3 main components in the supply chain, namely the upstream supply chain which includes the activities of manufacturing companies with distribution and linking with retailers, internal supply chain management which includes storage, and finally is a downstream supply chain / downstream supply chain which includes shipping to end customers with a chain with an agricultural supply chain. The supply chain management of the commodity and agricultural products business is different from the supply chain of non-agricultural commodity business, because: (i) agricultural commodities and products are perishable, (ii) the process of planting, growth and harvesting depends on the climate and season, (iii) yields have varying shapes and sizes. (iv) agricultural commodities and products are cages thus the agricultural products are difficult to handle [9]. All of these factors must be considered in the supply chain management design of commodities and agricultural products in order to obtain a comprehensive, effective, efficient, responsive and

sustainable supply chain system. Supply chain management of commodity and agricultural products business is complex, in addition to being more complex, the management of commodity supply chain and agricultural products is also probabilistic and dynamic. Therefore, a new comprehensive approach to research in supply chain management and decision making is needed.

The short food supply chain represents an alternative network approach not only related to the distribution of agricultural products, but also aims to promote new patterns of production and consumption, serving as vehicles to bridge the gap between farmers and consumers. Recent interest in short food supply chain systems has emerged as the evolution of lines of thought that underlie negative environmental externalities generated by conventional food supply chain schemes and farmers' limited control of exercise over this chain [10]. Renting et al currently relevant research considers SFSC primarily through a sociological lens, emphasizing ways and processes through short chain agrifoods that gradually produce social value [11] by increasing collaborative action [12], rebuilding trust between consumers and producers linking various sectors of economic activity [13], and promoting food democracy [13, 14]. The willingness of farmers to be involved in the short food supply chain (SFSC) has not been addressed. Recently some of the first attempts to deal with this topic have appeared in scientific literature. For example, [15], examined the characteristics of agricultural companies that influence farmers' preferences towards short food supply chain chains, while [16], focused on market-related variables that influence farmers' perceptions about SFSC. The creation of alternative short food supply chain chains (SFSC) has become one of the main features of the new regional development dynamics. SFSC can be defined for minimization or shortening of supply chain in the chain. Marsden et al. [17] identified three types of short food supply chain chains: first, face to face (where consumers buy products directly from producers / processors); second, spatial proximity (where products are produced and sold at production sites); and third, spatially expanded (where product information and characteristics are published). Reid & Sanders [18], revealed that by managing the supply chain all parties involved will work together and reduce overall costs and improve the quality of products

and services, as well as the delivery of products and services more efficient.

The current condition in Banten Province, which is the province closest to the capital city of Jakarta, which is the expansion province of West Java Province and plays a role as a food buffer in Jakarta, seeks to build synergistically Food Distribution Center. This effort is carried out to realize the distribution of food supply chain, especially rice, price stability and price disparity, which is always stable so that the supply chain of rice in the regions can be fulfilled, distributed and not experiencing shortages and can even supply chain to Jakarta areas that lack food supply chain (rice) with a dense population and agricultural land that does not exist. To realize the establishment and operation of the distribution center, the efforts of the Regional Government have been carried out since 2018 by empowering all regional apparatuses starting with the Trade Office, the Agriculture Service, the Food Security Service, the Economic

Bureau and others in realizing the establishment of the Food distribution Center in Banten province.

2. Related Research

This section provides guidance on what and how the scope of food hubs and supply chain is to create regional food logistics. Describe the appropriate methods for implementing food hubs and short food supply chain chains. in realizing regional food distribution centers. Steps and interactions involved in food hubs and short food supply chain chains.

3. Methodology

Respondents in this study were determined purposively based on the involvement of agents involved in the food hubs, supporting agents, and influencing agents that formed a distribution network and supply chain. Respondents and analysis units are presented in Table 3.1.

Table 3.1. Characteristics of respondents in the study.

Agent	Analysis Unit	Respondents
Producer	Farmers / Farmer Groups	Farmer groups in 7 city / districts
	Intermediary Trader	Traders, Dealers, Wholesalers, Supermarkets
	RMU industry players	RMU Home industry
Supporters	Central and local government	Relevant ministries, Department of Agriculture and Industry
	Financial institutions	Banks, cooperatives
	R&D Agency	Banten AIAT
	College	Sutan Ageng Tirtayasa University
	Association	Rice Traders
Influence	Observer	Agricultural economy
	Consumer	Buyers and Users
	Distributor Entrepreneur	Rice distributor

Data, information and knowledge were collected to achieve the objectives in this study. Data was sourced from primary and secondary sources, including:

1. Primary data; collected based on observation, discussion or FGD (Focus Discussion Group) and in-depth interviews with respondents entitled as the stakeholders in rice distribution.
2. Secondary data; supporting data from primary data obtained through literature studies from various sources, including official publications (journals, books, research results), as well as limited publications (relevant agency / agency data archives such as farmer data, monographs in the region of rice agribusiness centers).

Secondary data were obtained from village and sub-district offices, Central Statistics Bureau (BPS), Agriculture Office, District Food Security Service in Banten In the analysis, the data collected were numerical data, written data. The numerical data used were the parameters contained in the physical structure and decisions at the food hubs and supply chain chain under study. Written data is a variety of references and literature used such as secondary data, research journals, and books relevant to the research.

Data collection techniques in this study were carried out as follows

1. Field Observation.

Field observation is data collection by directly observing rice production activities in producers through farmer groups, then determining the amount of production that will be included in the MRG in warehouse receipts and identifying the amount and inventory and determine production transportation to the distribution center.

2. Structured interviews were conducted with respondents involved in this study who were actors of the distribution process, rice production both from rice entrepreneurs, traders, farmers' groups, distribution to obtain supply chain flow and the amount of production and distribution for the needs of the Banten region.

3.1 Food hubs

The recent emergence of the concept of food hubs and its development throughout the country have attracted much attention. Food hubs operations have been framed as a strategy to improve local and regional food systems, specifically by increasing market access to small and medium scale agriculture.

Several case studies have commented on expected and observed operational characteristics of food hubs, including the ability of food hubs to differentiate their products throughout the supply chain as well as their potential to engage in transparent and collaborative relationships with business partners and other stakeholders. Product differences refer to the ability to identify and market certain product attributes. This can include information about producers and their locations, emerging practices, or group branding.

Regional food hubs (RFHs) represent the latest types of AFN, as well as those most related to developing regional / rural development outcomes for producers, consumers, and communities over the past five years) [18-21]. Policy makers, practitioners, and funders have actively embraced and financed RFH which is defined as an

organization that collects, stores, markets and distributes locally and regionally sourced food from several producers to many consumers. In [19, 21], especially with regard to the capacity of such organizations, namely regional / rural revitalization and agricultural development [22]. A significant gap, however, exists in what is known about RFHs [4, 5]. To stem the loss of family agriculture and stabilize rural communities in decline. Fischer et al. With RFHs, they provide some support for theorization, but with limited empirical investigations of RFH to date, such ideas are still untested and debated. What research has been done for RFHs offers little insight into regional / rural development, and is often at odds in terms of narrow results in scope, lack of input from members of the local community, especially from consumers, without respecting site conditions, or applied outside the village, in the context of high prices where the ability to engage with claims related to food products.

Many initiatives such as community-supported agriculture and farmers' markets exist as alternatives to global, industrialized, conventional food systems. These initiatives expand infrastructure and market opportunities for "middle agriculture" and promote food systems a more sustainable and food value chain [23]. A concept that is quickly gaining recognition and attention from various stakeholder groups from non-profit organizations and urban designers to universities and the United States Department of Agriculture are food hubs. Food Hubs seem to offer many benefits, including expanded market opportunities for farmers, job creation, and increased access to healthy food by consumers [24]. Some hubs offer processing services that can cover everything, this allows the node to make food available throughout the year in areas with limited planting seasons; adding product value to farmers' income; meeting consumer demand for comfort [25, 26]. Food Hubs formed in handling food distribution centers in Banten are described as follows:

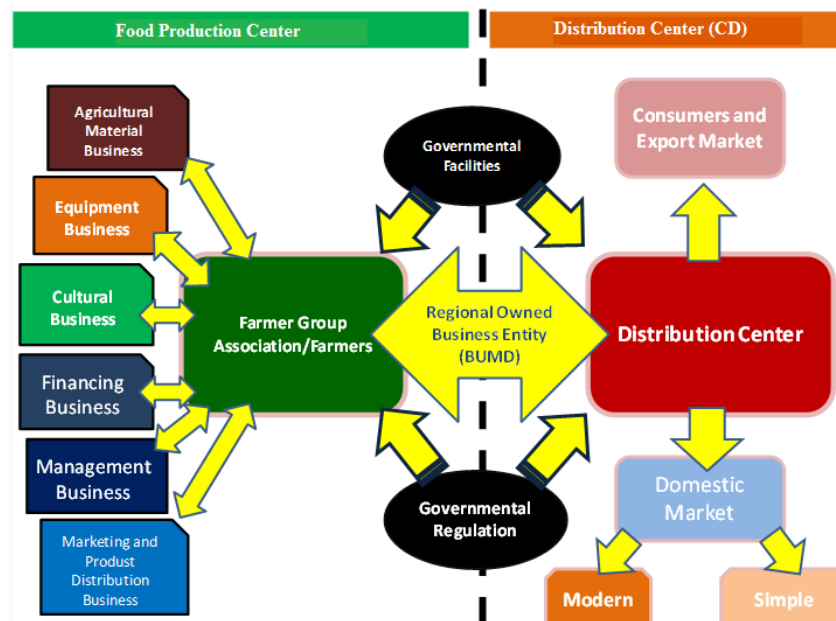


Figure 3.1. Distribution flow in the food hubs

3.2 Farmers

The Role of Farmers / Farmer Group Associations providing food (rice) that is spread throughout the regions in Banten Province, through the production of agricultural food products in farmers and then aggregated in each district (Regional District Unit) that is spread in various regions, accommodated in warehouses owned by individuals or regions through warehouse receipts. Usually if the rice warehouse receipt, it has been through a process of buying from farmers by regional bank up to the milling stage. In this process there has been a flow of sales from farmers to BUMD whose funding is through regional banks that rice can be controlled. Aggregation / Collection of food products before and after harvest plans made between farmers and the food hubs are mechanisms to anticipate what products will be available together with when it will be shipped [27] Pre-harvest talks with potential buyers provide guidance on consumer trends, desired product quality, quantity needed, and preferred packaging. Successful sales of food products depend on adequate supply chain and consistent product availability. Farmers must produce products with recognized standards by the market. Farmer communities must be empowered towards the development of learning societies through enhancing the ability of the community in making decisions to utilize resources in production and build food supply chain logistics independently [28]. Farmers must have a role in increasing the

ability to produce food therefore institutional strengthening is needed by forming farmer groups and farmer group combinations (Gapoktan) and Gapoktan Associations managed with professional management. The results obtained from 2017 to the present the empowerment of farmer groups have resulted in a Community Empowerment Business Program that manages the process of Planting and Increasing crop production, post-harvest management and distribution of rice through the Farmers' Center Stores that supply chain rice to various regions and to distribution centers and to distribute rice out of the region. Especially Jakarta with the right price. With this community empowerment program in every district in Banten, it has rice production that has the characteristics of each region, for example: cimanuk rice in Pandeglang district, Ciberang rice in Lebak district, Jaseng rice in Serang. Therefore each region has the potential to develop, especially increasing rice production. Therefore farmers are able to produce the potential yield of rice production and are supported by a model of irrigating rice fields through a river dam that is able to distribute water every year to meet farmers' planting needs, especially in the districts of Serang and Pandeglang which is a food storage area in Banten Province.

3.3 Regional-owned Business Entity (BUMD)

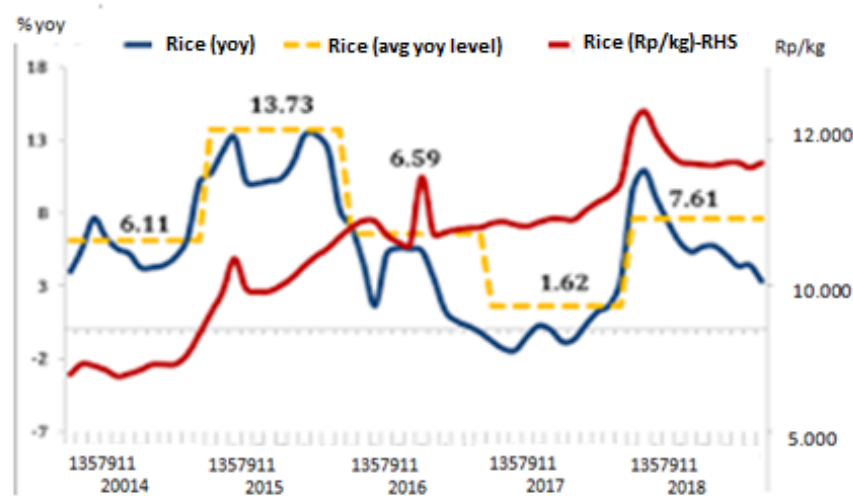
This agency has the role of managing the Distribution Center because it is calculated to have the advantage of accommodating all aspects of

Distribution Center activities to achieve physical, economic and trade development.

From physical development, BUMD has a role in managing infrastructure assets / facilities and infrastructure of distribution centers including buildings, facilities, transportation and distribution. Economic development, namely creating purchase prices at producer level and selling prices at consumer level to be more stable. On the other hand, farmers get consumption goods and saprotan needs at lower prices. Thus farmers are expected to be prosperous and consumers get a guaranteed supply chain of rice commodities at stable prices.

The development of BUMD trading sector has an interest in the solution to the problem of stock scarcity, price disparity, and fluctuations in the price of goods - especially staples, especially rice. The smooth distribution will guarantee the accuracy of the stock and be able to control the disparity and fluctuations in commodity prices of basic commodities.

Fluctuations in prices of staples contribute significantly to regional and national inflation rates. Fluctuating inflation rates, moreover tend to be high, have an impact on overall economic stability (business concepts and PDP management, 2018)



Source : HET Permendag 57/2017 : Avg nasional Rp 8.732/kg (medium) dan Rp.

13.127/kg (premium)

Figure 2. Development of rice inflation in 2014-2018

The role in BUMD as a whole are

- 1) Mapping the Availability of Food commodities, as well as Supply chain Chains and Distribution Channels starting from the Production level (Farmers) to the consumer level.
- 2) Development and Arrangement of Logistics Infrastructure of Foods Commodity:
 - Transportation Facilities (Land / Sea / Air / Multimodal);
 - Development of Porvincial / Regional Distribution Centers
 - Provision of Storage Facilities and Infrastructure (Warehouse and Cold Storage)
- 3) Enhancing the Capability of Logistics Service Providers handling Food Commodities

And the mechanism of cooperation between Logistics Service Providers in handling food logistics

- 4) Application of Information and Communication Technology and Digital Applications in Food Logistics namely Real Time Commodity Information System Development (Amount, Price, Location), and Development and Application of Digital Applications for Food Commodity Trading :

Connecting producers with consumers, offering, 7 commodities including agriculture, perfection fisheries and marine

Application that helps farmers sell directly to consumers from individuals to companies (hotels, supermarkets, etc.)

3.4 Distribution Center (DC)

Is a business entity, which is a wholesale market (wholesaler market) or assembly market where farmers buy and sell products and buy and sell manufactured goods needed by farmers / consumers.

PD functions as a counterweight and price trend setter, and a network of supporting stocks of basic and strategic commodity stocks.

Activities at the distribution center include:

1. Collector
Buy Production Commodities from farmers, packing and storing
2. Marketers
Market farmers' commodities produced both to meet the market in the region and outside the region and even abroad (export)
3. Wholesaler
Carry out consumer goods and saprotan needs of farmers from the manufacturer or distributor and

distribute it to the farming community through the available outlets.

4. Logistics Service Provider
Handling logistics activities both transportation and warehousing and inventory
5. Service
Serve the needs of farmers
Coordinate and handle all good business activities that exist in BUMD
6. Coaching and Partnership
To foster good farming communities related to cultivation, post-harvest, marketing and welfare.
Conduct business management for rural business units (Wardes, KUD, BUMDes) to become modern and professional business ventures.
Establish partnership with rural business units / Partner Outlets (Wardes, KUD, BUMDes) and local governments, financial institutions, and other relevant parties .

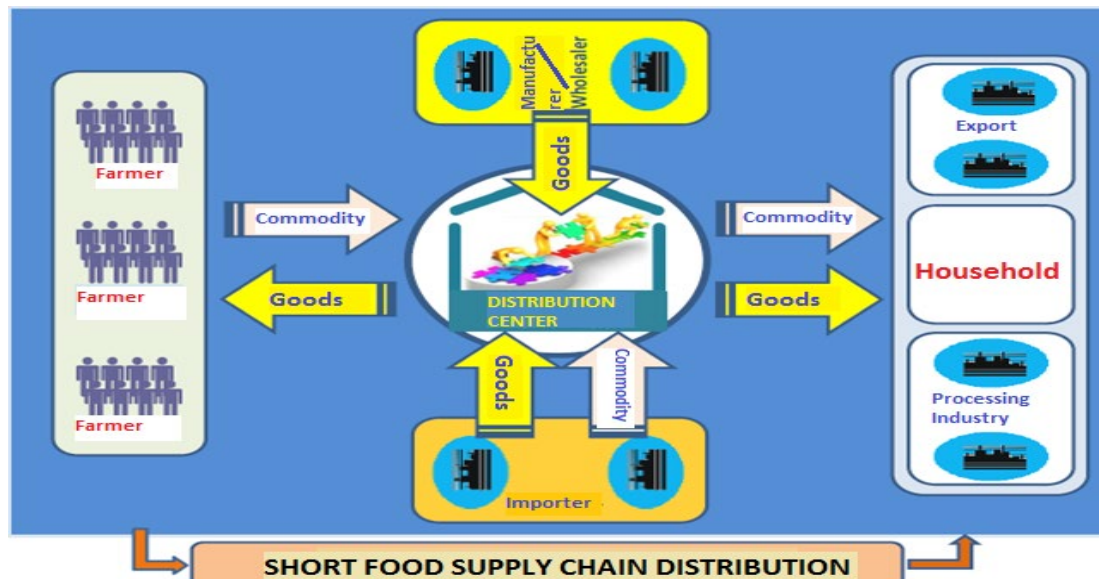


Figure 3.2 Flow of Distribution Centers

In terms of the institutional role the function of the distribution center (DC) can be described

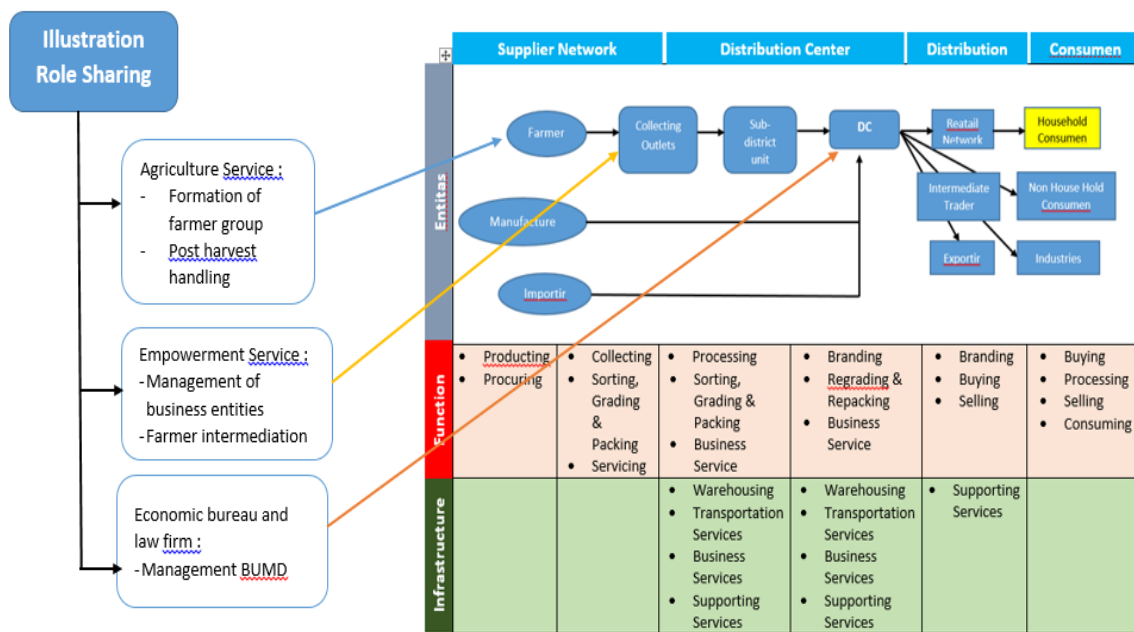


Figure 3.3. The Institutional Role for the function of the distribution center

Distribution Centers will work together with suppliers through the principle of partnership.

The realization of the interaction of food hubs produces the following central distribution :

Table 3.3. Food hubs interactions in distribution centers



3.5 Short Food Supply chain Chains (SFSC)

The creation of alternative short food supply chain chains (SFSC) has become one of the main characteristics of the dynamics of the new regional development. SFSC can be defined for minimization or shortening of supply chain in the chain. In [27], identified three types of short food

supply chain chains: first, face to face (where consumers buy products directly from producers / processors); second, spatial proximity (where products are produced and sold at production sites); and third, spatially expanded (where product information and characteristics are published). In [28], revealed that by managing the supply chain all parties involved will work together and reduce

overall costs and improve the quality of products and services, as well as the delivery of products and services more efficient.

The development of Banten province's food commodities with geographical conditions which are predominantly agricultural and have a large

population, have an important role as one of them as a food buffer on the island of Java. This can be seen from the data on food production (rice) attached, showing that Banten has quite potential agricultural products.

Table 3.4 Development of Rice Production data in Banten in 2009 - 2017

Tahun	January – April			May – August			September – December		
	Harvested Area (Hectar)	Productivity (quintal/hectare)	Production (Ton)	Harvested Area (Hectar)	Productivity (quintal/hectare)	Production (Ton)	Harvested Area (Hectar)	Productivity (quintal/hectare)	Production (Ton)
2009	189.464	49,07	929.634	136.184	52,12	709.794	40.490	51,76	209.579
2010	209.855	50,70	1.063.926	140.672	50,73	713.575	55.884	48,41	270.550
2011	129.758	51,25	987.836	159.177	51,50	819.388	45.146	49,02	221.303
2012	176.048	52,86	930.589	140.944	45,57	684.551	45.644	54,94	250.754
2013	189.278	53,23	1.007.594	135.460	52,72	714.201	68.966	52,46	361.813
2014	177.680	54,26	964.152	136.458	51,23	699.213	72.230	52,96	382.818
2015	171.548	56,49	969.155	142.252	56,24	800.030	72.576	57,61	419.811
2016	172.400	55,99	965.331	135.037	56,45	762.331	109.015	57,84	630.540
2017	187.359	55,43	1.035.509	154.966	56,19	870.781	84.304	58,42	504.187

Source: Central Bureau Statistics Banten Province 2017

Judging from the results of rice production in 2017 it showed a surplus of rice in terms of production, needs and population. This shows that the production of food crops, especially rice, is a priority scale to always increase production in line

with the rate of population growth and the need for such production, therefore the role of regional supply chain distribution and competitive price standardization is needed.

Table 3.5. Rice Production Results, Population and Use Needs in 2017

No.	District /City	Total Population	Harvest Area (Ha)	Production (GKG)(Ton)	Shrinkage				Shrinkage Number (Ton)	Net Productive (Ton)
					Seeds (Ton)	Feeds (Ton)	Industry (Ton)	Spiled (Ton)		
1	Pandeglang	1.205.203	134.095	774.856	6.974	3.409	4.339	41.842	56.564	718.292
2	Lebak	1.288.103	104.320	601.835	5.417	2.648	3.370	32.499	43.934	557.901
3	Serang	1.493.591	91.625	542.831	4.885	2.388	3.040	29.313	39.627	503.204
4	Tangerang	3.584.770	64.699	389.108	3.502	1.712	2.179	21.012	28.405	360.703
5	Cilegon City	425.103	2.261	13.466	121	59	75	727	963	12.483
6	Tangerang City	2.139.891	785	4.753	43	21	27	257	347	4.406
7	Serang City	666.600	15.150	90.307	813	397	506	4.877	6.582	83.715
8	Tangerang Selatan City	1.644.899	129	779	7	3	4	42	57	722
Provinsi Banten		12.448.160	413.064	2.417.935	21.761	10.639	13.540	130.568	176.509	2.241.426

Source : Central Bureau Statistics Banten Province 2017

Tabel 3.6. Continued rice production, population and usage needs

No.	Rice Production (Konvektion) (Ton)	Shrinkage (Ton)			Shrinkage Number (Rice) (Ton)	Net Rice Production (Ton)	Needs (Ton)	Surplus/Deficit (Ton)
		Feeds (Ton)	Industry (Ton)	Spiled (Ton)				
1	450.656	766	2.974	11.266	15.007	435.649	126.595	307.054
2	350.027	595	2.310	8.751	11.666	338.371	137.441	200.931
3	315.710	537	2.084	7.893	10.513	305.197	159.366	145.931
4	226.305	385	1.494	5.658	7.536	218.769	382.495	163.726
5	7.832	13	52	196	261	7.571	45.358	37.787
6	2.764	5	18	69	92	2.671	228.326	225.654
7	52.523	89	347	1.313	1.749	50.774	71.126	20.353
8	453	1	3	10	15	438	175.511	175.073
Jml	1.406.271	2.391	9.281	36.157	46.829	1.359.442	1.328.219	31.223

Source : Central Bureau Statistics Banten Province 2017

The potential of food products, especially rice in Banten Province, has a long supply chain because

harvests can go directly out of the area, after that they will enter the market through distributors and

agents, so this becomes a weak point and lack of policy makers in regulating, distributing and

stabilizing rice prices. . This can be seen in the long food supply chain pattern below:

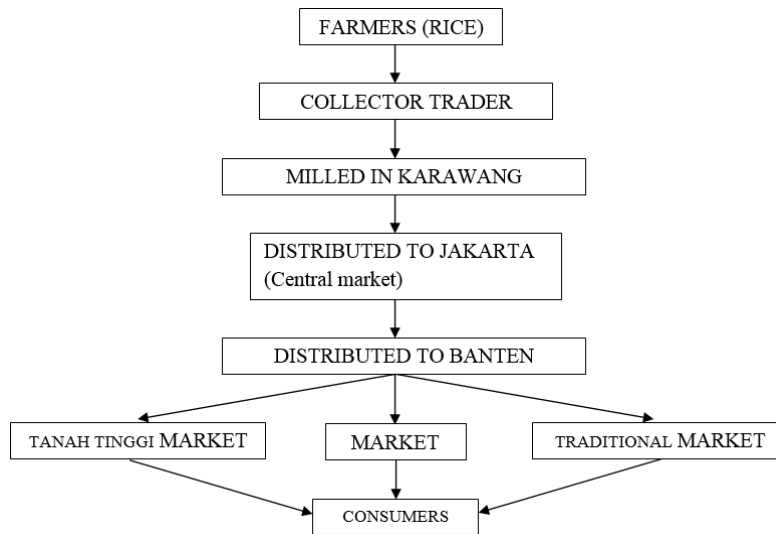


Figure 3.4. Long Food Supply chain Chain (Source: Department of Agriculture, 2018).

The role of the elements involved in the rice supply chain is an important priority so that an effective product aggregation, distribution and marketing process is needed. The role of farmers in the regions does not yet have a large-scale RMU / milling tool to process rice into rice, so the role of traders both small and large scale in Banten and outside Banten is trying to buy rice production and then ground it in Karawang and distributed to Jakarta and Banten. This has an impact on long distribution patterns and causes high costs and the price of rice in consumers is relatively high. The limited number of RMU / milling machines and warehouse receipts in limited areas also has an impact that farmers are more likely to sell rice to collectors who sell faster than in the area with

limited RMU machines. This is inseparable from the function of the food hubs in developing strategies and objectives in implementing the role of the supply chain [27].

The role of the Short Food Supply chain (SFSC) network, which aims to achieve high cost efficiency by eliminating unnecessary or non value added processes is highly expected. Short food supply chain chains are supply chain chains that use strategies aimed at creating supply chain efficiency by reducing inventory and focusing on improving quality and eliminating waste [28]. This strategy works well in situations where demand is relatively stable, predictable, and product variations are low.

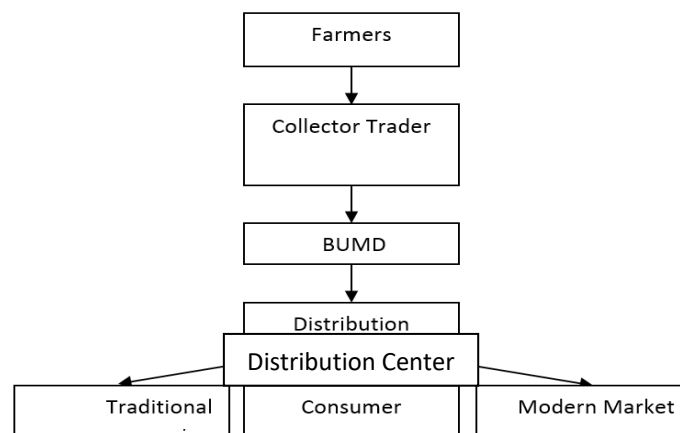


Figure 3.5. Short Food Supply chain (Rice) (Source : Department of Agriculture,2018)

Short Food Supply chain in this case seeks to get rice production from farmers through farmer groups and then aggregated to collectors traders who have been managed into a cooperative container (BUMD) to subsequently enter the MRU / milling in the area and directly distributed to the distribution center through distribution units in each area (district). For this reason, an adequate and affordable distribution of supplies is needed throughout the region therefore a food hubs is needed by utilizing existing transportation facilities and infrastructure [29, 30]. The role of the Land Transport Organization (Organda) owned by the BUMD provides transportation facilities from the District Unit to the Distribution Center. Infrastructure here is an adequate construction site with an adjusted capacity between supply chain and capacity. This has been carried out a site feasibility study and an environmental impact analysis study (from 2017 to 2018) and a noise level feasibility test (2019) for the infrastructure land. To overcome this long supply chain rice, the role of local government policy is needed to cut the flow and distribution of rice from Banten Province to outside the region by preparing sufficient RMU / rice mill infrastructure and procuring the location of facilities and infrastructure for warehouse receipts in various regions to cope with supply chain adequately. The role of funding through the Regional Bank is functioned to overcome the function of warehouse receipts in an effort to handle supply chain in each sub-district unit and collection to the Distribution Center. With the role of this short food supply chain chain, it will shorten the marketing chain of farmers' products. Farmers' products can be sold at a higher price than on-site prices, and shorten the supply chain chain of consumer goods and food needs of farmers, through Farmer Service Outlets or Partner Outlets, as well as providing buffer stocks with the financing of the Warehouse Receipt System for price stability at the farm level and guaranteed availability of stock for consumers and the Manufacturing Industry.

The next step is how government policies apply the role of the distribution center to provide equitable distribution of supply chain by controlling rice prices at the farmer and consumer level. This has been programmed and succeeded in the Community Empowerment Business Program activities. Farmers must have a role in increasing the ability of food production therefore institutional

strengthening is needed by forming farmer groups and farmer groups (Gapoktan) and the Gapoktan Association. The purpose of this program is to encourage and facilitate farmers, especially small farmers, to be able to increase production and participate actively in the food hubs and short food supply chain, in order to build a regional food supply chain distribution center. The meaning of developing regional food supply chain logistics means consciously the stakeholders prepare steps in the long term perspective in finding a solution. Policy strategies need to be developed as a whole and efforts need to be made so that policies designed can be implemented.

The role of stakeholders and the Government as regulators, business actors, universities, research and testing institutions, agricultural institutions and agencies, public organizations and others is needed in order to work together with farmers to realize food distribution and supply chain. create dynamic conditions so that the entire community can be actively involved in the development of food supply chain logistics activities through community empowerment, technology services, and others.

4. Implication

- a) The distribution center serves as a buffer for food supplies (rice), to maintain supply chain continuity, and to accommodate the food needs of the producer / farmer area thus the availability can be guaranteed, overcome price disparities and minimize price fluctuations.
- b) The Food Hubs has a function to develop the potential of the region to be able to empower the role of farmers, traders, BUMD and other institutions that succeed in realizing a food distribution center.
- c) Short Food Supply chain is able to cut the flow of long food distribution, especially minimize the cost of the food production process, distribution costs, and transportation costs.
- d) Local Government Policy is able to be implemented and supported by stakeholders in the supply chain to realize the establishment of a food distribution center for food distribution in the province of Banten.

Thank you to the Education Fund Management Institution (LPDP) for funding this research fund, and I also thank the Provincial Government of

Banten (Department of Commerce, Department of Agriculture, Department of Food Security) and district / city governments in all regions of Banten Province which became my research sites.

References

- [1] Firdaus, et al., Jurnal Ketahanan Pangan volume 2, Dinas Pertanian Jakarta. 2008.
- [2] Nabhani F, and sholeri A. Reducing the delivery leadtime in a six sigma methodology, Journal of manufacturing Technology Management. 2009.
- [3] Ladona Knigge, Jacob N, Brimlow and Sara S Metcalf. Food hubs connecting farm with local and regional Market. 2015.
- [4] Fischer M, Pirog R, Hamm MW. Food Hubs: Definitions, Expectations, and Realities, Journal of Hunger & Environmental Nutrition, 2015. DOI: 10.1080/19320248.2015.1004215
- [5] Blay Palmer A, Landman K. desertation with Attitudes and interest in development of Northern New York food hubs, Corner University. 2013
- [6] Barham, M., Selling to Food Hubs in North Carolina Regional Food Hub Resource Guide. U.S. Dept. of Agriculture, Agricultural Marketing Service. 2013.
- [7] USDA. USDA Results: Local and Regional Food Systems. 2009. Results. Retrieved from <http://origin.www.usda.gov/wps/portal/usda/usdahome?contentidonly=true&contenAgriculture and Human Values,1-15.5,393-141>
- [8] Chopra S, Meindl, P. Supply chain Chain Management Strategy, Planning and Operation, New Jersey: Prentice Hall. 2010.
- [9] Austin & Brown, W.J. Agribusiness Cases in Supply chain Chain Management. Paper. IFMA Congress. 2003.
- [10] Van der plog dan Frouws. On Power and weakness, capacity and impotence : rigidity and flexibility in food chains, International planning studies 4.333”347. 1999.
- [11] Chiffolleau, Y. and Paturel, D. “Short food supply chain chains ‘for all’: tools of analysis of social innovation”, Innovations, Vol. 2 No. 50, pp. 191-210, 2016.
- [12] Ortolani, L., Grando, S. and Cucco, I. “Relational patterns in the short food supply chain chains initiatives in the city of Rome: clusters, networks, organisational models”, Spanish Journal of Rural Development, Vol. 5, No. 1, pp. 35-47, 2014. doi: 10.5261/2014.ESP1.04.
- [13] Tanasă, L. “Benefits of short food supply chain chains for the development of rural tourism in Romania as emergent country during crisis”, Agricultural Economics and Rural Development, Vol. 11, No. 2, pp. 181-193. 2014.
- [14] Chiffolleau, Y., Millet-Amrani, S. and Canard, A. “FP supply chain chains to sustainable agriculture in urban food systems: food democracy as a vector of transition”, Agriculture, Vol. 6, No. 4, p. 57, 2016. doi: 10.3390/agriculture6040057.
- [15] Benedek, Z., Fertő, I. and Molnár, A. “Off to market: but which one? Understanding the participation of small-scale farmers in short food supply chain chains—a Hungarian case study”. 2018.
- [16] Demartini, E., Gaviglio, A. and Pirani, A. “Farmers’ motivation and perceived effects of participating in short food supply chain chains: evidence from a north Italian survey”, Agricultural Economics (Zemědělská Ekonomika), Vol. 63, No. 5, pp. 204-216, 2017. doi: 10.17221/323/2015- AGRICECON
- [17] Marsden T. Alternative Agrifood network and short supply chain chain: literature review, Journal economia agro alimentare. 2012. DOI: 10.3280/ECAG2013-002002.
- [18] Reid and Sanders. Teoretical guideline to manage agile supply chain chain, European Journal Bisnis and Sosia. 2013. IURL: <http://www.ejbss.com/recent.aspx/> ISSN: 2235 -767X
- [19] Barham, Regional Food Hubs Resource Guide, U.S. Dept. of Agriculture, Agricultural Marketing Service. Washington, DC. April 2012. <http://dx.doi.org/10.9752/MS046.04-2012>
- [20] Cleveland, DA, et al. Local food hubs for alternative food systems: A case study from Santa Barbara County URPL711, California, Journal of Rural Studies, 2014. <http://dx.doi.org/10.1016/j.jrurstud.2014.03.008>.
- [21] Matson J, Thayer J. Running A Food hub : Business Operations Guide., Jurnal Rural Development Researc Gate, United State Departemen of Agriculture. 2015.
- [22] USDA. USDA Results: Local and Regional Food Systems. 2014. Results. Retrieved from <http://origin.www.usda.gov/wps/portal/usda/usdahome?contentidonly=>
- [23] Ohberg, M., Food sovereignty in Canada: Creating just and sustainable food systems. Journal Agriculture, Food System and community development, Volume 8, Issue 2, 2012.
- [24] Kasryono. Logistik Pangan Mandiri, Kementrian Pertanian, Dinas Ketahanan Pangan, Materi Pelatihan hal 3-6, 2007.
- [25] Hamilton JM. Food Hub Decision-Making and Development, Desertations. 2015.

- [26] Huang, et al. Planning Growing Local Food: Scale and Local Food Systems Governance. *Agriculture and Human Values* 1-15.5, 393-411, 2002.
- [27] Koch, K., Hamm MW. The Role of Values in Food Hub Sourcing and Distributing Practices, *Journal of Hunger & Environmental Nutrition*, 2015. DOI: 10.1080/19320248.2015.104566
- [28] Turban, K. A. U.S. Patent No. 6,700,900. Washington, DC: U.S. Patent and Trademark Office. (2004).
- [29] Renting, H., Marsden, T. K., & Banks, J. (2003). Understanding alternative food networks: exploring the role of short food supply chain chains in rural development. *Environment and planning A*, 35(3), 393-411.
- [30] Connell, D. J., Smithers, J., & Joseph, A. Farmers' markets and the "good food" value chain: a preliminary study. *Local Environment*, 13(3), 169-185. 2008.