



Editorial

Dear Readers,

After the social restriction rules were softened due to the COVID-19 pandemic at the end of 2022, there may be many research agendas that will be carried out in 2023. However, before going there, it is better to see some research results, which can be the basis for further activities. Two socio-economic research results in this newsletter are "Strategies for Acceleration and Penetration of Processed Local Food Markets Supporting Food Diversification" (Dr. Ening Ariningsih) and "Linking Area-Wide Management Gedong Gincu Mango Farmers to Modern Markets" (Prof. Handewi P. Saliem).

We also convey important information regarding policy developments related to broiler chicken and the potential impact of Russia and Ukraine's conflict on Indonesia's agricultural sector. Information about farmer research using superior and quality seeds is also delivered. A list of recent publications is prepared and followed by specific news drawn from AWG activities as part of the Indonesian G20 Presidency agenda.

We appreciate you being valuable readers of this newsletter and wish you a wonderful holiday season and a happy and prosperous new year of 2023.

Thank you.

The Editor

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Research Findings



STRATEGIES FOR ACCELERATION AND PENETRATION OF PROCESSED LOCAL FOOD MARKETS SUPPORTING FOOD DIVERSIFICATION

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Introduction

The Ministry of Agriculture has developed five strategies (Cara Bertindak-CB) to achieve food security and increase agricultural commodities' added value and exports. CB2 focuses on diversifying local food, with policies based on local wisdom emphasizing one main commodity. This local food diversification aims to alleviate the demand for rice and wheat as staple foods.

The spirit of diversifying people's diets so that they do not only depend on rice and wheat must be in harmony with the availability of non-rice and non-wheat local food products. The government, business actors, and the community must be able to produce processed local food products made from non-rice and non-wheat that are of at least the same quality as rice and wheat flour, easy to process, affordable in price, and attractive.

Support for innovation and collaboration related to food diversification is a vital aspect of making a breakthrough in accelerating the realization of quality and realistic food diversification and being able to change people's mindsets to the nuances of new eating patterns (new culture creation).

Based on the 2020 Population Census, out of Indonesia's total population of 270.20 million people, Indonesia's population is dominated by millennials and Generation Z. With such a composition, the target of food diversification programs in the future will be more effective if it is focused on groups like the millennials and Generation Z. To target the food diversification program for millennials and Generation Z, a local food market penetration strategy that follows the preferences of these generations is needed.

Methodology

This study was conducted in 2021 in two provinces: West Java (cassava) and Riau (sago). The data used consists of primary data and secondary data. Primary data were collected through in-depth interviews and focus group discussions. Respondents in this study include relevant and competent leaders/staff of institutions at the central and regional (provincial and regency) levels, sago and cassava farmer groups, local food processors (industries/MSMEs), associations of cassava and sago, traders, and other

related informants. An online survey using Google Forms was used to collect consumer preference data from 1,702 respondents aged 13 to 40 (millennials and Generation Z). Secondary data were obtained from databases of related institutions at the central and regional levels. Qualitative-descriptive and SWOT analyses were carried out.

Results and Discussion

Community Preference for Processed Local Food Products



The community generally considers local non-rice and non-wheat food inferior, with innovative food preparations that do not follow consumer preferences. Local food as a companion to rice

and wheat is generally only in demand by the older generation, while the younger generation prefers local food in the form of snacks. Rice and wheat flour are easier to process and produce products that people like (rice, noodles, and bread). This is supported by the processing and culinary industries, which have more products made from rice and especially wheat flour.

The quantity and quality of processed local food products still need to be improved and more variety. The survey results demonstrate that the existing processed local food products still need the improvement, especially in taste, texture, nutritional value, and packaging.

Millennials and Generation Z, which are dominant in the composition of the age structure of Indonesia's population, have yet to be optimized as a potential market, even though these two generations represent potential and market opportunities for various processed local food products.

Performance of Local Food Processing Industry

Indonesia's enormous potential for local food production, such as cassava and sago, needs to be optimally utilized and sought to be developed into various processed food products. In the upstream area, cassava is cultivated on a small scale, and cassava production centers are scattered and not yet integrated with the processing industry. Upstream government policies are also still focused on rice, corn, and soybean, so the development of other local foods is neglected. On the downstream side, the local food processing technology is generally still simple, with a business scale below its economic scale. This causes local food processing from upstream to downstream inefficient, so the prices of processed local food products become expensive.

The high cost of processed local food products causes an inability to compete with processed wheat products. The low import duty policy and the freedom to import wheat and flour have made flour stable in availability at a lower price than local food flour. The government has set a 5% import duty on wheat flour and wheat grain, from the original 0%, successively through PMK No. 07/PMK.011/2009 concerning the Import Duty Tariff on the Import of Wheat Flour and PMK No. 241/PMK.011/2011 concerning the Stipulation of Goods Classification System and Imposition of Import Duty Tariffs on Imported Goods. Wheat import duty rates to Indonesia are among the lowest in the world. As an illustration, China sets wheat flour import duties up to 71%, Turkey is 82%, Thailand

is 40%, Pakistan is 25%, Sri Lanka is 25%, Taiwan is 22.5%, and Bangladesh is 15–20%.

Local food processing industries/MSMEs have developed but still need help with several problems related to raw materials (quantity, quality, and continuity), technology, capital, and marketing. The COVID-19 pandemic has exacerbated the problem by disrupting production, distribution, and consumption patterns. Local food MSMEs, in general, still need to engage in creative and innovative processing, which can increase the selling value while attracting consumers' interest in consuming it. Likewise, product packaging and branding still need to be given proper attention.

The involvement of millennials and Generation Z in local food development from upstream to downstream still needs to be improved. Millennials and Generation Z are still viewed as consumers; more needs to be done to engage them as producers or actors.

Recommendations

Some strategies for accelerating and penetrating processed local food markets to support food diversification are as follows.

1. Priority targets are the millennials and Generation Z. Future market expansion needs to be carried out by utilizing the demographic potential based on the millennial and Z generations, which currently occupy the most considerable portion of the age structure of Indonesia's population. This market potential needs to be captured and can be expected to become a trendsetter for changes in local food-based consumption for future generations. To accelerate the increase in local food consumption, millennials and Generation Z should not only be positioned as consumers or target of markets but also be actively involved in developing processed local food products from upstream to downstream as producers or business actors.
2. Product innovations. The local food and culinary processing industry needs to present up-to-date products, various flavors, and attractive packaging/presentation to elevate the image of local food preparations. The local food and culinary processing industry must offer current products, diverse flavors, and appealing packaging/presentation to improve the image of local food products. Furthermore, local food products must be better branded as "healthy food" because they are gluten-free and have a low glycemic index.
3. Protecting and strengthening of the local food processing industry. Efforts to accelerate and penetrate the local processed food market require strengthening support from upstream to downstream. In the upstream section, the strategy to be implemented is to form areas/clusters with infrastructure support, create new superior varieties, strengthen farmer economic institutions, and increase farmer capacity through technical assistance from cultivation to post-harvest.

On the downstream side, the government should provide facilities and infrastructures to develop local food MSMEs. MSME actors need to improve their managerial capabilities through targeted and systemic technical guidance/training assistance, especially in processing technology, to increase productivity, quality, the competitiveness of local food, and product marketing. For this reason, it is necessary to

prepare experienced practitioners in local food management. To overcome the limited capital faced by MSMEs processing local food products, facilitation and ease of access for MSMEs to sources of financing are needed. Financing schemes that already exist and are provided for MSME business actors should be continuously socialized and easy to reach and use.

The local food agribusiness system must be strengthened to support the development of processed local food products. This can involve off-takers through partnerships between farmers and processing industries/ MSMEs for intermediate or finished products. Thus, local food and processed products will have marketing guarantees and price certainty.

- Promotion, education, dan advocacy. Local food campaigns must be carried out intensively and continuously, and they must begin at a young age through communication, information, education, and advocacy within the community. Promotional strategies for innovative local processed food products also need to use influencers, a public figure who attracts the public by utilizing social media, print media, and other media.
- Policy and regulation support. The government needs to pay more attention to developing local food commodities, in addition to rice, corn, and soybeans.

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LINKING AREA-WIDE MANAGEMENT GEDONG GINCU MANGO FARMERS TO MODERN MARKETS

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Introduction

Mango is an essential commodity in the Indonesian economy. With an annual production in 2021 of over 2.8 million tons, mango was ranked third in production, after banana and pineapple.

However, the mango industry needs better quality management at the farm level and along the value chain, which prevents it from realizing its full potential. One of the key limiting factors along the value chain is the infestation of the fruit by two species of indigenous tephritid fruit flies (the Oriental fruit fly, *Bactrocera dorsalis*, and the Carambola fruit fly, *B. carambolae*).

An Australian Centre for International Agricultural Research (ACIAR)-funded project (HORT/2008/041) demonstrated the feasibility of implementing fruit fly area-wide management (AWM) in smallholder mango farms in Indramayu, West Java, from 2010 to 2015. During the project period, the fruit fly population was suppressed and maintained at near-eradication levels. AWM technology was proven to improve the quality of mangoes and produce premium quality by reducing losses due to fruit fly attacks and during transportation (marketing). However, AWM adoption was unsustainable because traditional marketing systems do not incentivize farmers who had performed special treatments to ensure that mangoes are free of fruit flies. Farmers

have benefit from the fact that fewer mangoes are rejected by traders, but they are still paid the same price as non-AWM mangoes.

Based on this experience, were the new AWM project (HORT/2015/042), also linked Gedong Gincu (GG) mango farmers to the modern market. By marketing directly to the modern market, it was hoped that GG mangoes that have received AWM treatment and are of premium quality can get high prices, increasing the income of GG mango farmers. Therefore, in the new AWM project, in addition to producing fruit-fly-free mangoes, AWM technology also aims to gain (1) an improvement in skin quality; (2) an improvement in packing; and (3) an increased shelf life. In that way, the resulted GG mango was expected to be able to meet the requirements set by the modern market.

Methodology

Linking AWM GG mango farmers to modern markets is action research as a part of the new AWM project, HORT/2015/042, "Development of area-wide management approaches for fruit flies in mango for Indonesia, Australia and the Asia-Pacific region." This project has been conducted since 2018 and will end in June 2024. The IndoAWM ICASEPS team searched several potential modern markets to be linked with the Angling Darma Farmer Group in Krasak village, Indramayu, West Java, and helped the group in the preparation.

Results and Discussion

Identification of Potential Modern Markets to be Linked to Farmer Groups

Efforts to link AWM farmer groups with the modern retail market began with a focus group discussion entitled "Marketing of Gedong Gincu Mango Free of Fruit Flies" on 31 October 2019, at the Directorate General of Horticulture, Jakarta, which invited potential buyers. In this focus group discussion, exporters and modern market retailers provided information and shared experiences related to the mango business in general and Gedong Gincu in particular.

Based on the information gathered, it was concluded that the mango's export opportunities are open, but the domestic market that is open widely needs to be optimally exploited first. GG mango is very prospective for the market in Jakarta. Based on experience, quality is the main obstacle to marketing GG mangoes to the modern retail market because it is essential for the upper-middle-class market. Farmers sell many Gedong mangoes, while the market and consumers demand GG mangoes. This is because many farmers who want to get money quickly are impatient to harvest mangoes at the proper maturity. Another area for improvement is the high loss of mangoes, which can reach 30% due to improper postharvest and transportation handling.

To identify the potential modern markets to be linked to the AWM mango farmers, the IndoAWM ICASEPS team visited several modern retailers in Cirebon and Jakarta, i.e., Yogya Group, All Fresh, Total Buah Segar, and PT AEON Indonesia. Among the modern markets (retailers) visited, PT AEON was the most potential market to be linked to farmer-cooperators of the IndoAWM project because, in contrast to others, it was very welcome to suppliers who are farmers. With direct supply from farmers, PT AEON hopes that a supply of good quality mangoes will be obtained at a lower price while improving mango prices received by farmers.



The contract then be made between PT AEON Indonesia and Angling Darma Farmer Group. Since it was its first time to supply AEON, the group's contract arrangement was IDR 50 million as a trial for mango shipments in November–December 2022 with a service level of 90%. PT AEON was willing to accept GG and Gedong mangoes from AWM farmers that meet the requirements. Some requirements were mango fruit sizes (225–300 grams per piece or 3–4 mangoes per kilogram), attractive appearance with good blush, no defects, fruit-fly free, and standard shape. Mango shipments were suggested to use a 5 or 10-kg cardboard carton packaging with a partition among mangoes to minimize damage during shipment.

Farmer Group Preparation



To meet the quality standards for GG mango products that would enter the modern market, Mr. Peter Johnson from the IndoAWM Australian team provided farmer-members of the Angling Darma Farmer

Group with postharvest technical guidance. He directly observed the harvest and postharvest practices carried out by farmers, from harvesting, collecting fruit, and bringing it to the house or traders. After that, he provided information on good practices of harvesting, collecting fruit, transporting, and postharvest activities to produce quality mangoes and attract consumers to buy at a premium price. ACIAR funded the construction of this mango postharvest house through Indonesian Tropical Fruit Research Institute (ITFRI) as part of the IndoAWM project. It was inaugurated by the Regent of Indramayu, Nina Agustina, on 2 August 2022.

Furthermore, the IndoAWM ICASEPS team helped the farmers to make a business plan and form a business unit. This activity was part of the preparation for marketing GG mangoes to the modern market (PT AEON Indonesia). This business unit was chaired by a manager and supported by several sections. The ICASEPS team helped create an organizational structure and the job descriptions for each section.

Shipment of AWM Mangoes to AEON Stores

On 15 November 2022, AEON released the first purchase order (PO) for all four AEON stores, i.e., (1) AEON BSD City in Serpong, Tangerang (the headquarter), (2) AEON Jakarta Garden City in East Jakarta, (3) AEON Tanjung Barat in South Jakarta, and (4) AEON Sentul City in Bogor. The first shipment was made on 17 November 2022. The total PO was 2,610 kilograms, worth IDR 66,300,000, consisting of 1,130 kilograms of Gedong mango and 1,480 kilograms of GG mango. However, the group could only complete the POs of 2,135 kilograms worth IDR 54,200,000, consisting of 930 kilograms of Gedong mango and 1,205 kilograms of GG mango. The group could not meet the last three POs since the harvest season had already ended, and there were not enough quality mangoes to meet them. Of the total completed POs, only about 93.5% mangoes were accepted, worth IDR 50,414,000. The acceptance rate was above the service level set by AEON (90%) (Table 1). Rejection especially was due to the lack of blush (GG mango), anthracnose, and cleanliness issues.

Constraints and Problems

The constraints and problems occurred in marketing Angling Darma Farmer Group's mangoes to PT AEON Indonesia are as

follows: (1) the lack of capital is the first and foremost issue in linking farmers to a modern market because AEON set a 15-day payment term schedule for the Angling Darma Farmer Group; (2) the group has a limited human resource capacity in terms of mastery of information and communication technology, as well as in standard operating procedures in transactions with modern markets; (3) the role of the farmer group leader is very/too dominant in this marketing activity, so there is a lack of appropriate job distribution among the members; (4) mango quality still needs improvement; (5) the group has to compete with local collectors and suppliers to obtain Gedong and GG mangoes that meet the specifications set by AEON; (6) the schedule for goods receipt at AEON stores that is short, from 9 am to 4 pm, while the loading process in one store takes about 2–3 hours and the four AEON store locations are widely spread, makes delivering mangoes to all four AEON stores in one day is challenging.

Table 1. Total completed purchase order and received and rejected mangoes of all mango shipments to PT AEON Indonesia

No.	AEON supermarket	Completed purchase order (kg)		Received (kg)		Rejected (kg)		% rejected	
		Gedong	Gincu	Gedong	Gincu	Gedong	Gincu	Gedong	Gincu
1.	BSD City	400	550	400	484	0	66	0	12,0
2.	Jakarta Garden City	170	190	164	179	6	11	3,53	5,8
3.	Tanjung Barat	130	160	127	141	3	19	2,31	11,9
4.	Sentul City	230	305	226	276	4	29	2,22	12,6
Total quantity		930	1,205	917	1,080	13	125	2,2	10,4
		2,135		1,997		138		6,5	
Price (IDR)		22,000	28,000	22,000	28,000	22,000	28,000		
Total value (IDR 000)		20,460	33,740	20,174	30,240	286	3,500		
		54,200		50,414		3,786			

Recommendations

The following recommendations can be a consideration in future activities/events and projects, especially regarding marketing GG mangoes to modern markets by the farmer group: (1) increasing the availability and access to sources of financing both from internal and external group members, both program credit and commercial credit; (2) Angling Darma Farmer Group should carry out mango cultivation activities properly by implementing good agricultural practices (GAP), postharvest handling (sorting, grading, packaging) by applying good handling practices (GHP), as well as a safe and efficient logistics system; (3) the procurement or collection of mangoes must be done carefully and thoroughly; (3) improving technical skills in IT, transaction mechanisms, and management capabilities in business processes; (4) improving the institutional consolidation of Angling Darma Farmer Group in terms of management, capital, and membership; (5) Angling Darma Farmer Group is expected to be more creative and innovative in dealing with trade costs, which are still high due to inefficiencies in transportation and outlet locations scattered in several places; (6) the IndoAWM team should provide proportional assistance, especially in managerial aspects, so the marketing cooperation can continue and benefit both parties. With sustainable cooperation, AWM participating farmers can obtain greater benefits from mango farming in terms of better quality and higher prices; (7) promoting widely the Gedong and Gedong Gincu mangoes produced by the AWM farmer group as fruit-fly-free and of premium quality.

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Policy Development

IMPACTS OF THE RUSSIA-UKRAINE CONFLICT ON INDONESIA'S AGRICULTURAL SECTOR



The Russia-Ukraine conflict will escalate global food prices previously triggered by the COVID-19 pandemic. The United States and its alliance put sanctions on Russia and its alliance through banned investment,

trade, and financial collaboration. Those sanctions will negatively affect Russia's international trade, namely oil and gas, which will enhance those two commodities' prices. In turn, all commodity prices, as well as that of food, will rise due to increased transportation costs.

The conflict potentially becomes the snowball of a global economic worsening snowball, but some countries get significant economic benefits. One of the impacts to emerge nearly is the global fluctuating food prices. As one of the global trade actors, Indonesia will surely be affected by this conflict. Specifically, the impacts on the agricultural sector will take place through some mechanism, namely direct, indirect, and increased production cost snowball impacts.

Potential Direct Impact

The direct impact of Russia and Ukraine's conflict on Indonesia's agricultural sector is the bogged-down trade with those two countries. Both Russia nor Ukraine are not the main markets for Indonesia's agricultural products, but Indonesia is currently developing those two countries as export destinations. In 2020, Indonesia's agricultural product export value to Russia was US\$650 million or 67% of total Indonesia's export value to Russia. Meanwhile, Indonesia's agricultural product export value to Ukraine was US\$183 million or 82% of the country's export to Ukraine in the same year.

The main Indonesia's commodity export to Russia was estate crop product, namely crude palm oil (CPO), with value shares of 48% and 71%, respectively, to Russia and Ukraine. In addition, other Indonesia's leading exported commodities were coffee, cacao, rubber, coconut oil, black tea, and tobacco.

Indonesia's main imports from both countries were wheat and fertilizer, with values of US\$16 million (68,816 tons) and US\$708 million (2.96 million tons) from Russia and Ukraine, respectively. Wheat Indonesia's import shares from both countries were 13% (Ukraine) and 3% (Russia).

Russia's fertilizer imported by Indonesia was relatively significant, namely US\$ 917 million or equal to 740 thousand tons. Types of Russia's fertilizers imported by Indonesia were ammonium, nitrogen, and phosphate. Affected phosphate import from Russia will disturb domestic phosphate fertilizer processing.

Potential Indirect Impacts

Russia and Ukraine were among the main global exporters of agricultural and food products. Both countries contributed 29% and 19% of global wheat and corn exports, indicating the world's number one in wheat export, followed by the United States and European Union. Disturbed supplies of wheat and

corn from both countries will result in higher prices for both commodities.

Total Russia's agricultural product export value in 2020 was US\$23.21 billion. Those commodities consisted of wheat, barley, rapeseed and rapeseed oil, soybean and soybean oil, sugar, refined sugar, sugar beet, corn and cornflower. These six commodities had a share of 67.58% of all Russia's agricultural exports. The main export destination countries of Russia's agricultural and food products were Asia, the Middle East, Central Asia (61.75%), Europe (20.05%), and Africa (17.04%).

Russia, however, is an agricultural product net importer. Agricultural products imported by Russia were fruits, vegetables, dairy, wine, juice, beer, beef, cacao, soybean, palm oil, coffee, tobacco, and tea. All those commodities comprised 62.84% of Russia's agricultural product import value. Russia's agricultural product import was supplied from Europe, Asia, American Region, and Africa.

Unlike Russia, Ukraine is a net agricultural product and food exporter with a total import value of US\$5.46 billion and a total export value of US\$21.80 billion in 2020. Ukraine's agricultural product imports were tobacco, drink, and food. Main Ukraine's imports came from Europe, Asia, China, Indonesia, the American region, and Africa.

Potential Impacts of Increased Production Cost

The Russia-Ukraine conflict sharply boosts gas and oil prices to more than US\$100 per barrel. More expensive oil prices will enhance production and transportation costs. It will result in higher retail prices. Consequently, people's welfare is worse off, especially those in the lower income group.

Both countries are also the main suppliers of phosphate fertilizer raw materials as well as the main fertilizer exporters to the European Union (EU). Higher fertilizer prices will affect global food production. Most EU farmers reduced their fertilizer application rates as their prices got more expensive. The Vietnamese Government also suggests that its rice farmers reduce fertilizer application.

The EU currently deals with a lack of energy supply as some of its oil and gas were supplied by Russia. The EU also copes with biodiesel raw material shortages imported from Ukraine, namely rapeseed and sunflower seeds. In addition, the EU also uses palm oil and soybean for producing biodiesel. It is possible that the EU's palm oil import will increase, which will enhance palm oil prices. It is a dilemma for Indonesia as the increased global oil palm price will increase its domestic price. However, the palm oil surge will prolong domestic cooking oil.

Policy Recommendation

In the short term, it is necessary to take into account some commodities' prices. After 2 to 3 months, the conflict began, the wheat price was predicted to increase. The importers need to import wheat from other countries, such as Australia, the US, and the EU.

Even though Indonesia's corn import is relatively small, global corn price hikes should be overcome through sufficient domestic corn production. It is to maintain the stability of livestock and poultry product prices.

Soybean production in several producing countries such as Brazil, the US, and Argentina was disrupted, causing

fluctuations in the price of this commodity in early 2022. Corn market disturbance will affect soybean production as these two commodities compete in planted land areas. Competitive domestic soybean production is urgent.

The palm oil surge affects domestic producers positively. On the other hand, domestic cooking oil prices will be relatively more expensive. It is urgent to set a policy encouraging the domestic palm oil essential producers to abide by domestic market obligations; namely, they have to be committed to supplying raw materials to the domestic cooking oil processing industry. Smallholders' oil palm replanting programs may be hampered as they get good prices for fresh fruit bunches. Rubber, coffee, and cacao are export-oriented commodities that need support through intensive market promotion.

Phosphate import from other countries besides Russia is urgent. The farmers need the encouragement of more organic fertilizer application to balance organic fertilizer use. Increased global food prices will enhance the food inflation rate and affect people's purchasing power. However, it also encourages domestic food production and its competitiveness improvement.

THE REVIEW OF INDONESIAN GOVERNMENT REGULATION IN ACCELERATING THE PRODUCTION AND SUPPLY CHAIN EFFICIENCY OF THE BROILER INDUSTRY

The broiler industry has been exposed to many problems, such as limited access to inputs (feed and DOC) for small-scale farmers, including the increasing prices of inputs and falling prices of chicken meat and the rapid frequency of cutting instructions to stabilize the supply and prices and the decreasing demand due to the COVID-19 pandemic since 2020. This condition frequently causes problems and affects the efficiency and effectiveness of the supply chain and, in turn, the competitiveness of the domestic broiler industry.

Chicken meat is considered the main animal protein source for Indonesian households. This commodity also has the highest consumption rate (52.48%), after egg and milk (92.52%) and fish (88.13%). The consumption rate of beef is quite low (6.63%), native chicken (5.56%), processed meat (1.54%), while very limited consumption of pork meat (2.06%) and goat meat (0.31%). Therefore, it is important for the government to maintain the stability of the price and avoid price volatility.

This study aims to formulate policy recommendations to encourage production efficiency and supply chains in the broiler industry. Specifically, the objectives of this study are to (1) identify legislation and problems that occur in the broiler industry; (2) evaluate the process of formulating broiler industry policies; and (3) formulate policy recommendations to encourage

production efficiency and the supply chain of the broiler industry. This study conducts an assessment along the broiler meat supply chain, from farm to table, and analyzes regulations or policies used as a reference in the industry.

Determinant factors identified causing inefficiency in the broiler industry are as follows. (a) The consumption prognosis has not used a standardized, consistent, and transparent method. The main problem is that data on consumption levels outside the household are not registered on an annual basis and are randomly reported by BPS-Statistics Indonesia. Thus, it caused the prognosis of the consumption tends to overestimate. (b) The overestimation on the demand side increased the frequency of breeding companies cutting hatching eggs. As a consequence of the losses, some breeding companies compensated for this by increasing the prices of other inputs, resulting in increased production costs. Another disadvantage was the under-capacity of the non-integrator and small-scale poultry farmers; (c) the lack of accuracy in estimating the importation of GPS (Grand Parent Stock), the over-estimated demand caused over-importation of GPS and it resulted in over-production of PS (Parent Stock) and FS (Final Stock); (d) lack of socialization of government regulation caused lack of awareness in the use of therapeutic feed or Antibiotic Growth Promotor (AGP) which is heavily regulated due to the Anti-Microbial Resistant that could found as side-effects in the using of therapeutic feed in the long term; (e) limited data and information related to poultry farming and lack of documentation of partnership poultry farming in major production areas, thus it is challenging to obtain the number of farms and chicken population, and (f) weak in the implementation of regulations who ruled the industries.



Some policy recommendations from this study are as follows: 1) strengthen the role of National Food Agency to have a proper, standardized, and robust methodology to estimate the demand for chicken meat; 2) increase the mandatory for breeders to report regularly on chicken population (production) as well as integrators and poultry farmers to update information related to their farms (production, feed-use, etc.); 3) review and harmonize the supporting regulations that can be used to promote the competitiveness of broiler industry; 4) encourage research to find substitution of antibiotic-growth promotor (AGP) and therapeutic feed from local sources (ingredients) or replace the chemical ingredients with herbal, last but not least 5) review and harmonize Law No. 5/1999 on Prohibition of Monopolistic Practices and Unfair Business Competition and integrated this regulation with Law No. 19/2013 on the Protection and Empowerment of Farmers and Government Regulation No. 6/2013 on Empowerment of Breeders.

Research Activities

ENCOURAGING FARMERS TO ADOPT THE NEWLY IMPROVED VARIETIES OF RICE SEED

Background

Rice newly improved varieties (VUB *Padi*) are the main factor affecting rice yield improvement. The green revolution in Indonesia started in the 1960s when the newly improved rice

varieties were invented by the International Rice Research Institute (IRRI) and supported by farming technology, especially chemical fertilizer and pesticide application. Along with intensification and extensification programs implemented by the Ministry of Agriculture (MoA) Indonesia, VUB *Padi* was able to realize national rice self-sufficiency in 1984.

Rice stable production to meet national demand during the COVID-19 pandemic was also supported by VUB *Padi*. IRRI

appreciated this achievement for Indonesia's strong agricultural and food system as well as rice self-sufficiency. More than 90% of rice planted areas are grown with VUB Padi, significantly contributing to 5.2 tons per hectare yield, the second highest in Southeast Asia after Vietnam. This research aims to formulate the policy strategy for VUB *Padi* seed adoption. The research locations were West Java and East Java Provinces in 2022.

National Rice Seed System

There are four subsystems of the national rice seed system: (i) research and development, (ii) production and distribution, (iii) seed quality control, and (iv) supporting institutions. There are two concerned principles for quality seed production, i.e., genetics and agronomy. The genetic principle is internal control carried out by the producers such that there is no genetic degradation. The agronomic principle is the good farm practice to produce quality seed physically and physiologically in large volumes. Rice seed plays a role in the technology delivery mechanism to the users, i.e., the rice farmers.

At present, the national rice seed system is already established and the best among other food crop seed systems. Before the autonomy era, Breeder Seed (BS) produced by the research center, i.e., the Indonesian Center for Rice Research (BB Padi), was distributed by the Seed Directorate to the Provincial Seed Agency (BBI). BS was produced into Foundation Seed (FS) by BBI and distributed to the Public Seed Agency (BBU) at the regency level. Subsequently, FS was made into Stock Seed (SS) by BBU and delivered to the seed producers for Extension Seed (ES) production. The seed retailers sold ES to the farmers. From BS to ES, they needed four seasons of production and distribution. However, during the autonomy era (after 2002), most of the BS produced by BB Padi and/or other research centers was directly accessed by the seed producers and made into FS, SS, and ES. The retailers sell SS or ES to the farmers at a shorter channel and period than before the autonomy era. Production and distribution from the research centers to retailers are subject to the Food and Horticulture Crops Seed Control and Certification Agency (BPSBTPH) at the provincial level, except for those seed producers with the self-reliance certification (LSSM).

National VUB *Padi* Distribution

Up to May 2021, MoA had released 491 rice varieties consisting of 108 hybrid varieties and 383 inbred varieties. Some of those varieties are well known and favored by the farmers, such as

IR64, Ciherang, Mekongga, and some Inpari varieties (32, 33, and 42). VUB *Padi* adopted by farmers is more than 90%, and the remaining are other varieties, including the local ones.



VUB *Padi* grown in 2021 in Indonesia were 11,189,302 hectares consisting of Inpari 32 HDB (24,78%), Ciherang (19,79%), Mekongga (10,35%), Inpari 42 (6,65%), IR64 (6,31%), Situ Bagendit (3,34%), Inpari 30 Ciherang Sub 1 (2,82%), Inpari 43 (2,09%), and the remaining were various rice varieties. Farmers' adoption of VUB *Padi* released after 2012 contributed significantly to national rice production. Most farmers adopt certified rice seed, i.e., both SS and ES or violet and blue labeled seed classes, respectively.

Issues on VUB *Padi* Adoption

Some rice seed subsidy programs implemented were: (a) open pattern (1986-2012); (b) Quality Seed Direct Assistance (BLBU) (2007-2012); (c) Closed pattern and BLBU was removed (2013); (d) rice seed subsidy was removed and replaced with free rice assistance (2018); (e) Self-Reliance Seed Village (DMB) (2015-2018). In 2015, the One-Thousand Self-Reliance Seed Village (SDMB) was launched to meet the seed demand of farmers' groups in their respective working areas.

Some issues on VUB *Padi* adoption are (a) lack of market research on newly improved varieties and lack of distribution strategy, (b) some extension seed dealing with low quality and low yield, and (c) small and medium seed producers coping with capital and skill. Regarding the research of improved varieties, the MoA has an opportunity to collaborate with the National Research and Innovation Agency (BRIN).

VUB *Padi* Adoption Enhancement Policy and Strategy

The research centers need to release VUB *Padi* with high yield characteristics, pest and disease resistance, specific location, and good taste. Rice seed assistance is implemented to encourage the adoption of VUB *Padi*, mainly in remote regions. Display farms are necessary for VUB *Padi* introduction in many rice-producing areas as well as the use of social media for promotion. The seed distribution control is urgent, especially for those sold through online markets.

ICASEPS Publications

Analisis Kebijakan Pertanian Vol. 20 No. 1 June 2022

1. Komunikasi Politik dan Proses Pengambilan Keputusan: Pembelajaran Model Prima Tani Menjadi Program Simantri di Bali (Political Communication and Decision-Making Process: Lesson Learned from Prima Tani Model to Simantri Program in Bali) (Iwan Setiajia Anugrah)
2. Determinan Keputusan Petani Menjadi Peserta Asuransi Usaha Tani Padi di Kabupaten Karawang (Determinants of Farmers' Decisions to Become Participants of the Rice Crop Insurance in Karawang Regency) (Tatu Nia Wulandari, Rita Nurmalina, Sahat M Pasaribu)
3. Peran Pemerintah dalam Peningkatan Keunggulan Komparatif dan Kompetitif Usaha Tani Pala Rakyat di Provinsi Maluku (The Government's Role in Increasing the Comparative and Competitive Advantage of Smallholders' Nutmeg Farming in Maluku Province) (Tienni Mariana Simanjanjorang, Irham, Lestari Rahayu Waluyati, Jangkung Handoyo Mulyo)
4. Kinerja E-Commerce Toko Tani Indonesia (TTI) dalam Pengembangan Distribusi Pangan (Performance of E-Commerce Toko Tani Indonesia (TTI) in Food Distribution Development) (Iwan Setiajia Anugrah, Juni Hestina, Erma Suryani, Sri Wahyuni, Hermanto)
5. Strategi Keberlanjutan dan Model Bisnis Kopi Arabika di Jawa Barat: Studi Kasus di Kabupaten Garut (Sustainability Strategy and Business Model of Arabica Coffee in West Java: A Case Study in Garut Regency) (Eddy Supriadi Yusuf, Idqan Fahmi, Raden Dikky Indrawan)

6. Rice Husk and Chicken Manure as Raw Material of Bio-Charcoal Briquettes for Sustainable Energy Development (Agus Hadiarto, Muhammad Firdaus, I Made Jana Mejaya, Yayat Hidayat)
7. Strategi Pengembangan Usaha Tani Bawang Putih Lokal Kabupaten Belu (Agriculture Development Strategy Local Garlic in Belu District) (Wehelmina Lodia Kause, Suci Istiqlaal)
8. Hubungan Karakteristik Petani dan Modal Sosial dengan Keberdayaan Petani Nilam di Kabupaten Togo Una-Una, Sulawesi Tengah (The Relationship of Farmer' Characteristics and Social Capital with Nilam (Patchouli) Farmers' Empowerment in Togo Una-Una District, Central Sulawesi) (Andri Amaliel Managanta, Ridwan, Firda Laopa, Nurmayanti H. Ahmad)

ICASEPS News

G20 2022 UPDATES: AGRICULTURE MINISTERS' MEETING, JOINT FINANCE AND AGRICULTURE MINISTERS' MEETING AND BALI LEADERS' DECLARATION



Indonesia has successfully conducted a series of G-20 meetings in 2022, marked by the achievements of the G-20 Bali Leaders' Declaration. Although the 2022 Presidency has to deal with geopolitical

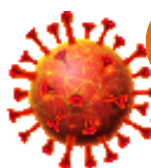
tension between Russian Federation and Ukraine, on 15–16 November 2022, the leaders reaffirmed their commitment to increase the cooperation among members to address the unparalleled multidimensional crises from COVID-19 pandemic, climate change and the most recent development on the conflicts that have started since February 2022.

Due to the conflicts, none of the working groups resulted in a joint communique. All ministerial meetings were closed by having the chair's summary, including the agriculture working group. The Agriculture Ministers' Meeting held in Denpasar, Bali, on 28 September 2022 reached a consensus on 21 of 22 paragraphs. Only paragraph that highlighted the geopolitical tension that has not been agreed by members. Bringing the title "Balancing Food Production and Trade to Fulfill Food for All," G20 members have successfully reached a consensus on the continuation of enhancing food security and nutrition and sustainable agriculture and food systems in the past G20 Presidencies. Thus, it is obvious that AWG leaders agreed to support the agriculture sector and rural population in managing agriculture and food systems sustainably. The members have agreed on three issues in the AMM Chair's Summary: 1) Promoting Resilient and Sustainable Agriculture and Food Systems (9 paragraphs); 2) Promoting an Open, Fair, Predictable, Transparent and Non-Discriminatory Agricultural Trade to Ensure Food Availability and Affordability for All (4 paragraphs); and 3) Innovative Agri-preneurship through Digital

Agriculture to Improve Farmers' Livelihood in Rural Areas (3 paragraphs).

The Presidency noted that immediate actions are needed to address global food insecurity caused by extreme weather events, the COVID-19 pandemic and the war. Several ongoing initiatives are taking place to address food insecurity by regional and international forums and organizations. It also involved the International Organizations' contribution to the current issues through the food security response program. Thus, the G20 Finance Ministers and Agriculture Ministers met for the first time in Washington DC, USA, on 11 October 2022 and produced the Chair's Summary of the JFAMM Meeting. As a result, members agreed to ask the Food and Agriculture Organization (FAO) and the World Bank Group to lead the mapping exercises on food insecurity by identifying any major gaps in global responses, examine food and nutrition variables and funding, examine the supply and demand of fertilizers, build on the G20 Agricultural Market Information Systems (AMIS) and identify any medium-term issues that require further technical and systemic analysis. It is expected that the mapping exercises report will be delivered by the 2023 Spring Meetings.

The ultimate result of the Indonesia G20 Presidency was the G20 Leaders' Declaration held in Bali, Indonesia, on 15–16 November 2022. This outstanding achievement was also marked as the success of the Agriculture Working Group; all three priority issues were stipulated in the leaders' declaration, especially paragraphs 6–9. Each paragraph brought the concerns as well as recommendations that shaped the commitments to tackle the global food security concerns and take various initiatives to save lives, prevent hunger and malnutrition, as well as call for an accelerated transformation towards sustainable and resilient agriculture, food systems and supply chains. G20 leaders also highlight the importance of enhancing market predictability, minimizing distortions, increasing business confidence and allowing agriculture and food trade to flow smoothly. Finally, the leaders are also committed to supporting the adoption of innovative practices and technologies, including digital innovation in agriculture and food systems, to enhance productivity and sustainability in harmony with nature.



PSEKP Tanggap COVID-19

<http://pse.litbang.pertanian.go.id/ind/index.php/covid-19>

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