

Shallot penetration in the export market

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Abstract. Realization of Indonesia's shallot exports is targeted to be achieved in 2025, therefore a strategy is needed to make the shallot as an export market. The following paper presents 1) Export market opportunities; (2) Market structure and performance; and (3) Factors affecting export market access. The methodology: Research was conducted through a survey, interviewed 28 respondents in the provinces of West and Central Java in 2018. Data analysis for Objective 1) Identifying and mapping market opportunities; Objective 2) Refers to Structure Conduct Performance (SCP); Objective 3) Qualitative analysis which is presented descriptively. Results: 1) Shallots have a chance to be exported to Malaysia, Russia, and the United States. 2) The international market structure of shallots is an oligopoly. 3) Technical influential factors were no adequate Good Farming Practices technology and most product quality have not reached the export standard, economically producers have no adequate capital, and socially were marketing networks that are still limited to village-level traders. Strategies to penetrate shallot in the export market are: take advantage of market opportunities, implement GAP, assist certification, subsidize capital, and shorten the marketing chain.

Keywords: Shallots, Export Opportunities, Strategies, markets.

Preliminary

Shallots are one of the agricultural commodities that are prioritized in its development to reach continuity of production, distribution, and competitiveness in the international market access. In the roadmap for developing strategic agricultural commodities towards Indonesia as a world food store in 2045, shallots are targeted to reach stable supply and prices by 2019. In 2020 - 2024 it is targeted that self-sufficiency and competitiveness can be achieved while exports to be achieved in 2025 - 2034. In 2035 - 2045, it is hoped that Indonesia will become the main exporter of shallots in the ASEAN region [1].

To realize an increase the shallot production, a People's Business Credit or *Kredit Usaha Rakyat* (KUR) has been allocated for the development of the shallot area of IDR 165.4 billion [2], equipped with a guidance on implementing of Good Agricultural Practices (GAP). The benefits of KUR funds were able to increase the income of shallot farmers by 43 to 94 percent compare to their income before receiving KUR [3]. The application of GAP increases shallot production and the total profit of 29.5% and 79.1%, respectively, and reduces the cost of chemical fertilizers by about 69.5% and ensures environmental fertility [4]. Similar findings were reported by [5] that implementing shallot GAP increased production by 8-10% compared to the existing cultivation method with B / C 2.55. However, it is unfortunate that the majority of farmers have not implemented GAP [6].

The study of competitiveness and factors affecting the volume of Indonesian vegetable exports to the main targeted countries was reported by [7] that one of the indicators used to measure the country's economic progress is the competitiveness of commodity exports, therefore the comparative and competitive advantages and factors that influence the opportunity should be studied. On the other hand, [8] state the importance of market information and analysis of the market structure should also be studied to figure out the efficiency of the shallot marketing system.

Referring to the above results, to make shallots as an export commodity, the following paper provides information on 1) Export market opportunities; (2) Market structure and performance; (3) Factors that

affect the access of shallots to the export market. The results would be important as the basis for a strategy to achieve shallot agribusiness to penetrate the export market.

Methods

Research conducted in shallot production center : Gebang Village, Gebang District, Brebes District, West Java Province and Jaga Lempeni Village, Wanasari District, Kendal District, Central Java Province information obtained through survey in 2018, data collected through interviews with 28 respondents (20 farmers, 4 traders, 2 exporters, and 2 related agencies). Data analysis: objective 1 through identification and mapping of market opportunities based on secondary and primary data, presented descriptively, objective 2 by implementing the Structure Conduct Performance (SCP) analysis, objective 3, through qualitative methods based on the results of the interviews and presented descriptively.

Results and Discussion

Export Market Opportunities

There are ten main shallots exporter in world market (Table 1) with most value and volume of exports (39%) of total exports from India's, follows by china and Egypt. Other countries respectively were China, Egypt, Mexico, Spain, USA, Peru, New Zealand, France and Turkey while non from Indonesia.

Table 1. Value and Volume of Shallots Export Based on Country in 2016

No.	Exporter Country	Export Value (US \$)	Export Volume (Kg)	Implicit Price (US \$/Kg) ^{*)}
1.	India	382 440 956	1 837 249 202	0,21
2.	China	456 455 849	711 049 611	0,64
3	Egypt	197 822 234	457 327 809	0,43

Source: [9]; *) Implicite Price = Export Value/Export Volume

The performance of Indonesia's shallot exports in world market (Table 2) shows a decline in export value and volume (0.06% / year and 0.15% / year). The key reasons was reported by [10] that 59.70% influence by the production , price and income.

Table 2. Value and Volume of Exported Shallots from Indonesia in World Market, 2010 – 2016

Year	Export Value (US \$)	Export Volume (Kg)	Implicit Price (US \$/Kg) ^{*)}
2010	1 850 153	3 260 526	0,567
2011	6 626 941	13 826 675	0,479
2012	8 824 966	19 126 475	0,461
2013	2 991 143	4 992 822	0,599
2014	3 037 029	4 569 968	0,665
2015	7 866 048	8 441 289	0,932
2016	410 037	748 781	0,548
Increase (%/th)	0,060	-0,149	0,062

Source: [9]; *) Implicite Price = Export Value/Export Volume

Shallots occupy important position in terms of the number of countries involved in export - import. Of the ten importing countries, the share of import volume from the five largest importing countries reaches around 70%, namely Malaysia 19%, USA 17%, and England 13% (Table 3). The other 7 countries were United Arab Emirates, Japan, Germany, Canada, Brazil, Senegal and France.

Table 3. Value and Volume of Imported Shallots in the World Market in 2016

No.	Exporter Country	Export Value (US \$)	Export Volume (Kg)	Implicit Price (US/Kg) ^{*)}
1.	Malaysia	166 369 923	577 692 238	0,288
2.	USA	456 087 869	521 160 270	0,875
3.	United Kingdom	212 942 458	395 360 327	0,539

Source: [9]; *) Implicite Price = Export Value/Export Volume

Indonesia also still imports shallots from the world market, the value and volume of shallots imported in 2010 - 2016 in the world market were decline in both the value and volume of imports. The rate of decline in the import value of Indonesian shallots on the world market decreased by 0.013% / year, while the rate of decline in import volume was 0.012% / year (Table 4).

Table 4. Value and Volume of Indonesian Shallots Imports in the World Market, 2010 – 2016

Year	Export Value (US \$)	Export Volume (Kg)	Implicit Price ^{*)}
2010	56337194	125815765	0,448
2011	109507970	235118830	0,466
2012	67232449	155361490	0,433
2013	67953555	124544250	0,546
2014	64488411	144884999	0,445
2015	26032003	58785888	0,443
2016	46842075	104951225	0,446
Trend(%/th)	-0,113	-0,112	-0,003

Source: [9] ; *) Implicite Price = Export Value/Export Volume

The decline in imports of shallots shows a good signal for the development of domestic shallot production. The adoption of the technology of planting shallots with seeds by some Indonesian farmers (originally using seeds) is expected to accelerate the increase in shallot production in Indonesia. The development of shallots at the border of East Nusa Tenggara since 2016 is expected to be able to fill the Indonesian export market, especially to meet the imports of shallots from Timor Leste. This effort showed good results [10] since in 2018 Indonesia export shallot 5.227 ton (US\$6.46 millions), in 2019 increase to 8.665 ton (US\$10.45 millions) and during January to March 2020 Indonesia exported 19 ton meanwhile, the production from April to June the supply reach 391,188 tons with the final stock in March as 285,676 tons. With a demand for 346,478 tons, the balance sheet at the end of June is estimated at 330,386 tons.

Structure and Performance of the shallot Market

In 2006-2015 the average production growth of shallots was 5.1% per year with a constant growth trend, the harvested area (3%) (Table 5). Shallots are a potential commodity that can be developed in Indonesia, however, shallot production is seasonal therefore at certain times there is a vacuum production even only to meet domestic needs and demands.

The characteristics of shallots produced by Indonesia generally have not meet the GAP and SNI requirements, post-harvest handling which is still traditional makes the water content still high by 90 percent and in terms of size is not uniform and grading is still not good, but the taste quality of Indonesian shallots is quite sharp and much liked by the some country. According to the *Indonesian National Standard (SNI 01-3159-1992)*, the quality requirements of shallots that should be referred are only grade A and B that can be exported with a diameter specification > 30mm for grade A, 27-29 mm grade B with a total of about 60 eggs/kg. Grade C shallots with a diameter of <26mm, with an amount

of 100 items/kg are usually purchased for fried onions, while those for grade D (even smaller) are purchased by Indofood [12].

Table 5. Land area, productivity, and production of shallots, 2006-2015

Year	Land Area (Ha)	Productivity (Ku)	Production (Ton)
2006	89.188	89,13	794.939
2007	93.694	85,69	802.827
2008	91.339	93,46	853.622
2009	104.009	92,80	965.167
2010	109.634	95,68	1.048.934
2011	93.667	95,35	893.124
2012	99.519	96,89	964.221
2013	98.957	102,14	1.010.773
2014	120.704	102,23	1.233.989
2015	122.126	100,65	1.229.189
Trend(%/year)	3,00	1,43	5,41

Source: [11]

The Herfindahl Index value for the world shallot market in 2010 and 2016 ranged from 750-900, respectively, the number of exporting countries was 127 and 109 countries, CR4 values of 51.37% and 58.53% with Herfindahl Index values of 756.39 and 888, 72. This fact shows that the shallot commodity in the international market tends to be in the form of a perfectly competitive market or at least monopolistic competition with a moderate market concentration, between 51-59 percent. According to Asmara [8], the structure of the shallot market in Indonesia is imperfect (oligopsony), due to the relationship between farmers and village traders who are ready to buy crops from rice fields. The number of countries in shallot export tends to decrease from 127 to 109 countries. This indicates that the competition in the shallot trade in the international market is getting looser as fewer countries are involved in the shallot trade. Based on the analysis of market concentration (Concentration Ratio), in 2010 the producing countries that had a large market share were Netherlands, India, USA, and Mexico. In 2016, exporting and producing countries of shallot in the world was the Netherlands, China, Mexico, and India.

Indonesia experienced a heyday in 1987/1988 where the export of shallots from Indonesia was able to dominate the world market, this fact can be used as learning and motivating farmers to regain that position. Currently, there are still several shallot exporters that still export frequently, namely CV. ATAS, Toko Surabaya, PT. Indoagrolestari, Alion, and cheap shops. Also, there are shallot buyers from Thailand who use tourist passports but directly buy shallots from farmers, rent warehouses in Brebes Regency and make their shipments.

In 2017, the export volume of shallots increased by around 92%, which came from Eastern Indonesia, namely Bima, Sape, and Sumbawa. The main export destination countries are Thailand and the Philippines (50%), the rest is exported to Vietnam 50%. Only about 35% of the exportable shallot from Brebes. The shallot variety from Brebes is the Bale Kare variety originating from India which is not favored by Malaysians and Singaporeans. Bima and Brebes shallots comes from Ampenan which is resistant to water, therefore it can be planted in the rainy season with good yields. However, now Indonesia often imports shallots from the Philippines and Vietnam, because the harvest is not successful.

Bima's shallot comes from the Philippines (Tantuyung) which was brought to Indonesia about 10 years ago and was grown in Sape Regency (known as Super Philip) and is now called Bima. Currently, shallots from Indonesia are exported to Malaysia (15%), China (10%), Vietnam 60%, and

Thailand (15%). If the supply of shallots from Vietnam and Thailand to the world market decreases, the demand for Indonesian shallots will increase.

Driving and Inhibiting Factors of Shallot Opportunities in Export Market

The technical main inhibiting factor is the limited land ownership (0.45 Ha/farmer), land price and land status (Table 6), to buy land is not easy because the selling price of paddy fields was very expensive (IDR 800 million / hectare). The majority of land ownership status (50%) tenants, 42% owners, and 15% cultivators. The status of land ownership affects farmers in deciding the application of GAP by only 25% of farmers, 25% only partially implemented it and 50% did not implement GAP at all. This obstacles should be overcome through a program such as business consolidation or making business in an agribusiness area to achieve maximum efficient of business. At the same time, the implementation of the GAP should be included under control.

Technical factors such as access to information, transportation, and program support from the government was declared easy by all farmers. The main source of electronic information obtained by farmers comes from television, while the communication for the majority of farmers (90% in West Java and 100% in Central Java) are mobile phones, with a small proportion accessing the internet network. Transportation was easy because the distance to the nearest market only 1.5 km to 2.0 km and farmers sell their production to the village trader directly in rice fields and only take home a small portion of the harvest to be used as seeds and 100% of farmers own motorbikes and even 27% own cars.

Table 6. Driving and inhibiting factors of shallot towards the export market

No	Aspect	Driving	Inhibiting
1.	Technical	Access to information (100%) Access to transportation (100%) Access to government support (100%)	Land ownership 0.4-0.5 Ha/farmer. Land prices are expensive GAP implementation (25%), since majority of farmers were tenants,
2.	Economy	All farmers have commercial orientation and shallots is the main occupation (100%) No sales tax expense (100%) No transportation costs (100%)	Low personal capital (30-50%). Quality under export standards. Price twice times compared to international market price.
3.	Social	No illegal fees (100%) Farmers in productive age (100%). All farmers receive training from Agriculture, Industry and Cooperative Office.	Most farmers' education at elementary school (45%). All farmers sell their products to village traders.

Source: Primary Data

Economically, all farmers have a commercial business orientation and shallot is the main. This fact is the most important capital in encouraging farmers to maximize their agricultural output and will greatly assist in achieving self-sufficiency towards achieving export targets. All farmers are free from transportation costs, taxes, transactions, and illegal fees and receive support from the government in obtaining business capital loans in the form of the People's Business Credit (KUR) program with 9% interest, KKPE with 6% interest/year, borrowing from input production kiosks with interest around 10%, pawned the BPKB for motorbikes and owed loans to the cooperative.

There were product constraints, where the price of shallots in the world market was cheaper than the price in the domestic market. In 2016, the average price of shallots on the world market was only around Rp. 9,000 / kg, while the average price of shallots at the Indonesian farmer level was around Rp. 18,000 / kg. The high price of shallots in Indonesia is due to the high cost of farming, the

production cost of shallots can reach Rp130 - 140 million / ha. If the production reaches 12 tons, then the cost to produce 1 kg of shallots will reach IDR 12,000 / Kg. However, red onions from Indonesia are preferred because they have a more fragrant aroma.

Social factors show that most of the farmers are at a productive age (43 to 63 years), but their education is relatively low, the majority of education has not yet completed primary school. Partnership relationships that are established by farmers with various institutions are carried out primarily to get agricultural business capital and farmers make maximum use of partner institutions' facilities related to credit. When the research was conducted in September 2017, the price of shallots at the farmer level was only IDR 8,000 / kg, therefore farmers would be at a loss. This is one of the reasons why farmers establish relationships with various sources to carry out their next farming business. The chairman of the Indonesian Shallots Association has tried to help farmers by providing a storage warehouse with a minimum capacity of 6,000 tons to accommodate farmers' production during the main harvest. The storage fee is around Rp. 1000 / kg which is paid when the farmer sells his crop. This storage service has been running since September and many shallot farmers have left their harvest. The initiative of the chairperson of APBMI is because the logistic office (Bulog) does not yet have an adequate storage warehouse for shallots. Before being stored in the warehouse, the shallots must be dried in the sun for 10 days. *Rogol* shallots will shrink by about 20-25% if the harvest is taken in the rice fields, the results of the scales are cut 10% with details of 7% soil manure and 3% shrinkage. In general, the number of shallots stored in the warehouse will experience shrinkage of 15% / month during the rainy season harvest and 11% / month during the dry season. Storage time refers to the targeted market price. The price of IDR 15,000 / kg is the reference price stated in MOT 27/2017 concerning the determination of the purchase reference price at the farm level and the selling reference price at the consumer level [13]. The reference price for the conde onion (wet at the farmer level) is IDR 15,000 / kg, for the conde for insurance is IDR 18,300 / kg and the reference price for onion is IDR 22,500 / kg, while the reference price for shallots at the consumer level is IDR 32,000 / kg. For the salary of the warehouse keeper who takes care of weighing, labelling, administration, and services, the farmer's sales will be deducted by IDR 1,000 / kg.

Conclusions

Indonesian shallots have an opportunity as an export commodity to Malaysia, Russia, and the United States that should be taken. The structure of the shallot market is an oligopoly where marketing is controlled by certain companies, therefore shallots could penetrate the export market through networking with companies that are experienced and have networks in exporting shallots. The quality of the majority of shallots has not met the standard of export therefore socialization, promotion, and advocacy (SPA) about the prospect of shallot as an export commodity and its requirements, including the implementation of GAP should be done intensively. Since farmers has limited capital and marketing networks, therefore capital support and policies are needed namely by shorten the market chain and empowered farmer to have economic institutions independently as well as facilitate on the certification process. and farmer economic institutions independently and facilitation of certification.

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