

MEETING THE REQUIREMENTS OF INTERNATIONAL MARKET FOR SALACCA (CASE STUDY : EXPORT CHALLENGE OF SALACCA “PONDOH” VARIETY TO CHINA)

Ahmad Dimiyati, Sri Kuntarsih, Dwi Iswari and Yenny Nurcahya S
Directorate General of Horticulture
Ministry of Agriculture of the Republic of Indonesia

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Abstract

Horticulture, consisting of fruits, vegetables, herbal crops, and ornamental plants, has good economic value because of its roles for increasing farmers' income and welfare, as well as improving people nutrition status. Meanwhile demand for horticulture commodities is also increasing at both domestic and export due to improvement of education and welfare of the people¹. Among horticulture commodities, salacca known also as snake fruit is an “exotic and prominent” fruit with good potential for export from Indonesia. It has comparative advantages such as large number of varieties, less pests and diseases and can be grown without using chemical fertilizers or pesticides. However, the quality of the fruit in many cases is low due to poor cultivation and post harvest practices which include orchard management, harvesting time, grading and packaging. This has hindered the access to modern markets at both domestic and abroad. For domestic market, processing of low quality fresh produce may create added value to farmers' income and create job opportunities in the rural areas. However, improvement of all segments of the supply chain may create and distribute the added value. For international market, it is important to establish continuity and consistency of supply capacity and quality as well as production efficiency and sustainability. Therefore, the implementation of GAP and orchard registration is among the most important programs to support the exportation of horticulture products. Since 2005, Indonesia has initiated the arrangement for the implementation of Good Agriculture Practices (GAP) with Standard Operating Procedures (SOP) specifically designed for each crop at a certain location for different market target. This effort is combined with facilitation of orchard registration as an effort to assist farmers and stakeholders to enter international market. In 2006 the Government of Indonesia initiated direct exportation of salacca to China in order to shorten the trade chain and give salacca growers better price and income. To implement this initiative the following stages have been executed at farm level: 1) Implementation of SOP of salacca cultivation at farmers and farmers' group levels, 2)

¹ -----, 2008, *Membangun Hortikultura Berdasarkan enam pilar pengembangan*, Direktorat Jenderal Hortikultura, Departemen Pertanian

Facilitation of farm recording and documentation, 3) Assessment and improvement of farm as well as farmers preparedness, and 4) Registration of orchard and growers' association implementing GAP. At national level we executed the various necessary steps in meeting the trade and especially quarantine requirements. We also identified the capable exporters and facilitate their collaboration with the prepared growers' association. In the near future this will be followed by registration and certification of all growers and traders to ascertain their compliance to the rules and regulation.

INTRODUCTION

Salacca is one among many indigenous fruits in Indonesia. The magnitude of its consumption was limited until a number of tasty varieties were found and widely grown. Among those varieties, "Bali" which probably consists of a number of similar varieties, rose as the most widely recognized one. However, its production capacity was limited and its sour taste had hindered its acceptability by wider consumers. To rectify this situation, the fruit can be processed in the forms of vinegar based or sugar based preservation as well as chips. Salacca production in Indonesia is shown in Table 1 of the attachment.

Salacca popularity as a table fruit has increased since the growers at Sleman District of Yogyakarta Province widely grown "Pondoh" variety. This variety was very popular and reached its golden era during 1997-2002 thank to among others the project of salacca development under the Integrated Horticulture Development Program funded through the loan from the Government of Japan. Salacca can be harvested around the year which makes the demand at domestic and abroad is high. Salacca consumption per capita in year 2008 is 1.64 kg/capita/year with level of fruit damaging is about 15 %. Salacca demand per year is 420 thousand tons/year. The demand is included export, processed fruit and modern market . About 60-70 % (334,000 tons) of salacca is produced by Sleman, Magelang dan Banjarnegara Districts and mostly supplied to various markets in Jakarta². For domestic market, the fruits are not necessarily produced from GAP applying orchards, whereas for overseas market, implementation of GAP is an important factor. The amount of salacca fruit needed for export market, is about 32,755

² -----, 2008, *Kawasan Pengembangan Komoditas Salak 2008*, Direktorat Budidaya Tanaman Buah, Direktorat Jenderal Hortikultura, Departemen Pertanian

tons/year, while the existing production of salacca fruit from GAP registered orchards at the main production centers was about 2.020,8 tons/year³. Therefore, it is necessary for the Government of Indonesia in collaboration with the respective institutions at Provincial and District levels to set up a related program to ensure continuous supply and consistent quality of produce through the implementation of GAP. In addition, a thorough export protocol agreed by the two countries has to be developed. In this paper, we will characterize the implementation of GAP on salacca orchards at Sleman District and the provision of technical assistances to the salacca growers, growers' organizations and exporters to meet the requirements of export to China.

METHODS

Need assessment and provision of technical assistance were conducted in 2008 at Sleman district, province of Yogyakarta. The site was chosen because it is the main production center of salacca "Pondoh" variety where the growers have already applied the GAP.

Data were collected through the following procedures:

- a. **Interview.** This was done by interviewing growers and leaders of growers' groups as well as exporters of salacca.
- b. **Observation.** This was done by observing and recording the implementation of GAP and the registration of orchards applying GAP.
- c. **Discussion.** This was undertaken with experts and persons involved in the salacca "Pondoh" variety production, post harvest handling and market access development.

RESULTS AND DISCUSSION

Salacca was previously marketed at domestic and overseas markets, such as Singapore, Hong Kong and Malaysia. However, some countries such as China, Japan, the Netherlands and the United States of America have expressed their interest to import salacca from Indonesia.

³ -----, 2008, *Kawasan Pengembangan Salak 2008*, Direktorat Budidaya Tanaman Buah, Direktorat Jenderal hortikultura, Departemen Pertanian

Cooperative agreement on salacca export from Indonesia to China was signed on October, 4, 2008. The following requirements for export to China were agreed by the respective Agricultural Quarantine Agencies of the two contracting countries: 1) Product has to be produced from the registered orchard, 2) Product has to be packed in the registered packing houses, 3) Registered Number of orchards and packing houses as well as the profiles of the exporter(s) have to be informed by the Indonesian Agriculture Quarantine Agency to the China Agriculture Quarantine and Quality Service, 4) The product has to follow quality assurance system to ensure the quality, food safety and traceability, 5) Exported product should not contain pests and diseases, 6) Product packaging has to follow international standard. Based on those requirements, we develop the system on orchard registration which consists of implementation of GAP at farmers' level and proceed with the registration of the said orchards⁴

Implementation of Good Agriculture Practices

The guidance for Good Agriculture Practices (GAP) with specific Standard Operating Procedures (SOP) of various horticulture commodities has been implemented since 2005. It was meant to improve growers' knowledge and skills on producing commodities for modern markets at both domestic and overseas. The importance of GAP has been recognized as the requirement of quality and safety management system, competition tools in the global market in the form manual for farmers in managing their farms and products. At domestic market in Indonesia, the implementation of GAP by growers is particularly needed in order that the produce is accepted by supermarket or hypermarket but not necessarily for the traditional market.⁵

Among horticulture commodities, salacca known also as snake fruit is an exotic fruit with good potential for export from Indonesia. Indonesia has significant comparative advantages as we have great genetic variation with realized adaptation to different tropical environments, few known pests or diseases and well established indigenous cultural practices without using

⁴ -----, 2009, *Syarat dan Tahapan Ekspor Salak*, Direktorat Budidaya Tanaman Buah, Direktorat Jenderal Hortikultura, Departemen Pertanian

⁵ -----, 2006, *GAP ASEAN Indonesia-Inggris*, Direktorat Budidaya Tanaman Buah, Direktorat Jenderal Hortikultura, Departemen Pertanian

chemical fertilizers or pesticides. Currently, the best salacca fruit variety is “Pondoh” variety with sweet taste. This variety is best grown in Sleman district of Yogyakarta province and the districts of Magelang and Banjarnegara of Central Java province but enthusiastic growers from various regions have also grown it with success and producing fruits with acceptable despite different taste considered as lower grades in the market. Consequently, the implementation of Good Agriculture Practices (GAP) with Standard Operating Procedure (SOP) has been concentrated at Sleman district followed by Magelang and Banjarnegara. Therefore, our first effort to export salacca “Pondoh” variety has been focused on the produce from these districts.

The amount of produce of salacca from Sleman district has the potential capacity to fulfill the demand of good quality produce consumers. The production of salacca from this district alone was more than 135,000 tons with main harvesting time during the period of November through May. From June to October, the production decreases, most likely related to the drier weather during this period⁶. Location, area and total productive trees of the salacca at Sleman District are described in Table 2 of the attachment.

The year round demand for salacca at the domestic market is high due to its popularity as the fruits for hotels, restaurants, offices and social events. This fruit has also high export potential since there are no meaningful competitions from others countries. High market demand for salacca is on February which is related to Chinese New Year. The estimated portion of salacca market is 62% at Jakarta and surrounding satellite cities of Bogor, Depok, Tangerang and Bekasi, 37 % for traditional market outside this market and 1% for modern market⁷. Figures 1 show the estimated market share of salacca at different sites and types of trading, while the proportion of salacca needs at the traditional and modern markets is shown in Figure 2 of the attachment.

⁶ -----, 2008, *Kawasan Pengembangan Salak 2008*, Direktorat Budidaya Tanaman Buah, Direktorat Jenderal Hortikultura, Departemen Pertanian

⁷ -----, 2008, *Kawasan Pengembangan Salak 2008*, Direktorat Budidaya Tanaman Buah, Direktorat Jenderal Hortikultura, Departemen Pertanian

If the need of Salacca fruits at modern market and export is converted into area of registered orchards implementing GAP, the area needed is 1.209 ha. From the total needs, 609 Ha is expected to be met by Sleman district, and the remaining 600 Ha met by Magelang and Banjarnegara districts⁸. The detail of registered GAP orchard can be seen on Table 4 attached.

salacca fruits from Sleman are distributed through various trading sites such as the nearby Tempel Market within the Sleman District for 10% of the produce, Jakarta and surrounding cities for 60- 70 % of the produce various modern markets and export for 10-20 % of the produce. Salacca is exported by traders or traders' association who have developed the market network through internet communication (Prior to the export agreement with China the volume of export to Singapore and Malaysia was about 4 – 6 tons per week and to Hong Kong about 8 – 10 tons/week with no direct export to Mainland China. After the export agreement on 4 October 2008, the volume of direct export to China has reached 6-8 tons/week).

Traditionally, the marketing chain of salacca followed traditional chain generally practiced for horticulture produce in Indonesia. Farmers sell their produce to small village collectors with cash-and-carry mode. From small collectors, the produce is sold to big collectors at the nearby cities who sold the produce further to the wholesalers in the big cities, such as Jakarta and the surrounding cities, or other collectors in smaller cities. Some of the big collectors also play as the suppliers to the modern market as well as hotels, restaurants and catering companies. General segment of the consumers purchase the produce at the retailers or street vendors who get the produce from the wholesalers. Higher segment of the consumers get the produce from modern markets⁹. More recently, some farmers' groups who have joined the Salacca Growers'

⁸ -----, 2008, *Kawasan Pengembangan Salak 2008*, Direktorat Budidaya Tanaman Buah, Direktorat Jenderal Hortikultura, Departemen Pertanian

⁹ -----, 1998, *Distribusi dan Pemasaran Salak Pondoh Di Daerah Istimewa Yogyakarta*, Bagian Proyek Pengkajian Teknologi Pertanian Yogyakarta, Instalasi Penelitian dan Pengkajian Teknologi Pertanian Yogyakarta, Balai Pengkajian Teknologi Pertanian Ungaran, Badan Penelitian dan Pengembangan Perta

Association, have formed marketing partnership collaboration with several modern markets or exporters. Marketing system of salacca in Indonesia can be seen on Figure 2 and 3 attached.

Trading contracts are established between growers' association and the modern market with the endorsement by the member groups. Modern information technology has been widely used by most of the associations and collectors at Sleman district to access domestic and foreign markets. One of the promotion media is the Association's website developed by the association with the support of Indonesian Telecommunication Company. The association also sells agro-based tourism in complementary to the fruit business.

The role of the association is stronger for international marketing than for domestic marketing where the collectors' owned systems are more predominant. This may be related to the lack of skill and experiences of the collectors in managing export business. Among the enormous technical factors in the production and distribution of the commodities for the international market, is firm compliance to the Standard Operating Procedures (SOP) of GAP. Its implementation is critical in order to provide quality assurance of the commodities and food safety as well. To ensure that growers have implemented SOP GAP, orchard registration is a mechanism or tool to trace whether producers have implemented SOP GAP or not.

There are three levels of GAP implementation throughout the supply chain of horticulture produce: 1) SOP at growers' level in the cultivation practices, harvesting, cleaning and interim packaging, 2) SOP at the groups' level for quality control, distribution and code number and 3) SOP at exporters' level for post harvest handling, final packaging, transportation and code number. This preparation is also applied on salacca commodity¹⁰.

¹⁰ -----, 2006, *GAP ASEAN (Indonesia-Inggris)*, Direktorat Budidaya Tanaman Buah, Direktorat Jenderal Hortikultura, Departemen Pertanian

At Sleman District, SOP was introduced in 2005 has gradually but significantly developed since then. Four Farmers' Groups have applied GAP and registered their orchard, namely *Duri Kencana*, *Si Cantik*, *Kembang Mulyo* and *Sri Manunggal* Farmers' Groups. SOP guide was developed on the basis of specific characteristics of the ecosystems and the existing cultural practices in each location. As an example on farm cultivation, growers at Sleman District, put the debris closer to the plants not in the ditches between the plant rows as being practiced generally (Figure 1)



Picture 1. Different placement of plant debris in the SOP of salacca: closer to the plant rows at Sleman (right) and in the ditch between rows elsewhere (left)

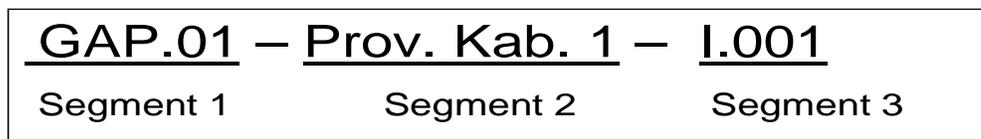
Orchard Registration

Orchard registration was started in 2008 in response to the requirements from China related to the export initiatives. The process of orchard registration is as follows :

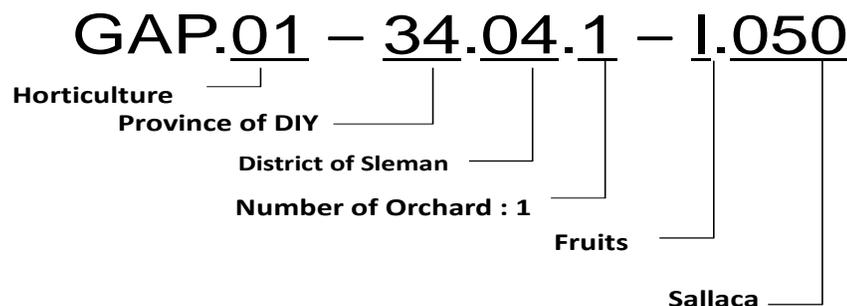
1. Identification of the orchards belonging to growers' groups by the exporters in collaboration with the Office of Agricultural Services at provincial and district levels.
2. Establishment of business partnership between growers' association and exporters with the following obligations of the exporters:
 - a. Provide guidance and facilitation to improve technical and managerial skills needed by the growers;
 - b. Apply quality assurance and food safety systems;
3. Register the packing house and other post harvest facilities.

4. The share of benefits between the exporters and farmers' group is written in the Memorandum of Understanding (MOU) which is acknowledged and witnessed by the offices of Provincial and District Agricultural Services.
5. Exporters have to fill in the GAP registration form provided by the Office of District Agricultural services and proposed to the Office of Provincial Agriculture Services for administrative evaluation and validation by the latter.
6. Physical assessment of the orchard by the Office of Provincial Agriculture Services.
7. Endorsement and registration number is provided by Office of Provincial Agriculture Services.
8. Registration number is issued by the Office of Provincial Agriculture Services whose copy is forwarded to the Directorate General of Horticulture c.q. Directorate of Fruit Production.

The GAP Orchard registration number consists of three segments as follows:



Example of Orchard Regustration Number of Salacca at Sleman District



Until May 2009, the number of registered salacca orchards complying with GAP was 805 orchards covering an area of 125 Ha involving 235 growers. In 2009, additional 329 salacca orchards is expected to be registered covering an area of 27.8 Ha.

The successful case of salacca orchard registration for export has triggered growers' enthusiasm to participate in the registration program. Requests from other districts have been filed. This is also true for other fruits having potential for export such as mangoes, rambutans, pineapple, and avocado.

Quarantine Based Export Protocols

The cross border transportation of plant produce has been subjected to quarantine procedures as prescribed in the Sanitary and Phytosanitary Agreement of 1994 under the auspices of World Trade Organization (WTO). The Agreement is followed by the International Standards for Phytosanitary Measures (ISPM) developed by International Plant Protection Convention (IPPC) under the supervision of Food and Agriculture Organization (FAO). The Indonesian Agriculture Quarantine Agency (IAQA) of the Ministry of Agriculture has been assigned as the Coordinator of the National Plant Protection Organization (NPPO) whose task is to deal with international communication in the matter related to the implementation of SPS and ISPM. Consequently, IAQA is the focal point in the case of exportation and importation of plant produce or plant-derived products.

The Directorate of Horticulture Crop Protection (DHCP) of the Ministry of Agriculture assist IAQA in preparing the pest list related to the imported or exported plants or plant produce. In case of salacca from, the list of insect pests prevalent in Indonesia include only two species: sugarcane white grub (*Lepidiota stigma* (Fabricius) and salacca beetle (*Rhynchophorus ferrugineus*). The list was notified by IAQA to the Ministry of Administration of Quality Supervision, Inspection and Quarantine (AQSIQ) of the People's Republic of China. The latter then sent a team of scientists (entomologists) to verify the notification in the farms. After this verification, the Memorandum of Understanding between the two focal points, IAQA and AQSIQ, was signed to declare that the exportation of salacca from Indonesia be permitted.

CONCLUSION

Registration of fruit orchards, including salacca orchards, and registration of packing house has been put forward as basic requirements for export of the produce to Mainland China in addition to the conventional trade and quarantine requirements. After successful first flight of salacca export to China, registration of the orchards complying with GAP and the implementation of GAP have been enthusiastically participated by the growers. This will certainly speed up the process of wide application of GAP which in turn will help improve the competitiveness of Indonesian fruits in the modern market. In the scientific community, the efforts to do a number of surveillance of pests and diseases of several horticulture crops having potential for export have also been initiated. This includes surveillance of pests and diseases of mango, papaya, avocado, lansium, bell pepper, and orchids.

The role of growers' association has been influential in organizing the growers in implementing GAP and orchard registration as well as in improving growers' bargaining position in dealing with collectors, wholesalers, retailers and exporters. The case of GAP implementation and orchard registration on salacca becomes the model for enhancing the same process for other fruits and horticulture crops.

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Table 1. Production of Salacca Fruit in Indonesia

**SALACCA PRODUCTION IN INDONESIA
YEAR 1999 - 2007**

No.	Region/Island	Production (Tons)								
		Th 1999	Th 2000	Th 2001	Th 2002	Th 2003	Th 2004	Th 2005	Th 2006	Th 2007
1	SUMATERA	167,141	128,433	260,533	221,410	229,579	210,170	261,154	265,815	260,702
2	J A W A	182,326	221,900	350,203	471,923	640,712	526,298	551,682	479,898	419,298
3	BALI & N.T.	44,594	59,616	54,729	48,474	35,028	37,312	55,028	63,073	79,933
4	KALIMANTAN	3,807	5,078	6,430	15,139	10,751	13,530	20,102	19,039	28,725
5	SULAWESI	7,301	8,469	9,259	10,532	11,146	12,843	47,294	32,600	16,111
6	MALUKU & PAPUA	55	52	101	537	1,397	822	2,672	1,525	1,110
	T O T A L	405,224	423,548	681,255	768,015	928,613	800,975	937,930	861,950	805,879

Table 2. Location, Area, Total Productive Trees of Salacca at Sleman District

Location/District/Sub District	Area (Ha)	Total Productive Trees	Production (100 Kgs)
Sleman	1.760	3.954.266	511.211
Turi	1.036	2.084.955	289.337
Tempel	645	1.621.383	201.032
Pakem and others	79	247.928	20.842

Table 3. Name of Growers' Group and Registered Salacca Orchards at Sleman District

No	Growers' Group	Total of Orchards	Area (ha)
1	Duri Kencana	357	63,30
2	Si Cantik	39	10,32
3	Kembang Mulyo	84	5,30
4	Sri Manunggal	26	5,60
Total		506	84,52

Table 4. Demand, Supply Capacity, and Gap of Supply of Salacca from Registered GAP Orchard

Items	Production (ton)	Area (ha)
Demand	32,755	1,248
Recent supply capacity	1,260	125.98
Total gap of supply from registered orchards	31,495	1,122.02

Figure 1. Estimated Salacca Market Share Requiring Registered Orchards

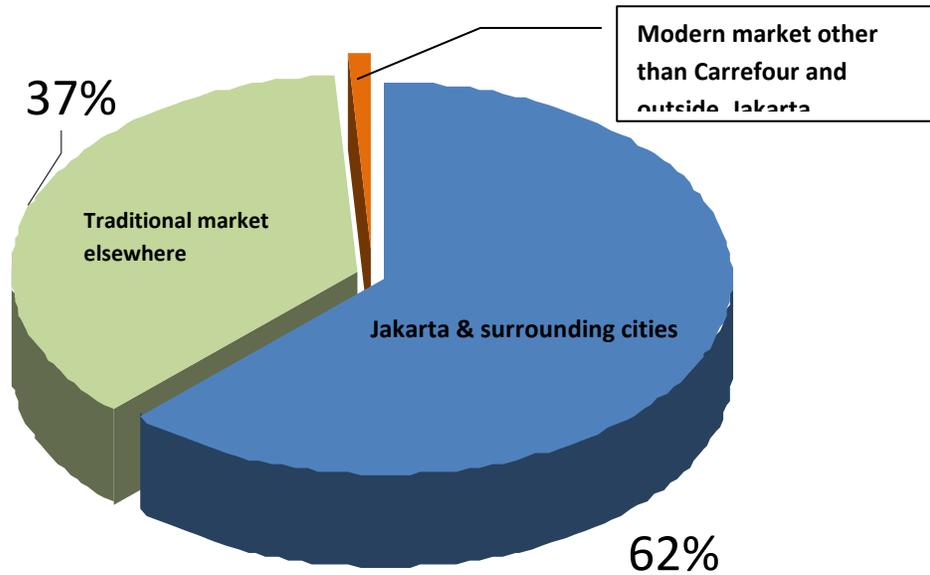


Figure 2 : Total of Salacca Needs at the Market

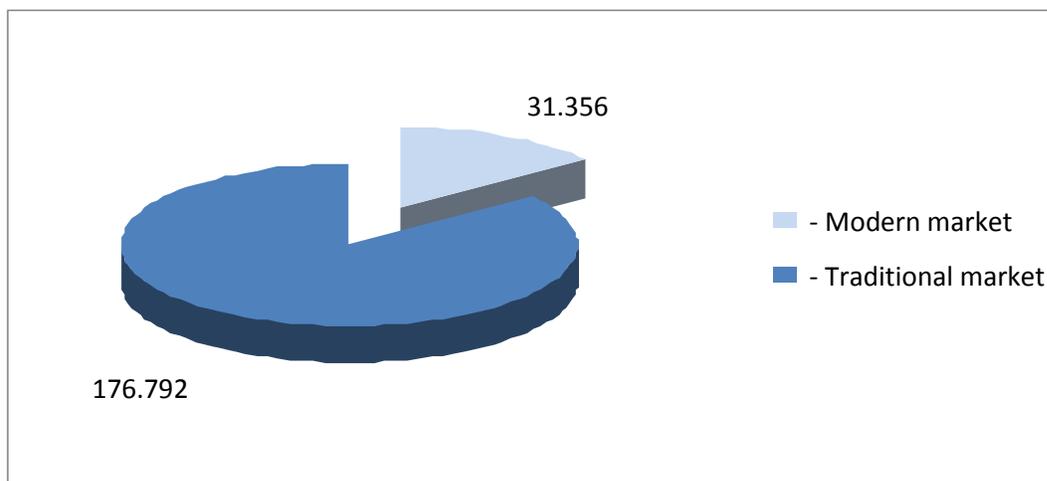


Figure 3 Marketing Chain of Salacca

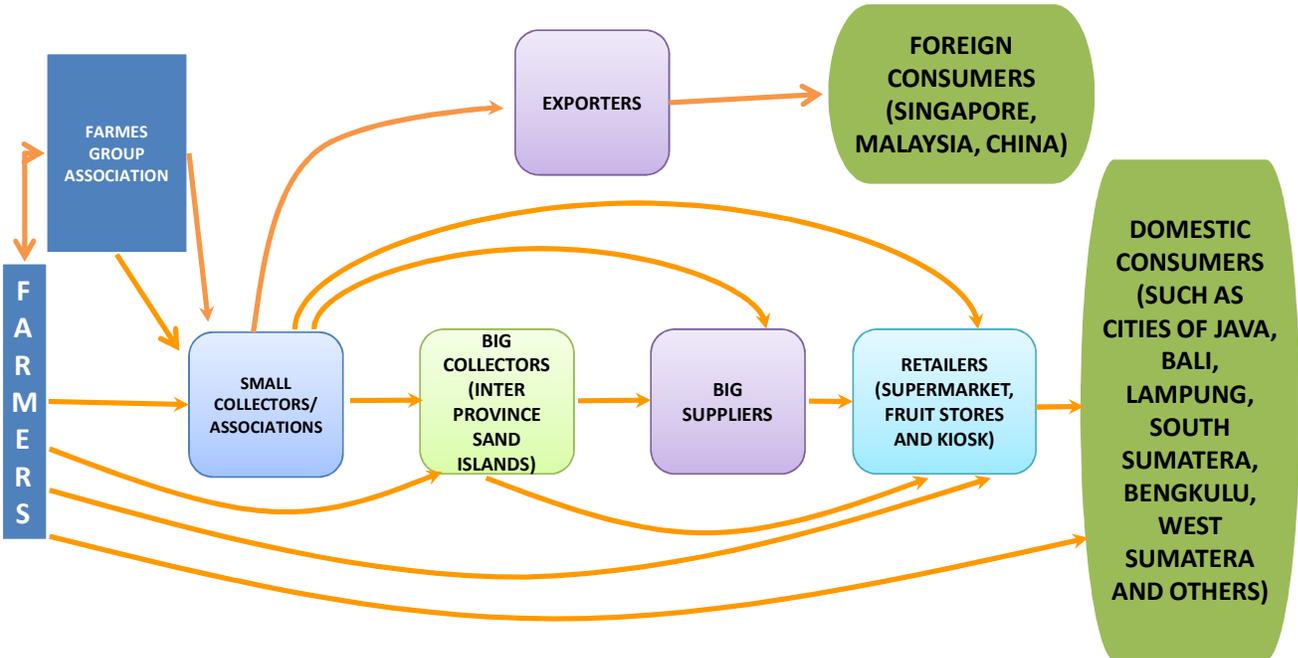


Figure 4 Distribution System of Salacca Fruits

DISTRIBUTION SYSTEM OF SALACCA FRUITS

