

**Doctoral Dissertation  
(Shinshu University)**

**Analysis of factor influencing farmer  
prices of snakeskin fruit in Indonesia**

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# CHAPTER I

## INTRODUCTION

### 1.1. Background of Indonesian Agricultural Marketing System

Indonesia has experienced relatively high economic growth for the last decade and is classified as a newly industrialized country. Between 2000 and 2012, Indonesia's GDP Annual Growth Rate averaged 5.4%, annual economic growth rates stood at 6.5% and 6.2% in 2011 and 2012, respectively (The World Bank, 2013).

Though the contribution of the agricultural sector to Indonesian GDP in 2013 has been about 14.43% (Pusat Data dan Sistem Informasi Pertanian, 2014), the recent growth rate of agricultural sector was -3.54% (Priyatno. S.A., 2014), which means Indonesian agriculture still faces many problems restricting the growth.

Distribution of horticultural products in Indonesia has been generally performed through the traditional informal system, which involves informal, small-scale trading, long marketing-

Figure 1. Map of Indonesia





chain, and dominance of women trader (Syahyuti, 2007). The marketing chain of horticultural products is still too long (Endang, 2009), indicating that the supply chain and the value chain of the product are not efficient yet (Al Hendri, 2012). A long channel was a barrier factor of farm development, because most farmers used small-scale village traders to sell their products and it depressed farmer's selling price (Adang et al., 2008; Made Nurbawa, 2012; and Distan Sumbawa, 2011). The government and academics realize that farmer's selling price may be less than production cost in the traditional informal system.

In the agricultural marketing system, another problem is the practice of standing crop purchase (*tebasan* and *ijon* in the Indonesian language), which is commonly used for fruit marketing (Stephard, 1995; Sumarno, 2009). In the Madiun District, East Java Province, 80% of mangoes are sold by the *tebasan* system. Most of mangosteen farmers in West Java Province sell their product by the *tebasan* system. *Ijon* and *tebasan* are more popular in the marketing of oranges (Deptan, 2004).

There are two opinions on the role of the traditional marketing system in Indonesia. First one is a perspective which most of the bureaucrats and academics have; traditional market has a needed to be transformed to modern market. They make a negative image to the trader such as price destroyer and consumer's harm.

According to the survey conducted by AC Nielson in 2004–2006 at Putra (2007), the growth of modern market was 31.4% per year; growth of market share of hypermarket, supermarket, mini market, and department store was about 16% on average per year, while traditional market share decreased 8.1% per year. Modern market is not necessarily operated as an ideal marketing institution. In fact, it always makes three months deferred payment to traders or farmers and gets a bigger margin compared with trader.

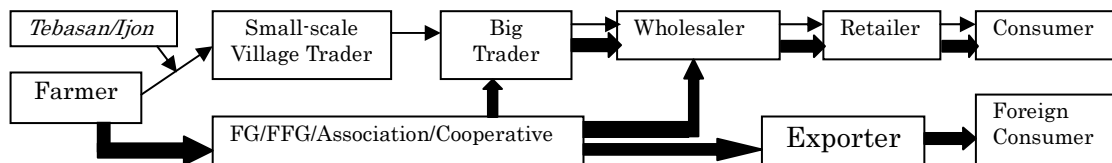
Second is a perspective that since traditional trader is a main actor of marketing in agricultural products, development and empowerment of the trader is needed. According to Syahyuti (2007), the trader is a driving force of agribusiness, or a connector between farmer and

consumer especially in the rural area. The trader is also a stabilizer of market price (Mubyarto, 1984). According to Syahyuti (2007), though government tried to modernize marketing institution and to reduce the role of traditional trader, this strategy only broke the marketing system, and caused monopoly, manipulation and corruption like as the case of clove product and orange product in West Kalimantan Province. Furthermore, modern market totally divorced from farmer, so that it does not have a role to increase farmer's income. Syahyuti stressed small-scale village trader should be positioned as a main marketing actor.

### 1.2. The Role of Small-scale Village Trader in Indonesia

The government of Indonesia tried to modernize agricultural marketing system and organized farmer groups, farmer associations, agriculture cooperatives, and similar entities. The government expected that farmer associations would facilitate market access of farmers, especially direct access to both export markets through collaboration with export companies and modern retail markets such as supermarkets (Figure 2).

Figure 2. Flowchart of Marketing System for Indonesian Fruit



Note: FG: farmer group; FFG: federated farmer group  
 → : Common marketing system (including of snakeskin fruit)  
 ➡ : Government plan

The government assumed that when the small-scale village trader was reduced by the programs, the traditional agricultural market system would be modernized; since small-scale village trader is a main actor of *tebasan/ ijon* system (practice of standing crop purchase), when direct marketing between farmers and wholesalers or exporters is promoted, marketing chain would be shortened. However, the establishment of farmer group association did not reduce

small-scale traders as government planned; role of farmer group association is still little in domestic market. It means that new marketing system planned by government is not dominant in domestic market and farmer still chooses small-scale village trader to sell their product.

Generally, in the traditional informal market system, farmers don't have bargaining power on pricing in market; farmer is a price taker. In this system, small-scale village traders have important role as 'a bridge' between farmers and traditional market.

Small-scale village traders (*pedagang pengepul desa* in Indonesian language) collect small amount of agricultural product from farmers, and sell it to bigger traders. Big traders were capital provider to small-scale village traders, and as a big trader's agent, small-scale village traders lent out some money to farmers; 85% of farmers in South Sumatra Province were indebted to small-scale village traders at planting season (Kompas, 2012).

Small-scale village traders actually can't receive much income under *tebasan* and *ijon* system, because they are only a big trader's agent. In this case small-scale village trader's income consists of wage, not profit (Agung, 2011), while big trader receives most of profit.

However, small-scale village traders have changed to adjust to the Indonesian economic growth. Focusing on these changes, from the viewpoint of the financial aspect, this paper explores the current characteristic features and behavioral pattern of small-scale village traders. It is described in chapter III.

### 1.3. *Ijon* and *Tebasan* System

According to Saptana (Saptana, et al, 2005), there are four buying systems in agriculture, namely: 1) *Tebasan*, 2) *Ijon*, 3) Cash, and 4) *Tempo* (non cash). And also in horticulture and fruit product there is "lease of tree by contract" system.

The practice of standing crop purchase (*tebasan* in Indonesian language) has been used commonly for fruit production (Stephard, 1995). *Tebasan* is a harvesting contract that buyer purchases matured crop products while still in the field and harvests them at his own expense

(Saptana, et al., 2005, Collier, W.I., et al., 1973); most of buyers are “middleman” (*penebas*) (Partadireja, A., 1974). As harvesting contractor, *penebas* undertakes several kinds of activities (harvesting, handling, transporting, etc.). *Penebas* is also a collector agent or broker who itinerates from village to village to get a contract from farmers and organize harvesting workers during the harvesting season (Herlambang, 2006).

*Ijon* system is another contract for buying crop products, when still in an immature/green stage (Saptana, et al., 2005). *Ijon* is derived from the Javanese word for green. *Ijon* is a method similar to *tebasan* except that farmer sells his crop long before harvest at a price that is quite low relative to the regular market price at harvest time. The buyer is responsible for protecting the crop from pest and thieves, and bears the cost of harvesting and transporting.

*Ijon* is also one of informal credit system that borrowed money in cash is repaid by agricultural product with interest rate of 10-40 per cent (Partadireja, 1974). Credit lender is generally a middleman/trader (Farid Wijaya, 1991).

Lease of tree by contract is a system to lease trees for a certain period. This system is still popular with mango cultivation in West Java Province (Ashari, et al., 2006, Supriatna, A., 2005), Indramayu District, West Java province (Fikriyyah, 2008), Gresik District, East Java Province (Afifah., N., 2009). Lease of tree by contract is also practiced in palm cultivation, orange, cocoa, coffee, etc.

Above-mentioned situation implies that most of fruits have complicated multi-layered distribution system including two or more small-scale village traders who work as collectors of the fruit or agents of bigger traders.

Government, academics and farmer realize that *tebasan* and *ijon* are not good practice, especially for the farmer. However, *tebasan* and *ijon* system are still popular among farmers. The producer price by *tebasan* and *ijon* system is under value of market price. According to

Suryaningtyas *et al* (2011), mangoesteen farmers in Banyuwangi District, East Java Province only receive 43.5% (23 599 210 IDR/ha) of regular market price by using *tebasan*, and in avocado fruit, the farmer only receives 1/3 of market price (Dhave, 2012). Why are *ijon* and *tebasan* still continued in many fruits? The reasons for accepting these practices are:

(1) Financial reason. Mubyarto (1995) on Akbar (2011) stated that the main problem was financial aspect, because there was no alternative financial institute or credit for farmer when farmer needs money for urgent.

At urgent time, farmer gets loan from middleman through *ijon/tebasan* system, because it is easy, simple, flexible and helpful loan system for rural farmer in a sense. Formal farm loan in Indonesia is generally carried out by commercial bank, however farmers are usually not accessible to it (Irianto, B., 2007). Farmer/ borrower also must pay administrative charges which comprise such cost of form, stamp, and copy of the loan application. The bank requires each loan applicant to submit a recommendation letter from his village head as a personal reference. Collateral is also required by bank in case of large long-term loans and usually borrowing from institutional lenders takes much time\*<sup>1</sup>).

(2) The limitation of information. Farmers don't understand it is disadvantageous business for them, because they don't know regular market price of their product.

(3) Small-scale, scattered field and lack of transportation. Many farmers can't carry their harvest to local market by themselves.

The government of Indonesia has been trying to reduce the *tebasan* and *ijon* system by implementing many programs. The main government's program was introduction of new marketing system through establishing group farmer, group farmer association, cooperative, etc. A typical government's program was National Program for Community Empowerment (*Program Nasional Pemberdayaan Masyarakat/PNPM*) enacted in 2007. One of PNPM program is Development of Rural Agribusiness (*Pengembangan Usaha Agribisnis Pedesaan/PUAP*\*<sup>2</sup>) by providing direct aid for community (*Bantuan Langsung*

*Masyarakat/BLM*). PUAP program has a purpose to develop the group farmer and group farmer association and improve the agribusiness which is managed by them. By this program every village receives 100 Million IDR which is distributed to farmers through group farmer association. By August 2011, subsidy was distributed to 29,013 villages out of total 72,000 villages in Indonesia, and group farmer association was established in each village. A field survey in Padang District in North Sumatra Province showed 56.67% of farmers stated that their selling price was increased by group farmer association, because they harvested by themselves and sold their product to big traders directly, not through *ijon* system. (Kamira *et al*, 2011).

Those institutions were established by the government, as an alternative marketing actor.

\*1) There is an informal traditional micro finance institution (MFI) in Indonesian, *arisan*. *Arisan* is a rotating savings and credit association (ROSCA). The members of *arisan* are estimated to be in the millions in Indonesia, and many people join more than one *arisan* (Martowijaya, S., 2007). *Arisan* is conducted at group farmers meeting in every month or *selapan* (35 days).

\*2) The other program are: Farmer Empowerment through Agricultural Technology and Information/FEATI (2007-2011), Farmer empowerment Program (*Program Pemberdayaan Masyarakat Tani/PPMT*) in 2009-2014, Development of Rural Agribusiness (*Pengembangan Usaha Agribisnis Pedesaan/PUAP*), Independent Institution which Entrenched in Society (*Lembaga Mandiri yang Mengakar di Masyarakat/LK3*), Bachelor Build Village (*Sarjana Membangun Desa*), Rural development for Food Independency (*Pengembangan Desa Mandiri Pangan*), Institution Development of Food Distribution for Society (*Penguatan Lembaga Distribusi Pangan Masyarakat/LDPM*). The several credit programs for farmer are: Food-Energy Security Credit (*Kredit Ketahanan Pangan-Energi/KKP-E*), Plant-based energy Development and Plantation Revitalization (*Kredit Pengembangan Energi Nabati dan revitalisasi perkebunan/KPEN-RP*), Credit for Society's Business (*Kredit Usaha Rakyat/KUR*).

#### 1.4. Exportation and Farmer Group Association

Marketing is an essential aspect of agriculture. Marketing sector for Indonesian horticulture products is still facing many constraints related to the efficiency, productivity, and quality that should be regarded as high priority and must be overcome.

Exportation is one of the alternatives for farmers to get higher income. Partnership model between farmer and export company was promoted by the government as solution for this problem. In 2007, the government of Indonesia initiated a program to improve agribusiness partnerships and establish farmer group associations.

The expected functions of farmer group associations were as follows:

- (i) to facilitate the exportation of members farmer' products;
- (ii) to support the implementation of a standard operating procedure (SOP) and good agricultural practice (GAP) which are necessary for exportation.

However, so far most of farmer group associations have not yet achieved their goals. Established farmer group association was almost just merger of several group farmers; most of them could not manage agribusiness partnership smoothly. However some farmer group associations managed agribusiness partnership for exportation successfully. Therefore, it is essential to identify what kind of farmer group association can run it well. This issue is described in chapter IV .

## CHAPTER II

### FRAMEWORK OF THE STUDY

Based on an awareness of the issues described above, firstly I take a closer look at the performance of partnership between farmer group association and export company. As for this, partnership on snakeskin fruit in Sleman District, Yogyakarta Province, was selected as a case study area, where partnership was running successfully. In Sleman District, farmer price increased after partnership started; the average product price/kg increased from 4,517 IDR/kg (Statistics of Yogyakarta, 2007) to 5,913IDR/kg. .

Therefore I conducted a field survey in Sleman District, especially at Tempel, Turi and Pakem Sub-district which are central area of snakeskin fruit “pondoh”.

#### 2.1. Outline of Sleman District

Yogyakarta Province consists of five regencies/districts. Sleman District is one of districts in Yogyakarta Province that situated at south slope of Mt.Merapi at the central part of this province. It is located between 7 32' –7 50' South Latitude and 110 18' –110 35' East Longitude (Statistic of Sleman District, 2009). Sleman District borders with:

- Magelang District, in the north (Central Java province).
- Klaten District, in the east ( Central Java province).
- Bantul District and Yogyakarta City(Municipality), in the south
- Kulon Progo District, in the west



Figure 3. Map of Yogyakarta Province



Figure 4. Map of Sleman District



Sleman District is divided into 17 Sub-district, 86 Villages, and 1,212 Sub-villages (Hamlets). Sleman District has total areas of 574.82 km<sup>2</sup>. The elevation is between 50 and 2,500 m above the sea level. Its highest elevation is on the peak of Mt. Merapi, about 2,968 m

above the sea level. The slope direction is to the south ranging from 0-2% to >40%. The most dominant slope class is in the 0-2% (bpkp.go.id/diy/). The geological condition is greatly influenced by the activities of Mt.Merapi, thus more than 90% area has the geological formation of young sedimentation of Merapi volcano (Pekab sleman, 2013). There are five big rivers, namely (from the west to the east) the rivers of progo, konteng, bedog, Winongo-Code and Opak. Sleman has never suffered from water shortage because it is rich in surfaces and ground water (there is ground water aquifer). The rain intensity is between 1500 and 4000 mm/year with the wet season from November-April and the dry season from May-October (Sleman regency, 2005).

The southern slope of the Merapi volcano in the northeastern part of Sleman District consists of a more uniform composition of material with volcanic origins together with a thick soil, which makes the land suitable for cultivation. The soil profiles along the Merapi slope indicates very advantageous condition. The north part of Sleman District is to serve as a water catchment area and good for agriculture and horticulture, as well as for fishery. The agriculture land is divided into two: wet and dry land. The southern part of Sleman District gets an urbanization pressure, particularly for the development of settlement, industries, trade and service, and the development of universities as well (Sleman regency, 2005).The contribution of agriculture sector for Product Domestic Regional Bruto is 12.88% in 2013, decrease from 12.90% in 2012 (Fitriana, 2014), but it's still competent to absorb most labors in all sub-districts, amounting to 48.22% (Sleman Regency, 2005). The contribution to the agricultural sector came from the five sub sector of foods, plantation, animal husbandry and its products, forestry, and fishery.

The agricultural sector absorbs most of the labor force. The labor force includes 434,490 employed and 52,505 unemployed persons. The number of farmer households is 113,269, and the number of agricultural workers is 125,976. The average land holding per farm household is 0.16 ha. The utilization of agricultural land is 33% for paddy fields, 22% for horticulture, 19% for secondary crops, 10% for animal husbandry, 6% for fisheries, 6% for

forestry, and 4% for plantations (Sleman regency, 2005).

Sleman District is dominated by snakeskin fruit; it has a biggest snakeskin fruit production. In 2008, Sleman district had a total of 1,760 ha of snakeskin fruit plantations with 4,565,793 trees clusters and a production of 58,177 tons (Ahmad Dimiyati, 2008). The average land holding per snakeskin fruit farmers is 0.34 ha, while most of the small-scale village traders of snakeskin fruit are also farmers who have average land holding of 0.28 ha.

Agricultural system in Sleman District especially in Tempel, Turi and Pakem Sub-district has shifted from paddy cultivation that required large labor force to snakeskin fruit cultivation that required just small labor force. On snakeskin fruit cultivation in Sleman District, actually there isn't division of labor between male and female, just a habit that happen on snakeskin fruit cultivation that female helps pollination, fruit thinning and harvesting. Basically, heavy job is conducted by male, and light job is conducted by female. When do the pollination, farmers also do the fruit thinning on other bunch and harvesting on ripe bunch, so this job can do simultaneously. This phenomenon is also caused discrimination in "labor division" and eliminates the women's role in agriculture. It also weakens the position of women in the family, where, in the domestic sector, women have weak education level and skill compare with men, and in the public sector, women have limitation access to information and job opportunity. As a women small-scale village trader of snakeskin fruit product, they can increase family income.

## 2.2. Snakeskin Fruit

Snakeskin fruit is originally tropical plant, spread naturally in the region of South East Asia, from Myanmar, Thailand, Malaysia, Philippine and Indonesia (Mogea, 1980; Schuiling and Mogea, 1992 on Gari, N.M., 2005), species of palm tree with many cultivars, and has a broad range of appearances and flavors.

Picture 1. Snakeskin fruit



Source: 2.bp.blogspot.com



Source: nglaris5.blogspot.com

Snakeskin fruit grows in clusters with leaves up to 6 m long that develops from the ground level and 1.5 to 5 m high. It is short-stemmed, growing in the compact clumps formed by successive branching from central point at ground level (Draft IRA Report, 2014). Roots are born from the trunk where it comes in contact with the soil (Reni Lestari, 2005). The fruit develop on bunches of 15–40 fruits at the base of the palm that each fruit/piece contain 1 to 3 blackish seed, with about 1 cm in diameter. They are oval in shape, measuring 4-7 cm by 5 cm in size rounded at the top and tapering to a point at the base. The skin is comprised of regularly arranged scales that end in a small, fragile spine or prickle, giving it the appearance of a snake or reptile skin (Draft IRA Report, 2014).

Snakeskin fruit is dioecious, that is, the male and female flowers are produced on separate individual plants. This means a male plant must be planted near fruit-bearing female plants for pollination to occur. The male inflorescences are closely packed in finger-like spadices (spikes with a fleshy or thickened stem enclosed in a spathe, 50-100 mm long, occurring in bunches of 4-12 spadices. The female inflorescences are shorter, 20-30 mm long and are composed of 1-3 spadices (Draft IRA Report, 2014).

It is productive for up to 50 years (Schuiling and Moge, 1992 on Reni Lestari, 2005) and can be harvested throughout the year, though peak harvest season is from November to January, with a secondary peak from May to July.

Snakeskin fruit is requiring high temperatures and high humidity as well as appropriate rainfall and light intensity for tree growth and fruit development (Draft IRA Report, 2014). Snakeskin fruit is usually propagated by seeds or by asexual propagation. Propagation by seeds in Sleman district is not popular. The propagation is primarily by vegetative methods such as sucker grafting or layering (Draft IRA Report, 2014). Snakeskin fruit cultivation in Sleman District use monocropping system. Plant spacing is 2m X 2m, planting density 2500-3000 plants (clusters) per hectare. Planting holes about 30cm X 30cm in diameter and 30cm deep. When planting, fill holes with fertile surface soil instead of subsoil dug out of the holes. Plantation season is usually on early of rainy season (November- December).

Farmers used manure or compost (organic fertilizer) at the rate 10-15 kg/ clusters, 2 times / year. Until 1.5 year after planted, snakeskin fruit needs shading trees. Usually farmers use cassava tree for shading trees. After that, distance between two clusters made dike. This dike functioned to banishment for pruned leaf, drainage, and the soil from this dike used to strengthen the trees. Leaf pruning is regularly to remove unnecessary leaf and offshoot. Periodic weeding and underbrush shall be done regularly. Snakeskin fruit can be harvested at 3 years old on the first time. Harvesting time is every 2-3 days in high season, and 1 week in no season.

According to the plant list ([theplanlist.org](http://theplanlist.org)) and taxonomy classification on palm web ([palmweb.org](http://palmweb.org)), there are 22 accepted species names where the four of them were domesticated

and commercially cultivated. *Salacca acehensis* (Mogea & Zumaidar), the species no. 23 showed in the table 3 below, is the new species of salacca from Aceh Province, Sumatra Island, the province in the westernmost of Indonesia.

Indonesia is the main producer of snakeskin fruit, and accounts for 60-70% of the amount of the production of snakeskin fruit in the world (Ahmad Dimiyati et al, 2008). *Salacca zalacca* (Gaertn) Voss is the species of salacca that has the largest production in the world. The main producer of *Salacca zalacca* (Gaertn) Voss is Java Island, Bali Island and Sulawesi Island in Indonesia. The species with second largest production is *Salacca sumatrana* (Becc) in North Sumatra Province, Indonesia. The total snakeskin fruit production in Indonesia described in the table 1 below. The Java Island is the main producer of snakeskin fruit in Indonesia with amount of 419,298 tons in 2007, which accounted for 52% of total Indonesian production. Amount of the production in Sumatra Island, Bali and Nusa Tenggara Island, Kalimantan (Borneo Island), Sulawesi Island and Maluku & Papua Island was 260,702 tons, 79,933 tons, 28,725 tons, 16,111 tons and 1,110 tons respectively (Dimiyati et al, 2008).

Table 1. Snakeskin Fruit Production in Indonesia (ton)

2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
786,015	928,613	800,975	937,930	861,950	805,879	862,465	829,014	749,876	815,227	1,035,406	1,030,401	1,035,903

Source: Indonesian Central Bureau of Statistic, 2012 and 2014; Directorate General of Horticulture of Indonesia

Table 2. Production Center of Snakeskin Fruit in Indonesia

Species	Province	District	Production (ton)
<i>Salacca sumatrana</i>	North Sumatra	Padangsidempuan, Tapanuli Selatan	259,103 tons (2009)
<i>Salacca zalacca</i>	DKI Jakarta	Condet	3 hectares <sup>*1)</sup>
	Banten	Serang	1,895 (2010)
	West Java	Sumedang, Bogor, Tasikmalaya, Batujajar	68,595 tons (2011)
	Central Java	Magelang, Ambarawa, Purworejo, Purbalingga, Banjarnegara	212,031 tons (2006) <sup>*2)</sup>
	D.I Yogyakarta	Sleman	53,978 tons (2012)
	East Java	Lumajang, Bangkalan, Pasuruan, Malang	7,000 tons <sup>*3)</sup> (2012)
	Bali	Karangasem	32,195 tons (2013)
South Sulawesi	Enrekang	12,399.63 tons (2009)	

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Note:

- \*1). The cultivation lands of snakeskin fruit in Jakarta Province have been displaced by housing. The remaining land is the government land for conservation purpose.
- \*2). The production in Central Java province calculated from main producer that is Banjarnegara and Magelang District.
- \*3). The production in East Java Province calculated from main producer that is Lumajang District.

Source:

1. Aplikasi pemetaan potensi ekonomi daerah, Provinsi banten.
2. Central Bureau of Statistic of Bali Province
3. Central Bureau of Statistic of Enrekang District
4. Indonesian Central Bureau of Statistic, 2012.
5. Suarakawan.com, 2013, Lahan pertanian subur, jatim lumbung pangan nasional.
6. T. Sudaryono and Per. Prahardin, 1995, Teknologi Produksi Salak.

Main cultivated species of snakeskin fruit in Indonesia are *Salacca sumatrana* and *Salacca zalacca*. The cultivation area of *Salacca sumatrana* (Becc) is North Sumatra Province, particularly in Tapanuli Selatan District that has 91.39% of the production in North Sumatra Province (Y. Nasution, 2013). The *Salacca sumatrana* was cultivated in North Sumatra Province since 1930s (E. Mora, 2015).

The *Salacca zalacca* (Gaertn) Voss is cultivated from Sumatra Island in west to Sulawesi Island in east. As synonym of it, *Salacca Edulis* (Reinw) is sometime used. However Mogeia (1982) corrected it to *Salacca zalacca* (Gaert.) Voss. (Reni Lestari, 2005).

Popular cultivars of *Salacca zalacca* (Gaertn) Voss are pondoh cultivar and bali cultivar. The pondoh cultivar is mainly cultivated in Banjarnegara District, Magelang District and Sleman District. Banjarnegara District is largest producer of *Salacca zalacca* (Gaertn) cv. Pondoh with the amount of production of 182,140 tons in 2006, followed Sleman District and Magelang District that had 51,121 tons and 29,891 tons of production respectively (Ahmad Dimiyati, 2008).

The Bali cultivar is mainly cultivated in Karangasem District with amount of 44,623 tons production in 2009 which accounts for 96.56% of the production in Bali Island. Since 1920s, the snakeskin fruit of Bali cultivar has spread in Sibetan Village, Bebandem Sub-district, Karangasem District, Bali Province (Kompas, 2015).

There are more than 30 cultivars of *Salacca zalacca* (Gaertn) Voss (Reni Lestari, 2005), that are: cv. Condet, cv. Manonjaya, cv. Suwaru, cv. Bantarwaru, cv. Madu, cv. Lawu, cv. Kembangan, cv. Bejalen, cv. Saratan, cv. Pondoh, cv. Kembangarum, cv. Bali, cv. Sigaluh, cv. Manalagi, cv. Manggala, cv. Gading.

*Salacca zalacca* cv.pondoh was produced by propagation and selection by snakeskin fruit's farmer in Sleman District that was found in 1980s and got widespread popularity in 1990s. There are many other cultivars that was found by snakeskin fruit's farmer in Sleman District, that are cv. Madu (honey), cv. Manggala and the newest one is cv. Probo by Mr.Probo.

Sub-cultivars of *salacca zalacca* cv.pondoh are pondoh super, pondoh hitam (black pondoh), pondoh gading (ivory/yellowish-skinned pondoh) and pondoh merah (red pondoh). The cultivars are differentiated by the colour of leaf, stem, fruit kernels, peel and pulp, fruit size, weight and fruit taste (Santosa et al., 1996b; Djaafar, 1998 on Reni Lestari, 2005)

. The *Salacca zalacca* (Gaertn) cv. Pondoh in Sleman District is the most popular species of snakeskin fruit in Indonesian consumers due to their aroma and sweetness. The superior quality of *Salacca zalacca* (Gaertn) cv. Pondoh is acknowledged in respect to its sweeter taste without bitter or sour component in comparison with other cultivar, even at early ripening stages (Reni Lestari *et al*, 2013), and the texture varies from dry and crumbly to moist and crunchy.

According to Purnomo (2001), the excellences of *salacca zalacca* cv.pondoh are:

1. Sweating even before full maturation.
2. Sufficient of water content.
3. Can be harvested all of year.
4. The shelf life of up to 20 days
5. Does not cause taste nauseated despite eating a lot.
6. Higher of sales price.



Table 3. Species and Distribution Area of Salacca (Snakeskin Fruit)

No	Species	Described (Year)	Distribution Area	Country	Fruit	Type	Production
1	<i>Salacca affinis</i> (Griff)	Calcutta J.Nat.Hist.5:9 (1845)	Sumatra Island and Borneo Island	Indonesia, Malaysia	✓ (Edible)	Wild	
2	<i>Salacca bakeriana</i> (J Dransf)	Palm (1999+) 53:168 (1999)	Borneo Island	Indonesia, Malaysia	×	Wild	
3	<i>Salacca clemensiana</i> (Becc)	Philipp.J.Sci.,C4:618 (1909)	Borneo Island and Philippine	Indonesia, Malaysia, Philippine	×	Wild	
4	<i>Salacca dolicholepis</i> (Burret)	Notizbl.Bot. Gart. Berlin-Dahkem 15:731 (1942)	Borneo Island	Indonesia, Malaysia	✓ (Edible)	Wild	
5	<i>Salacca dransfieldiana</i> (Mogea)	Reinwardtia 9: 463 (1980)	Borneo Island	Indonesia, Malaysia	×	Wild	
6	<i>Salacca flabellate</i> (Furtado)	Gard. Bull. Singapore 12: 387 (1949)	Pangkalan Kajan, Trengganu,	Malaysia	×*1)	Wild	
7	<i>Salacca glabrescens</i> (Griff);	Calcutta J.Nat.Hist.5: 14 (1845)	Semenanjung Malaya, Thailand	Malaysia, Thailand	✓ (Edible)	Domesticated	4,530 tons (2010)
8	<i>Salacca graciliflora</i> (Mogea)	Fed. Mus. J (Kuala Lumpur) 29: 6 (1984)	Malaya	Malaysia	×	Wild	
9	<i>Salacca griffithii</i> (A.J.Hend)	Makinoa n.s. 7: 88 (2007 publ. 2008)	South-central China, Myanmar and Thailand	China, Myanmar and Thailand	✓ (Edible)	Wild	
10	<i>Salacca lophospatha</i> (J.Dransf. & Mogea)	Principes 25: 180 (1981)	Borneo Island	Indonesia, Malaysia	×	Wild	
11	<i>Salacca magnifica</i> (Mogea)	Reinwardtia 9: 468 (1980)	Borneo Island	Indonesia, Malaysia	✓ (Edible)	Wild	
12	<i>Salacca minuta</i> (Mogea)	Fed. Mus. J (Kuala Lumpur) 29: 11 (1984)	Malaya	Malaysia	×	Wild	
13	<i>Salacca multiflora</i> (Mogea)	Fed. Mus. J (Kuala Lumpur) 29: 13 (1984)	Malaya	Malaysia	×*2)	Wild	
14	<i>Salacca ramosiana</i>	Principes 30: 161 (1986)	Borneo Island and	Indonesia, Malay	✓ (Edible)	Wild	

	(Mogea)		Philippine	sia, Philippine			
15	<i>Salacca rupicola</i> (J.Dransf)	Bot. J. Linn. Soc. 81:36 (1980)	Borneo Island	Indonesia, Malaysia	× <sup>*3)</sup>	Wild	
16	<i>Salacca sarawakensis</i> (Mogea)	Reinwardtia 9: 473 (1980)	Borneo Island	Indonesia, Malaysia	×	Wild	
17	<i>Salacca secunda</i> (Griff)	Calcutta J.Nat.Hist.5: 12 (1845)	Assam; South-Central China, Myanmar and Thailand	India, China, Myanmar and Thailand	✓ (Edible)	Wild	
18	<i>Salacca stolonifera</i> (Hodel)	Palm J. 134: 35 (1997)	Thailand	Thailand	×	Wild	
19	<i>Salacca sumatrana</i> (Becc)	Ann. Roy. Bot. Gard (Calcutta) 12(2):80 (1918)	Sumatra Island	Indonesia	✓ (Edible)	Domes ticated	259,103 tons (2009)
20	<i>Salacca vermicularis</i> (Becc)	Malesia 3: 66 (1886)	Borneo Island	Indonesia, Malaysia	✓ (Edible)	Wild	
21	<i>Salacca wallichiana</i> (Mart)	Hist. Nat. Palm. 3:201 (1838)	Laos,Vietnam,Myanmar ,Thailand, Malaya, Sumatra	Laos,Vietnam,Mya nmar, Thailand,Malaysia, Indonesia	✓ (Edible)	Domes ticated	9,956 tons (2001-2002)
22	<i>Salacca zalacca</i> (Gaertn) Voss	Vilm. Blumengartn. Ed. 3, 1: 1152 (1895)	Malaya, Sumatra, Java, Borneo, Sulawesi, Maluku	Indonesia, Malaysia	✓ (Edible)	Domes ticated	569,911 tons (2009)
23	<i>Salacca acehensis</i> (Mogea & Zumaidar) <sup>*4)</sup>	Phytotaxa 159 (4): 287-190, (2014)	Sumatra Island	Indonesia	×	Wild	

Note:

\*1) Only know when immature, globose, about 7mm diameter, covered by brown scales up to 3 mm long (Gari, 2005).

\*2) Only know from young fruits, globose, 1 cm diameter, covered by upturned brown scales (Gari, 2005).

\*3) Young fruit spherical, about 1 cm diameter, densely covered with dark brown scales, the tips swept upward, spine-like (Gari, 2005).

\*4) Among the species of that section is mostly resembles *Salacca rupicola* Dransfield (Zumaidar, 2014).

Source:

1. C.L.Hii, S.P. Ong and C.L. Lai, 2001, Drying Studies on Tropical Fruits Cultivated in Malaysia. A Review: Journal of Applied Science, 11:3815-3820
2. Gari, N.M., 2005, Studies on Bali salak Cultivars (*Salacca zalacca* var. *amboinensis*)(Arecaceae), Master (research) Thesis, James Cook University, Australia.
3. IT IS Report, *Salacca zalacca* (Gaertn) Voss., it is.gov.
4. Suthikul.K., 2005, Fruit Production in Thailand, Horticulture NCHU 30(3): 15-29
5. Palmweb.org., *Salacca*
6. Zumaidar, 2014, *Salacca acehensis* (Arecaceae), New species from Sumatra, Indonesia, Phytotaxa 159 (4): 287-290.

### 2.3. Problem Identification

Marketing channel of snakeskin fruit in Sleman District is divided into 2 parts; that is for export market and domestic market. Farmer group association is export-oriented, while small-scale village trader is working only in domestic market.

Although some farmer group associations tried to enter in domestic market, their contribution was low. In Sleman District, Prima Sembada Farmer Group Association made collaboration for entering to domestic market of snakeskin fruit with a trading company, PT Midi Utama Indonesia, on October, 2010. At that time, it sold snakeskin fruit of 500 kg—1,000 kg per week, however, the collaboration stopped after one year running.

This was caused by:

- 1) Government regulation; farmer group association is one of requirement for export, where the government has appointed the export company as a partner with farmer group association to promote exportation. So farmer group association focused on exportation of their product.
- 2) Lack of capital. Since big trader or wholesaler usually uses deferred payment when it purchases product for domestic market, much capital are needed for farmer group association to enter the market.
- 3) Among them, some member farmers have a side business as trader. As a trader, they need to collect product from member farmers for their business. Also, the relation and/or network among small-scale village trader and big trader are very strong in domestic market of snakeskin fruit in Sleman District.

The role of small-scale village trader in Sleman district is different from trader in other

districts. In snakeskin fruit, all of the farmers harvest matured fruit by themselves, so there is no practice of *tebasan*, *ijon* and lease of tree by contract. Besides, snakeskin fruit can harvest all of year, while mango, orange, coffee etc. have a limited harvesting time which is a base of *tebasan*, *ijon* practice and leasing of tree by contract. Therefore by using cash on carry system, the small-scale village trader of snakeskin fruit has worked as an independent trader, not an agent of bigger trader. This is what distinguishes between snakeskin fruit's small-scale village traders and other horticultural village traders, though it means small-scale village traders of snakeskin fruit need quite a lot of initial capital that becomes barrier for poor families to entry in this business. It suggests small-scale village traders of snakeskin fruit should be discussed differently from *ijon/tebasan* problems.

Under these situations, after exportation was started by the partnership, snakeskin fruit's farmer price increased in domestic market and farmer's income also increased. About this matter, previous studies pointed out that snakeskin fruit exports increased the incomes of snakeskin fruit farmer by increasing domestic market price directly. However, the basic process is still poorly understood.

From the above this study aims to clarify why the price rose at domestic market after exportation started, though factors contributing for export and domestic markets are different. This problem is also relating with change of marketing actors. So it is explored from a viewpoint of system change of market in Indonesian agriculture.

## 2.4. Objectives of the Study

The main objective of this paper is to identify the factors contributing to increased farmer's price in domestic market. The actors directly relating to pricing of snakeskin fruit in domestic market are farmer, small-scale village traders, farmer group association and export company. Therefore this study approaches above-mentioned objective as follows; I focus on the role of small-scale village trader and partnership, because small-scale village trader behaves independently in domestic market, on the other hand farmer group association and export company affect the market price through the partnership.

On small-scale village trader, this study clarifies current behavioral feature and their behavioral pattern from a financial viewpoint in Chapter III. On farmer group association, this research aims to achieve the following: (1) to identify the types of farmer group associations for the cultivation of snakeskin fruits and what kind of farmer group association can run agribusiness partnership successfully, (2) to assess each association's performance, and (3) to clarify the main factors involved in development of farmer group associations. These matters are examined in chapter IV. The identification can be used as a basis for establishment of effective farmer group association.

After these analyses, this study clarifies the factors contributing to farmer's selling price in the domestic market through a value chain analysis, and identifies the effect of the partnership to the market price and the marketing channel of snakeskin fruit. This problem is examined and synthesized in chapter V.

## 2.5. Research Methodology

Case study research was applied to this study and field survey was conducted in Sleman District, Yogyakarta, Indonesia. Data was collected by:

### 1. Literature review

Literatures, documents and reports related with the issues were examined. Facts and data were collected from the Regional Agriculture Office and the Regional Bureau of Statistics.

### 2. Focus Group Discussion

To collect the specific information focus group discussion was conducted with farmers, villages' officer, field extension worker, officer of District and Provincial Agriculture Office and stakeholders.

### 3. Interview

Primary data were collected through interviews and questionnaires by random sampling with 45 farmers, 37 women village traders including 3 new comer of women village traders (less than 5 years experience), farmer groups and farmer group associations from 3 sub district (Turi, Pakem, Tempel).

These collected data were analyzed from a view point of financial analysis, managerial analysis and value chain analysis respectively.

## CHAPTER III

### DEVELOPMENT AND ROLE OF SMALL-SCALE VILLAGE TRADERS IN SNAKESKIN

#### FRUIT MARKETING

##### 3.1. Introduction

The existence of small-scale village traders have important role on determining the price at farmer level. Small-scale village trader is one of marketing actors who buy product directly from farmers.

The policymakers always have negative perspective to the small-scale village traders as the cause of the long marketing channel. Only a few researchers see trader as driving force on agribusiness. In fact, a small-scale village trader is the connecting agent between traditional farmers and consumers.

In Indonesian agricultural market farmer is usually price taker (Witana, 2001) and small-scale village traders is big traders' agent. Big trader is price maker who determine the price particularly on the wet market (Afif, M., et al 2013).

The price offered by small-scale village trader to farmer, farmer selling price, depended on the price offered by big trader. However behavior of the small-scale village trader is changing and it renders considerable influence to price level of snakeskin fruit. With this background, case study on small-scale village trader was conducted in Sleman District. This

research aims to analyze the behavioral change from a financial viewpoint.

### 3.2. The role of Women Traders on Agricultural Marketing

Marketing of agricultural products in Indonesia has been generally performed under traditional-informal system. The characteristics of traditional-informal system are “informal”, “small-scale” and “involvement of women”. After involvement of women in farming decreased (Abdullah, 2001), in place of it women’s entry to trading business increased. Recently farming did not require large number of women labor by agricultural mechanization; farming has been carried out mainly by men. In case of snakeskin fruit, as table 4 shows, women participate in only three farm works.

Table 4. Gender Division of Labor in Snakeskin Fruit Cultivation

Activities	Male	Female
Weeding	✓	
Fertilizing	✓	
Leaves Pruning	✓	
Pollination	✓	✓
Fruit Thinning	✓	✓
Irrigation	✓	
Landfill Soil	✓	
Replanting	✓	
Pest Control and Diseases	✓	
Harvesting	✓	✓

Generally women play a predominant role in marketing in many countries. In West



Africa, women traders handle 60 to 90 percent of domestic produce from farm to consumer. They have a similar role in many Caribbean countries and in the Andean Region of Latin America (FAO). In many developing countries, a high percentage of small-scale businesses that cater to local needs are managed by women. In fact, women accounted for 61% of all informal trader in Philippines and 65% in Mongolia (Hertz, 2010 on ILO&ADB 2011) and 56% in Yogyakarta, Indonesia (BPS, 2010). In Indonesia, rural women have been active participants in trading business, particularly trade in traditional and not highly commercialized market (wet market).

### 3.3. Small-scale Village Traders of Snakeskin Fruit in Sleman District

Small-scale village traders on snakeskin fruit in Sleman District is dominated by women who account for more than 90% of small-scale village traders. In each sub-village there are 3-4 small-scale traders, especially in Imorejo Sub-village more than 60 women small-scale village traders are working in the snake skin fruit trading. The motivation of woman small-scale village traders is to increase their family standard of living.

The average land holding of woman small-scale village trader in Sleman District is 3,118 m<sup>2</sup> that is lower than average snakeskin fruit farmer with 4,450 m<sup>2</sup> cultivation lands. With snakeskin fruit cultivation in Sleman District, farmer can earn an income of 7,500,409 IDR/1000m<sup>2</sup>/year. Therefore, with average land holding of 3,118 m<sup>2</sup>, small-scale village traders have income of 23,386,275 IDR/year.

In our field survey, 97.1% of respondents aimed at increase of family living standard and

only 2.9% at getting additional income which they were able to use by themselves. All of respondents consider that income from trader is more than husband's income (85.3 % of husbands was working as farmer, husband's other occupation was village chairman, carpenter, the driver and 5.9% respondent was widower).

Table 5. Respondent Outline

Education		Amount of Capital/day (million IDR)		Fruit Purchased/day (kg)		Age (years)		Land Holding (m <sup>2</sup> )	
No Education	0	1-5	88.2	1-500	85.3	-30	5.9	1,000-2,000	52.9
Elementary School	41.2	5-10	2.9	501-1,000	0	31-40	35.3	2,001-3,000	14.7
Junior High School	44.1	11-15	0	1,001-1,500	5.9	41-50	44.1	3,001-4,000	11.8
Senior High School	14.7	16-20	5.9	1,501-2,000	8.8	51-	14.7	4,001-5,000	2.9
University	0	21-	2.9					5,001-	17.6
Total	100		100		100		100		100

Table 5 showed that most of small-scale village traders used 1-5 million IDR (average 5.95 million IDR) per day and 1- 500 kg (average 488 kg) per day to buy product from farmers; their income from trading can covers the family daily expense.

Usually woman small-scale village traders start trading after getting married at the age of 20 to 25. The required capital was raised by herself or the support of her family, such as selling her own jewelry, husband's salary and savings.

They don't be categorized as poor family, because farmers who own land less than 500 m<sup>2</sup> are categorized as poor, according to the poverty indicator of Indonesia central bureau of statistic. The small-scale village trader in Sleman District has more than income of most of farmers in Yogyakarta Province where 50% of farmers earn income less than 6,000,000 IDR/year (Sutaryono, 2012), and the Province's Minimum Wage In Yogyakarta is 10,711,920 IDR/year in 2012, and "Decent Standard of Living" which is 10,348,692 IDR/year respectively.

After they prepared 1,500,000 IDR of initial investment, they started business with buying 100 kg fruit from farmer per day. Though at first, they were not able to get bank credit, generally they could get it after 2 year experience of small-scale village trader. The cost of traders to bring their product to market is shown in the table 6. Transportation cost is the expense to bring product from small-scale village trader's house to market by using truck or pick up car. Only 26.6% of them have pick up car or truck as transportation facilities. Weighing cost is the expense to measure the weight of the product in the market by using weighing services. Location retribution is the expense to enter to the market.

Table 6 . The Amount of Cost for Small-scale Traders

(Per bamboo basket, about 45 kg – 50 kg)

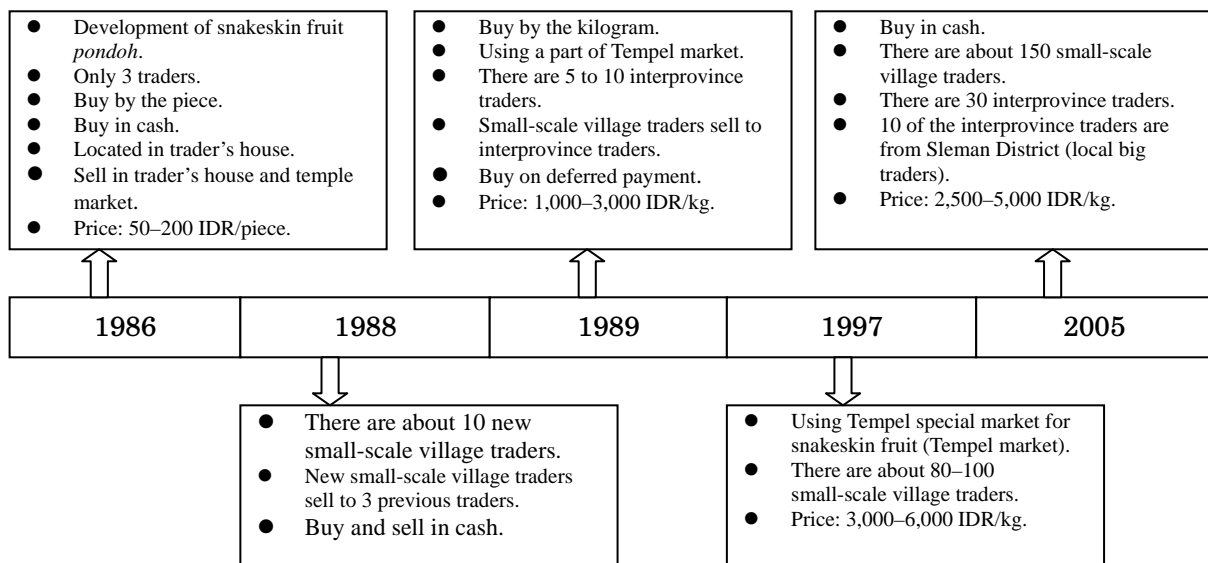
	Amount of cost (IDR)
Transportation	5,000 (83.3%)
weighing	500 (8.3)
Location retribution	500 (8.3)
Total	6,000 (100)

### 3.4 Development Process of Small-scale Village Trader on Snakeskin Fruit

#### 3.4-1 Development Stage of Small-scale Village Trader

Snakeskin fruit cultivation was started in 1986 in the Sleman District. There has been no practice of the *tebasan* and *ijon* system there because the fruit can be harvested throughout the year.

Figure 5. Development Stages of Snakeskin Fruit Marketing in Sleman District

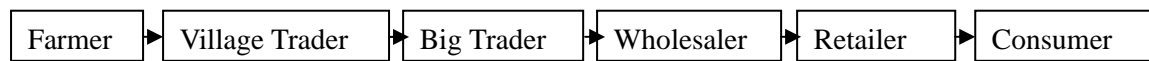


The development of the snakeskin fruit *pondoh* cultivar started in Bangunkerto Village in the Turi Sub-district in 1986. In that time, there were only three traders buying the product from farmers on pieces. The farmers brought snakeskin fruit products to the trader's house and the traders bought them in cash. Then the traders sold them by the piece in the Tempel market or in the trader's house. In 1988, about 10 small-scale village traders entered this business. They bought the product in cash and sold them to three above-mentioned traders in cash. However, after inter-province traders (big trader) set up the pickup points in these sub-districts, the small-scale village traders sold snakeskin fruit to big traders directly.

From 1989, snakeskin fruit production expanded sharply, and small-scale village traders were not able to acquire enough capital to buy the fruit in cash. The small-scale village traders fell into a financial deficit and started deferred payment to farmers. As a result, the number of small-scale village traders increased in these sub-districts, because little capital was required for women to start this business; they bought products from farmers on deferred payment and sold

most of them in cash to big traders. Until 1995, “the golden age” of snakeskin fruit continued, when the price of snakeskin fruit was equal to 10–15 kg of rice, though today, the price of snakeskin fruit is equivalent to the price of 1 kg of rice. After 2005, small-scale village traders of snakeskin fruit in the Sleman District increased by only 1–3 traders every year, though most of them were not “real” new traders; they were women once engaged in this business.

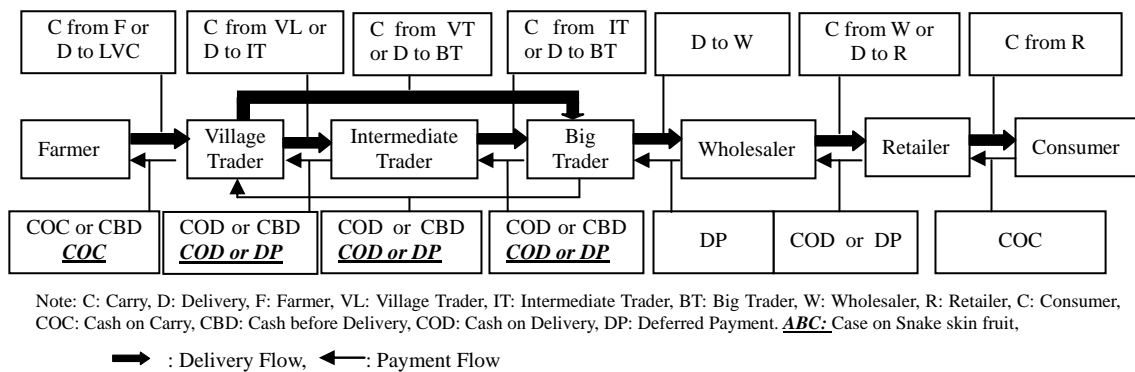
Figure 6. The Beginning of Snakeskin Fruit Marketing Chain in Sleman District



#### 3.4-2 Payment System and Capital Need

The marketing system and woman traders have changed with the production and social/economic condition. In most of horticultural products, small-scale village traders receive payment in cash by prepayment from big traders (intermediate traders), and then small-scale village traders make cash payment to farmers (Figure 7). In this case traders actually don’t need much capital for their business. In Denpasar City (Bali Province) and Padang City (West Sumatra Province), 71% of the small-scale village trader used capital less than 5 million IDR, 24.5% used capital by range of 5–15 million IDR, and only 4.5% of them used capital by more than 15 million IDR (Soesilowati et al ,1998).

Figure 7. Delivery and Payment Flow of Horticulture Product in Indonesia



In snakeskin fruit the small-scale village traders usually took a deferred payment system in dealing with snakeskin fruit until 2004. However with more competition among traders, some traders began to buy product from farmer in cash to collect more product. Then other traders also began cash payment in 2005. It meant that small-scale village traders had to prepare more capital to continue their business. In Sleman District small-scale village traders receive payment from intermediate traders as follow: cash is 40%, 1 week deferred payment is 10%, 2 weeks deferred payment is 30%, 1 month deferred payment is 15 %, 3 months deferred payment is 5%. As a result, the number of small-scale village traders increased only 1 to 3 per year from 2005 until 2011. Presently, there are about 150 small small-scale village traders and 30 intermediate traders

Table 7 shows small-scale village trader's capital need of 1<sup>st</sup> dealing day, 8<sup>th</sup> day, 15<sup>th</sup> day, 31<sup>st</sup> day, 91<sup>st</sup> day after they start trading business, on the assumption that buying price is 5,613 IDR/kg, selling price is 5,913 IDR/kg and the trading volume is 100 kg/day which new small-scale village traders usually start their business with. Since the required capital gradually increases till 31<sup>st</sup> day by deferred payment of intermediate traders to women traders, eventually they need 6,106,470 IDR as initial capital. The minimum trading volume among respondents is

200 kg/day which require 12,212,940 IDR.

Table 7. Capital Needs of Small-scale Village Traders in Sleman District (IDR)

	Trading Volume	Price	Days after First Dealing				
			1st day	8th day	15th day	31st day	91st day
Buying (1)	100 kg	5,613	561,300	4,490,400	8,419,500	17,400,300	51,078,300
Selling (2)	100	5,913	218,520	1,655,640	3,725,190	11,293,830	44,997,930
Capital Need (1-2)			324,780	2,834,760	4,694,310	<b>6,106,470</b>	6,030,370
Buying (1)	200	5,613	1,122,600	8,980,800	16,839,000	34,800,600	102,156,600
Selling (2)	200	5,913	473,040	3,311,280	7,450,380	22,587,660	89,995,860
Capital Need (1-2)			649,560	5,669,520	9,388,620	<b>12,212,940</b>	12,160,740
Buying (1)	488	5,613	2,739,144	21,913,152	41,087,160	84,913,464	24,9262,104
Selling (2)	488	5,913	1,154,218	8,079,516	18,178,930	55,113,890	219,589,910
Capital Need (1-2)			1,584,926	13,833,626	22,908,230	<b>29,799,574</b>	29,672,194

Note:

1. Capital need here also can be defined as total receivable of small trader from big trader.
2. 100 kg is trading volume at start as trader, 200 kg is minimum trading volume today, and 488 kg is average trading volume today.
3. Buying (capital required) = (trading volume × price × days).
4. Selling (see by deferred payment)
  - 1st day until 7th day = (trading volume × price × days × 40%)
  - 8th day until 14th day = (trading volume × price × 7 days × 40%) + (trading volume × price × (days – 7) × 10%). And so on.

Table 8 explains when small-scale village traders get a surplus in gross margin and when they can receive the maximum gross margin after they start trading business. By deferred payment from intermediate traders, small-scale village trader's gross margin does not become positive till the 30th day from her first trading. On the 31st day, she has a surplus in gross margin for the first time. The margin increases till the 91st day, and after that, it is fixed. In the case of 200 kg of trading volume per day, which is the minimum volume among respondents, on the 31st day the woman trader gets a gross margin of 870 IDR and after the 91st day she

receives 60,000 IDR/day. In the case of 488 kg per day, which is the average trading volume for small-scale village traders, on the 31st day, they receive a gross margin of 2,123 IDR and from the 91st day they get the maximum margin of 146,400 IDR/day. The gross margin rate is 14.74%/month

Table 8. Gross Margin per Day by Trading Volume

Days after First Dealing	200 kg			488 kg		
	Sales (IDR) ①	Cost of sales (IDR) ②	Gross margin (IDR) ① – ②	Sales (IDR) ①	Cost of sales (IDR) ②	Gross margin (IDR) ① – ②
1 <sup>st</sup> day	473,040	1,122,600	-649,560	1,154,218	2,739,144	-1,584,926
8 <sup>th</sup> day	591,300	1,122,600	-531,300	1,442,772	2,739,144	-1,296,372
15 <sup>th</sup> day	946,080	1,122,600	-176,520	2,308,435	2,739,144	-430,709
31 <sup>st</sup> day	1,123,470	1,122,600	<b>870</b>	2,741,267	2,739,144	<b>2,123</b>
91 <sup>st</sup> day	1,182,600	1,122,600	<b>60,000</b>	2,885,544	2,739,144	<b>146,400</b>

Note:

1. Sales are the total revenue to big trader with price of 5,913 IDR/kg by using deferred payment system.
2. Cost of sales is total money to purchase the product from the farmer in cash with price of 5,613 IDR/kg.
3. Gross margin = sales revenue minus cost of sales. After 91<sup>st</sup> day, gross margin is constant.

### 3.4-3 Capital Source and Profitability Analysis.

Capital source of small-scale village trader consists of own capital, credit (bank or cooperative) and usury (rentenir\*<sup>3)</sup>) or combination of those. Capital source is shown bellow in table 9.



Table 9 Capital Source of Small-scale Village Traders of Snakeskin Fruit

Capital Source	Number of respondents
Own Capital + Credit (Bank or Cooperative)	18 (52.9%)
Own capital (50%) + Credit( 50%)	12 (35.3%)
Own Capital + Credit + Usury	16 (47.1)
Credit( 50%)+ Own capital + Usury	11 (32.4%)
Total	34 (100)

All of small-scale village traders use formal credit and 76.5% of them have a loan from bank, 23.5% of them from group farmer or cooperative. The percentage of bank credit is very high, compared with the data presented by Enderwati et al, 2009, who explain that only 0.5% of small traders in traditional market in Yogyakarta City used bank credit for their business. Small-scale village traders in Sleman District have a good access to bank (formal) credit, but still informal-traditional credit, usury (*rentenir*), is one of capital source. They tend to use usurers who lend money without complex procedure like bank, when they must pay additional money soon in cash to buy product from farmers. Therefore as table 9 indicates, 47.1% of small-scale village traders have loan from usury with high interest (20%/month). The amount of money which woman traders borrow from usuries is 1,000,000 IDR, which is repaid by payment in installments every day, 40,000 IDR/day, for a month (30 times). In the usury system only the traders who repaid the loan can borrow 1,000,000 IDR in the next month again.

Table 10 shows the monthly income of small-scale village traders with assumption that trading volume is 488 kg/day, interest rate of bank credit is 15% per year (1.25% per month) with two year payment term, interest rate of usury is 20% per month and loan is repaid for 30 days every day. Case 1 and 2 in Table 10 illustrate the capital source of small-scale village traders in Sleman District. 35.3% of small-scale village traders correspond to case 1 in table 10, which shows that 50% of capital is provided with self-finance and remaining 50% is bank/cooperative credit and monthly income is 1,783,929 IDR. 32.4% of small-scale village

traders are included in case 2 which showed in table 10, that 46.6% of capital is provided by their own capital, 50% is by bank/cooperative credit, 3.4% is by usury and income is 584,929 IDR. Compared with the income of small traders in Yogyakarta City whose profit is range from 300,000 to 900,000 IDR per month (Endarwati et al, 2009), the average income of small-scale village trader (488kg trading) is about double of them. However if small-scale village traders increase the loan from usury just 1% (to 4.4% from 3.4%) they would lose most of their income. The dependence of small-scale village traders to usurers seems to be low with 3.4% in total capital, in fact it is very serious problem for them.

Table 10. Average Small-scale Village Traders' Income per Month by Capital Source (IDR)

Case	Capital Source	Capital	Gross Margin	Repayment (Interest)	Selling expense	Income
1	Own Capital ( 50%)	14,899,787		0 (0)		
	Bank Credit ( 50%)	14,899,787		807,071 (186,247)		
	<b>Total Capital</b>	<b>29,799,574</b>	<b>4,392,000</b>	807,071 (186,247)	<b>1,800,000</b>	<b>1,783,929</b>
2	Own Capital ( 46.6%)	13,899,787		0 (0)		
	Bank Credit (50%)	14,899,787		807,071 (186,247)		
	Usury (3.4%)	1,000,000		1,200,000 (200,000)		
	<b>Total Capital</b>	<b>29,799,574</b>	<b>4,392,000</b>	<b>2,007,070 (386,247)</b>	<b>1,800,000</b>	<b>584,929</b>

Note:

1. Selling expense per bamboo basket (about 45 kg – 50 kg) is the cost for traders to bring their product to market (table 2).
2. Repayment to usury is repaid by payment in installments everyday for 1 month credit term with interest rate of 20%/month..
3. Repayment of bank credit is repaid by payment in installments for 24 months credit term with interest rate of 15%/year.
4. Gross margin/month is calculated with assumption that trading volume/day is 488kg with gross margin 146,400 IDR/day (table 4) and working day is 30 days.
5. Income/month is net income per month (monthly gross margin – monthly repayment).
6. Bolded text (number) is the total amount

### 3.5 Conclusion

Most bureaucrats and academics have a negative perspective to small small-scale village traders in agricultural marketing and so far there has been no support to empower them by government. However in Sleman District, women small-scale village traders develop as an independent trader who take business risk with own capital, bank/cooperative's credit and informal credit (*rentenir*).

In Sleman District, small-scale village trader's gross margin is 5.3% to farmer price. This ratio is very low to the margin of other fruits as banana which is about 70% of farmer price<sup>4)</sup>. However the margin in Sleman District was not necessarily low from the beginning, it was 15 to 30% from 1995 to 2005 years. After the number of small-scale village traders increased in 2005, keen competition with other small-scale village traders for collecting product was observed and as a result the margin fell greatly.

This also means that farmer price of snakeskin fruit is higher than other fruits. According to Suryaningtyas (2011), mangosteen farmers in Banyuwangi District, East Java Province, sold their product through *tebasan* and only received 43.5% (23,599,210 IDR/ha) of retail price and in case of mango it was 40.4 %. In case of avocado fruit, the price received by farmer is only 1/3 compared with the retail price (Dhave, 2012). On the other hand, in Sleman District, 54.4 % of retail prices are paid to the farmer by small-scale village traders. The snakeskin fruit market chain in Sleman District is improving efficiently; it led to the increase of farmer's benefit by decrease of trader's margin.

Note:

- 1) *tebasan*: purchasing of mature standing crop. selling the green fruit on the tree, without harvesting it first
- 2) *ijon*: purchasing of immature standing crop.
- 3) *Rentenir* or usurer is money lending system with interest rate of 10-30%/month and plafond

credit 50,000-1,000,000 IDR. They (usurers) provide credit to small and medium scale industries, commerce and farmer. Empirical evidence suggests that they limit their number of clients to a maximum of 30. If they serve more clients, they employ brokers who often form link to rural regions. If they operate successfully, they may set up as independent operators (Heiko Schrader, 1997).

- 4) There are two marketing channels in banana; A)farmer -small trader-big trader –retailer, B) farmer -small trader(a)-small trader(b) -big trader –retailer. In case of A) the margin of small trader is 70% and in case B) the margin is 76.7-78.6%. Since ijon/ tebasan system is commonly used for the marketing, two small scale traders are working between farmer and big trader in nearly 60% of trading and the total small trader's margin is very high.

## CHAPTER IV

### MARKETING PERFORMANCE OF FARMER GROUP ASSOCIATIONS THROUGH THE PARTNERSHIP MODEL

#### 4.1 Identification of Farmer Group Association's Performance

##### 4.1.1. Introduction

Marketing sector for Indonesian horticulture products still facing many constraints related to the efficiency, productivity, and quality both for export and also for domestic market that should be regarded as high priority and must be overcome. To this end, it is necessary to create an institution of partnership so that the farmers and others stakeholders can benefit from each other and practice good quality management (Indraningsih, K.S., et al., 2007). In 2007, the Government of Indonesia initiated a program to improve agribusiness partnerships and planned to establish farmer group associations, which cultivate fruits that have a Prima III certification.

In 2007, the Government of Indonesia initiated a program to encourage agribusiness partnerships, especially direct access to both export markets and modern retail markets. One notable government program was the National Program for Community Empowerment (*Program Nasional Pemberdayaan Masyarakat/PNPM*), which started in 2007. The main project of PNPM was Development of Rural Agribusiness (*Pengembangan Usaha Agribisnis Pedesaan/PUAP*), which intended to develop a farmer group or farmer association in each rural community (*Bantuan Langsung Masyarakat/BLM*).

By this project, many villages organized farmer associations and received 100 million IDR per village as a subsidy from the government. By August 2011, the subsidy had been distributed to 29,013 villages out of 72,000 villages in Indonesia.

The expected functions of farmer group associations are as follows: (i) to facilitate the exportation of members' products; (ii) to support the implementation of a standard operating procedure (SOP) and good agricultural practice (GAP), which is necessary for exportation; and (iii) to establish an institutional channel for the government's grant. (iv) to establish agribusiness partnerships through collaboration with farmer groups and export companies and/or supermarkets .

For this program, the Government of Indonesian has selected eight outstanding fruit species on the basis of their marketability, economic value, geographic distribution, and climate suitability; the snake skin fruit is one of them.

Snakeskin fruit is a species of palm tree a native fruit from Indonesia, with a broad range of appearance and taste. Snakeskin fruit is one of the national excellence fruit of Indonesia designated by letter decree of minister of Agriculture no. 272/Kpts/TP.240/1988, 21th April 1988. In 2007, total harvested area was 32 220 hectares with total production of 805 879 tons.

With orchard registration and enforcement of certificate prima III snakeskin fruit's cultivation was started in 2008 as requirements of exportation. Certificate Prima III is guarantee that product is safety to consumers. It is implemented by Standard Operational Procedure (SOP) and Good Agriculture Practice (GAP) and Certificate Prima is issued by provincial agriculture office.

However, most farmer group associations have not yet achieved their goals. The *ijon/tebasan* system was the main constraint for the development of farmer group associations

(Ashari and Sunarsih, 2006). However, this system has not been adopted in snakeskin fruit cultivation because it can be harvested perennially. Therefore, it is clarified how farmer group associations can function to promote exportation, when farmer group association for snakeskin fruit is studied.

Farmer group associations are supported by both the government's snakeskin fruit development program and the Horticulture Partnership Support Program (HPSP) provided by the Indonesia Netherland Association (INA), which offers subsidies, fertilizers, and low interest loans (6%); there were 17 partnerships in various products with the HPSP in 2009 (Sinar Tani, 2009).

For this research, a case study was conducted in Sleman District. On matter related to the partnership, the research aims to achieve the following: (1) identify the types of farmer group associations for the cultivation of snakeskin fruits, (2) assess each association's performance, and (3) clarify the main factors involved in development of farmer group associations. This research area is located in Sleman District, Yogyakarta Province, especially at Tempel, Turi and Pakem Sub-district which are central area of snakeskin fruit "pondoh". Primary data was collected by interview and questionnaire with 40 farmers (20 from Tempel, 15 from Turi and 5 from Pakem), 8 farmer group's leaders (4 from Tempel, 3 from Turi and 1 from Pakem), 3 farmer group association leaders, 5 traders, agriculture office of Sleman District and exporting company. Data collection was conducted in July – October 2008 and July 2010.

#### 4.1.2. Outline of Sleman District

Sleman District is situated on the southern slope of Mt. Merapi. The district is divided

into 17 sub-districts, 86 villages, and 1,212 sub-villages (hamlets). The elevation is between 100 m and 2,500 m above sea level. The agriculture sector absorbs most of the labor force. The labor force includes 434,490 employed and 52,505 unemployed persons. The number of farmer households is 113,269, and the number of agricultural workers is 125,976. The average land holding per household is 0.16 ha. The utilization of agricultural land is 33% for paddy fields, 22% for horticulture, 19% for secondary crops, 10% for animal husbandry, 6% for fisheries, 6% for forestry, and 4% for plantations (Sleman Regency, 2005). Sleman District is dominated by snakeskin fruit; appropriate with the title it has a biggest snakeskin fruit producer. In 2008, Sleman District had a total of 1,760 ha of snakeskin fruit plantation with 4,565,793 trees clusters and a production of 58,177 tons. As a result of data analysis, the average land holding per snakeskin fruit farm is 0.34 ha. The snakeskin fruit “pondoh” in Sleman District is mainly cultivated in three sub-districts: Tempel, Turi, and Pakem (96.94%).

Table 11. The Outline of Snakeskin Fruit’s Cultivation in Three Sub-Districts

	Tempel	Turi	Pakem
Snake Skin Fruit’s Cultivation Area*	645 ha	1,036 ha	79 ha
Total Snake Skin Fruit Farmer Group*	25	28	14
Average of member farmers**	65	31	52
Average of Land Holding/household **	2.8 ha	3.7 ha	23
Average of tree holding**	730	1252	610
Average of farmer’s age**	38.8	28.4	41.8

Source: \*Ahmad Dimiyati, 2008; \*\*Outhors, 2008 and 2010.

#### 4.1.3. Performance of Sleman District’s Farmer Group Associations for Snakeskin Fruit

##### Cultivation

Farmer group associations were established in Sleman District in 2008 after the signing of a cooperative agreement on the export of snake skin fruit from Indonesia to China. The



members of farmer group association are the snakeskin fruit farmer groups which have certificate Prima III. Farmer group is located in sub-village or village level that the members are the snake skin fruit farmers. The situation of farmer groups is presented in table 12. The district had three farmer group associations for the cultivation of the snakeskin fruit, each with different managerial systems. The success of the association depended on whether it was able to do quality control at its own risk based on the trust relationship, because it was crucial in dealings with the exporting company. However all of farmer group associations did not do it successfully. Here, focus is set on the trust relationship and the quality control in each association. The outline of them is given in table 12.

Table 12.Characteristics of Farmer Group Associations

1	Name	Indo merapi	Prima Sembada	MitraTurindo
2	Establishment	2008	8 February 2009	17 June 2009
3	Member	4 group farmers which have applied SOP-GAP	11 group farmers which have applied SOP-GAP	8 group farmers which have applied SOP-GAP that located in Turi Sub-district.
4	Total Land Area	84.52 ha	156.02 ha	83.72 ha
5	Marketing Team	-	-	Consist of: - Coordinator - Logistic - Community development - Quality control
6	Marketing team's salary	-	-	They get fee from Exporting company.
7	Marketing Partnership	Partnership with AMS Exporting Company, Jakarta	Partnership with AMS Exporting Company, Jakarta, with MoU (Memorandum of Understanding) Agreement for 1years. And now with Alamanda trading company.	Partnership with AMS Exporting Company, Jakarta, with MoU (Memorandum of Understanding) Agreement for 5 years.
8	Pricing system	Excess 200 – 500 IDR/kg with local market price	Excess of about 1,000 IDR/kg with local market price	Excess of 1,000 – 1,500 IDR /kg with local market price.
9	Characteristic	<ul style="list-style-type: none"> <li>- Business-oriented without considering of authenticity of product.</li> <li>- More concerned on personal's (company) profit than farmer's benefit.</li> <li>- Decision taking tend to be personal decision not group decision.</li> </ul>	<ul style="list-style-type: none"> <li>- Limitation of organizational and managerial skill.</li> <li>- High dependence on government.</li> </ul>	<ul style="list-style-type: none"> <li>- Organizational and managerial is handled by professional persons.</li> <li>- Quality control by exporting company at association level.</li> </ul>

4.1.3-1 Type of farmer group associations in Sleman District are:

1) ***Farmer group association led by private business companies:*** Indomerapi Farmer Group Association (IFGA). IFGA was established by a fruit trading company. The appointment of board members was only a formality; the association leader dealt directly with the farmer groups, which resulted in many altercations with the stakeholders (farmers, the government, NGOs). The association received subsidies from the government and NGOs; it was donated a grading house and a subsidy of 500 million IDR by the INA.

The IFGA collaborated with Agung Mustika Selaras (AMS) exporting company. However since it had only four member farmer groups, it could not collect needed amount of snakeskin fruit stipulated by the SOP-GAP. Subsequently, it purchased more fruit which was not authenticated by Prima III from collectors, and supplied them to AMS exporting company. The trust condition of IFGA was as follows:

(i) Among farmer groups: There was no communication among farmer groups. The farmer groups communicated directly with the association.

(ii) Between the farmers and the association: The association bought farmer's products for export only 200–500 IDR/kg higher than the domestic market price, however, it was a price that was a lot lower than what farmer expected. There was also a lack of transparency in the financial administration. As a result, these caused dissatisfaction and distrust with the association among the farmers.

(iii) Between the association and the exporting company: The product quality supplied by the association did not meet the expectations of AMS, because AMS could not export a product that was not authentic. This caused the exporting company to distrust the association.

**2) Farmer group association established by the government:** Prima Sembada Farmer Group Association (PSFGA). The district government did not trust IFGA and opted to establish the PSFGA. Therefore, all the member farmers of IFGA seceded from it and joined PSFGA. In addition, another four farmer groups joined PSFGA as new members. AMS exporting company also chose to collaborate with PSFGA. However, the following problems arose: Firstly the association could not settle disagreements among member farmer groups and therefore was unable to manage the organization successfully. Second, though the association had the high percentage of damaged product due to insufficient selection. The trust condition of PSFGA was as follows:

(i) Among farmer groups: There was no communication among farmer groups. The farmer groups communicated directly with the association

(ii) Between farmers and association: The farmer's selling price to AMS was 1000 IDR/kg higher than the domestic market price, which was near to desired price of the farmer. However, the association introduced “snakeskin fruit development program” only for the farmer groups in Tempel sub-district. Unfair election of board members, unequal distribution of the subsidy and unequal allocation of sales amount among farmer groups caused them to lose trust in the association.

(iii) Between the association and the exporting company: Slow response to the exporting company's request caused the exporting company to distrust the association; AMS requested the association to reduce damaged fruit rate within 5%, since it reached 8%. AMS exporting company decided to terminate collaboration with PSFGA.

**3) Farmer group association led by the community:** Mitra Turindo Farmer Group Association (MTFGA). This association consists of snake skin fruit farmer group with Prima III certification in only five Turi sub-districts. MTFGA were established by the farmers who had dissatisfaction with management of PSFGA. MTFGA made partnership agreement with AMS and supplied it snakeskin fruit of about 2 ton/week. This association set up a marketing team in it to improve the product quality, in order to meet the exporter’s request. AMS requested export specifications on quality to MTFGA as follows: (1) the product is in piece (not bunched), without defect, and without fiber; (2) product size is A and B grade, which consists of 14–17 fruits/kg; (3) minimum and maximum ripeness is 60% and 70% respectively. The trust condition of MTFGA is as follows:

(i) Among the farmers: The sharing of information among farmers helps build mutual trust.

(ii) Between farmers and association: MTFGA employed marketing professionals from NGO as an activator with a “sense of agency”. It was very effective to change the farmers’ mind-sets to improve product quality for export<sup>1)</sup>.

(iii) Between the association and the exporting company: quick response to the exporting company’s request on sweetness and ripeness of the product ensured joint quality control and helped build a good relationship. Through this improvement, MTFGA achieved better performance compared to the other two associations.

Table 13. Indicator of Farmer Group Association’s Performance

Indicator	Indomerapi	Prima Sembada	Mitra Turindo
Exportation	<ul style="list-style-type: none"> <li>- Volume: average 5 tons/week, twice to three times a week.</li> <li>- There is partnership agreement</li> <li>- Damage: 5%</li> <li>- Present circumstance: not active.</li> </ul>	<ul style="list-style-type: none"> <li>- Volume: 0.5 – 0.6 ton/week</li> <li>- There is partnership agreement with AMS (has ended), No agreement with Alamanda (recent partnership).</li> <li>- Damage: 8%</li> <li>- Present circumstance:</li> </ul>	<ul style="list-style-type: none"> <li>- Volume: average 5 tons/week, twice to three times a week.</li> <li>- There is partnership agreement</li> <li>- Damage: 0.5%</li> <li>- Present circumstance: active.</li> </ul>

		Stagnant	
SOP-GAP assistance	No	Dissemination, implementation training, control and assist the implementation of SOP-GAP.	Dissemination, implementation training, control and assist the implementation of SOP-GAP.
Institutional Channeling of grant, subsidy and credit loan.	500 million IDR, grant from INA (NGO)	700 million IDR, low interest loan from TELKOM (Indonesian National Communication Company) distributed for Duri Kencana Farmer Group in Tempel Sub-district	150 million IDR, low interest loan from provincial government

### Note

- 1) The marketing partnership agreement with exporting company is consist of 13 articles are:
- (1) cooperation purpose, (2) cooperation principle, (3) the scope of cooperation, (4) cooperation period, (5) right and obligations, (6) prohibition or restriction, (7) funding or expense, (8) evaluation, (9) force majeure (emergency situation), (10) termination or cancellation of agreement, (11) dispute settlement, (12) others provisions, and (13) closing chapter.

#### 4.2 Partnership Model between Mitra Turindo Group Farmer Association and Agung Mustika Selaras (AMS) Exporting Company.

##### 4.2.1 Introduction

One of the strategic plans of Department of Agriculture in 2005-2009 was to increase competitiveness of agricultural products in global market. This strategic plan was implemented through the partnership model for fruit product exportation, especially that of mangosteen, mango, and snakeskin fruit. This program started in 2005, with the introduction of SOP-GAP (Standard Operational

Procedure-Good Agriculture Practice) at the group farmer level in sub-villages. In 2008, farmer group associations consisting of farmer groups were established to facilitate export market access through partnership export company.

Generally partnership agreement was regarded as a form of contract farming. Contract farming models consist of four types in Indonesia: (1) plasma and nucleus, (2) sub-contract, (3) harvest and pay, and (4) operational cooperation, known as *kerjasama operasional* (or KSO) in Indonesian (Ian Patrick, 2004). A partnership means a sub-contract system with a power balance between farmer group association and exporting company; the latter does not intervene in the production process, where farmers implement SOP-GAP according to the local government's extension system. SOP-GAP is required in order to maintain quality and safety management and to improve competitiveness in global market.

Most of these partnership agreements were not successfully implemented. Previous discussions of these have focused on three major constraints: (1) problems with the marketing system; the traditional *ijon system*<sup>1)</sup> is the main constraint on the development of farmer group associations; (2) problems with the exporting company; unfairness, corruption, and manipulation are regarded as the main constraints on contract farming development in Indonesia (Revrisond Baswir, 2010); and (3) problems with group farmer associations; management failures of agriculture institutions are caused by the low quality of the management boards, incompetent administrators, and dishonest attitudes (Harian Berita Haluan, 2011). The above-mentioned problems have been discussed separately, but the constraints on the exporting companies and group farmer associations cannot be solved separately; they must be solved simultaneously. To deal with these problems simultaneously, we must assess the management of the partnership.

This study focuses on the management of the partnership between the Mitra Turindo Group Farmer Association and the Agung Mustika Selaras (AMS) Exporting Company. The Mitra Turindo Farmer Group Association is a group farmer association dealing in snakeskin fruit products that has run a successful management system. The establishment of Mitra Turindo Farmer Group Association has increase bargaining power of farmer regard to increase the snakeskin fruits' price.

This study aims to achieve the following: (1) to identify the main factors in a successful partnership and (2) the economic effects of partnerships on marketing performance. The main objective of this study is to analyze the role of Mitra Turindo Farmer Group Association on the effort to increase farmers' price. The research area is located in Sleman District, Yogyakarta Province. Primary data were collected through interviews and questionnaires by random sampling with 40 farmers from 8 farmer groups, members of the Mitra Turindo Group Farmer Association as well as through in-depth interviews with group farmer associations, middlemen, and exporting companies. Secondary data were collected from the Regional Agriculture Office, the Regional Bureau of Statistics, and the Agriculture and Technology Analysis Agency through literature reviews and direct observation. Data collection was conducted throughout July 2011.

#### 4.2.2 Outline of Case Area

Sleman District is situated on the southern slope of Mt. Merapi. The district is divided into 17 sub-districts, 86 villages, and 1,212 sub-villages (or hamlets). The horticulture production in Sleman District is dominated by snakeskin fruit, making it the largest snakeskin fruit producer in Indonesia. There are 73 snakeskin fruit farmer groups in Sleman District with a total of 2,583 members. The main areas of snakeskin fruit cultivation are the Tempel, Turi, and Pakem Sub-districts. The cultivation area is 1,760 hectares; total number of plants and total production are 3,954,266 and 51,121 ton/year respectively. (Ahmad Dimiyati, 2008)

The Mitra Turindo Group Farmer Association, established on June 17, 2009, initially consisted of only five Turi Sub-district snakeskin fruit group farmers working through the SOP-GAP. It now consists of eight group farmers working under the SOP-GAP. In August 2009, it began a marketing partnership with the AMS Exporting Company for direct exportation to China. The Mitra Turindo Group Farmer Association exports 381,520 kg (25.45%) of its total production to China through its partnership with the AMS Exporting Company. The total number of members of the Mitra

Turindo Association is 626 farmers; 82.2% of them are small-scale farmers who are working a cultivation area below 0.5 hectares and usually use family labor rather than hired labor. Snakeskin fruit is the main source of income for most snakeskin fruit farmers; in 57.8% of snakeskin fruit farmer households, both females and males are full-time farmers; in 24.4% of households, the female farmers are full-time while the males have side jobs (4.4% are carpenters, 2.2% are quail farmers, 2.2% are goat farmers, 2.2% are civil servants, 11.1% are employees of private companies, and 2.2% are chili farmers), and, in 17.8% of the households, the males are full-time farmers while the females have side jobs as village traders.

#### 4.2.3 Implementation of SOP-GAP on Snakeskin Fruit

Snakeskin fruit is a native Indonesian fruit; it can be productive for 50 years or more. There are 30 cultivars grown in various production areas in Indonesia. Propagation is mainly done by vegetative propagation. Flowering occurs throughout the year. Harvesting takes place usually 4 to 6 months after pollination. After harvest, the fruits are immediately transported to the local market or sold to traders. In each sub-village, there are, on average, 3 to 4 village traders. There is no *ijon system* on snakeskin fruit (Salak) cultivation in Sleman District because the fruit can be harvested throughout the year.

The implementation of the SOP-GAP began in Sleman District in 2005, followed by the establishment of a group farmer association and the signing of a partnership with an exporting company in 2008. The goals of the SOP-GAP are the following: (1) Increasing production; the productivity target is 15 kg/plant/year, while current productivity is 10 kg/plant/year; (2) increasing quality; through the SOP-GAP, the grade A (8-12 fruits/kg) should increase to 60%, grade B (13-17 fruits/kg) to 30%, and grade C (18-22 fruits/kg) to 10%. Most of the products are now classified as grade B, which is used for export. These targets are expected to be achieved in six years. The implementation of the SOP-GAP required farmers to work more intensively (i.e., longer hours) and extensively (i.e., using family labor). The SOP-GAP implementation involved additional costs: (1) trimming the midrib (pruning the leaves); plant debris are now placed closer to the plant rows or in the



ditches between rows; (2) fruit thinning, in which excess fruit is removed to improve fruit size and quality; (3) the use of organic fertilizer in place of chemical fertilizer; this fertilizer is broadcast around the plant with a dosage of 10 to 15 kilograms per plant twice a year; farmers use organic fertilizer costing between 325,000 IDR<sup>2)</sup> and 475,000 IDR per truck (weighing from 1.5 to 2 tons); (4) the practice of maintaining records; farmers who had not previously kept records found this difficult at first.

#### 4.2.4 Partnership in Sleman District for Snakeskin Fruit Products

After a cooperative agreement on snakeskin fruit export was signed between Indonesia to China in October 2008, farmer group associations and partnerships were established to export the product. There are three cases of partnerships in Sleman District: (1) the Indomerapi Group Farmer Association collaborated with the Agung Mustika Selaras (AMS) exporting company; (2) the Prima Sembada Group Farmer Association collaborated with AMS; and (3) the Mitra Turindo Group Farmer Association also collaborated with AMS.

Through these partnerships, the price paid to farmers for snakeskin fruit increased; the average product price/kg before exportation had been 4,517 IDR in 2007 (Central Bureau of Statistics, Yogyakarta, 2008) whereas, after exportation, it increased to 5,913 IDR for the domestic market; the price of exports increased to 6,713 IDR in 2010 and to 7,500 IDR in 2011 (Mitra Turindo). The average price in each stage of export is represented as follows: (1) Farmer/group farmer → group farmer association: 7,500 IDR, (2) group farmer association → exporting company: 7,500~8,000 IDR, (3) exporting company → supermarket in China: 30,000 IDR, and (4) supermarket in China → consumer in China: 50,000 IDR. Farmers are obliged to carry out simple cleaning, checking for substandard products, and product grading according to size and quality standards before shipping to the group farmers.

The establishment of the Indomerapi Group Farmer Association in 2008 was the first case of partnership in snake skin fruit export in Sleman District; it was supported by the Indonesian Netherland

Association/INA (a NGO) and the government. The appointment of board members, however, was only a formality; decisions were made by the chairman alone. As it had only four member group farmers, the association could not collect the amount of snake skin fruit stipulated by the SOP-GAP. It thus purchased fruit outside of the SOP-GAP from fruit collectors and supplied these to the AMS exporting company. This caused much friction among stakeholders (i.e., government, the NGO, and farmers) and led to the end of the partnership.

The local government then created a new association to continue the exportation, namely, the Prima Sembada Group Farmer Association, consisting of 11 group farmers. The appointment of board members by the group farmer association was not impartial, and a biased subsidy allotment among member group farmers and an unfair quota on export products caused envy and conflict among members. Moreover, slow responses to the exporting company's complaints (the rate of damaged fruit reached 5% at the association level) caused the exporting company to decide to terminate its collaboration with the Prima Sembada Group Farmer Association.

Picture 2. Grading and Packing House of Mitra Turindo Farmer Group Association





#### 4.2.5 Partnership between the Mitra Turindo Group Farmer Association and AMS

After the termination of the partnership between the Prima Sembada Group Farmer Association and the AMS Exporting Company, the group farmers in Turi Sub-district created a new association, the Mitra Turindo Group Farmer Association, to lobby the exporting company to continue direct exportation from Sleman District, especially from Turi Sub-district. The exportation of snakeskin fruit from Sleman District to China is still ongoing through the partnership between the Mitra Turindo Group Farmer Association and the AMS Exporting Company. The partnership agreement process between the Mitra Turindo Group Farmer Association and the AMS Exporting Company is shown below.

Figure 8. Partnership Agreement Process for Exportation

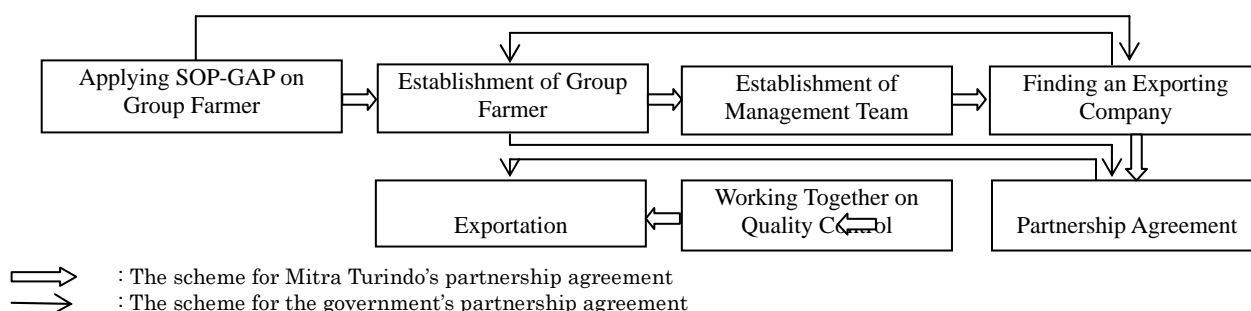


Table 14. Snakeskin Fruit Exportation by the Mitra Turindo Group Farmer Association

	Name of Group Farmer							
	Kembang Mulyo	Sicantik	Sri Manunggal	Sido Rukun	Sari Madu	Ngudi Nakmur	Sumber Mulyo	Muda Jaya
Amount of exportation (kg)	73,370	46,936	51,080	71,942	120,492	8,740	2,200	6,760
Total Land Area(ha)	5.3	10.2	5.5	18.2	14.7	4.4	9.2	7
Total Clusters	13,104	25,800	13,875	45,660	36,850	11,200	23,240	17,640
Production (kg/year)	104,832	206,400	111,000	365,280	294,800	89,600	185,920	141,120
Total Production (percentage of export)	1,498,952 kg (25.45%)							

Source: Mitra Turindo Group Farmer Association (Oct 2009–Sep 2010)

The payment flow occurs this way: exporting company → group farmer association → group farmer → farmer. The group farmer association usually receives a sales commission of about 100 to 300 IDR/kg but only when prices are high (over 7,000 IDR), while the Mitra Turindo Association receives a sales commission of about 300 to 500 IDR/kg for investment and for grading costs at the association level. Since the association does not have its own grading house, it has used a house owned by the chairman of the association as the association's grading house and office without compensation. A part of the money collected is being accumulated for the purpose of constructing a grading house and facilities; 470 m<sup>2</sup> of land for the grading house has been purchased for 60,000,000 IDR. An amount of 30,000 IDR/staff/shipping is paid in wages out of the collected money. Of the group farmer members, four staff (two are Mitra Turindos' staff, and two are AMSs' staff) are employed as grading specialists

by the Mitra Turindo Association. The Mitra Turindo Association has been felt helpful to farmers (28.9% of the farmers think “it has been very helpful” and 71.1% think “it has been helpful.”<sup>3</sup>)

The application of the SOP-GAP and the direct exportation of snakeskin fruit have increased farmers’ incomes significantly (see Table 15). The annual incomes of snakeskin fruit farmers in Sleman District are higher than the average income of Indonesian farmers. By owning cultivation land of 1,000 m<sup>2</sup>, farmer can earn an income of 7,500,409 IDR. Average land holding of snakeskin fruit in Sleman District is 4,000 m<sup>2</sup>, the average annual income per household is 30,001,636 IDR, while the average annual income per farm household in Indonesia is 9,913,510 IDR. This ensures that snakeskin fruit farmers in Sleman District are satisfied with their incomes (15.55% of them are “satisfied” and 84.45% are “very satisfied”<sup>3</sup>). The incomes drawn from farming snakeskin fruit are higher than those drawn from farming other products, such as paddies, vegetables, and livestock.

Table 15. Income Before and After Exportation (per 1000 m<sup>2</sup>)

	Before (2007)	After (2010)
Harvested Plants	200	200
Productivity (kg/plant)	8	10
Total Production	1600	2000
Damage Fruit (kg) <sup>1)</sup>	128	80
Substitution Fruit (kg) <sup>2)</sup>	97	127
Sales for Domestic (IDR)	6,210,875	7,952,985
Sales for Export (IDR)	-	3,007,424
Total Sales (IDR)—(a)	6,210,875	10,960,409
Cost (IDR):		
Farm Equipment (sickle, cart, etc)	810,000	810,000
Irrigation Fee	25,000	25,000
Labor Cost (family labor) —(b)	800,000	800,000
Fertilizer Expense	958,125	2,625,000
Total Cost—(c)	2,813,125	4,260,000
Income {(a)-(c)+(b)}	4,197,750	7,500,409

Note: 1) This shows the amount of fruit checked as damaged after grading by farmer.

2) Every sale of 15 kg gives 1 kg (6.6%) as substitution fruit.

#### 4.2.6 Supporting Factors in the Sustainability of the Partnership between Mitra Turindo Association and AMS

The key factor in the success of the partnership between Mitra Turindo Association and AMS is their joint management system: (1) quality control; in the case of Indomerapi and Prima Sembada, quality control items (such as grading and damage checking) were handled only on the group farmer level, by association staff, while the AMS checked them only in the packing house in Jakarta. This caused conflict between the association and the exporting company. The exporting company suffered a high percentage of damaged fruit and accused the association of not checking and grading the fruit correctly, while the association accused the exporting company of manipulating the damage data. In the case of Mitra Turindo, quality control at the group farmer level required the exporting company staff to grade the fruit and check it for damage. In addition, quality control was also performed at the association level, through a recheck performed by association and exporting company staff. As a result, the product rejection rate decreased sharply at the association level; it was 8% for Indomerapi, 5% for Prima Sembada, and 0.5% for Mitra Turindo. (2) institutional building; in the case of Indomerapi, decision making was monopolized by the association chairman out of personal interests; in the case of Prima Sembada, bias and corruption caused envy and conflict among members, while, for Mitra Turindo, management is performed by a management team recruited from outside. The trust level of members for board members is satisfactory; “very high” for 37.5% and “high” for 62.5%<sup>3)</sup>. Indomerapi and Prima Sembada, covering three sub-districts (Tempel, Pakem, and Turi) will certainly experience more friction because not every sub-district necessarily agreed on their interests at the association level. Meanwhile, Mitra Turindo, consisting of only one

sub-district (Turi), is better able to minimize friction because rights/benefits are readily shared among members. (3) information sharing or reduction of the asymmetry of information between partnership members; Mitra Turindo Group Farmer Association holds a monthly meeting, which is attended by representatives of the AMS exporting company, association staff and representative of each group farmer, wherein the financial sheet and the plan and result of the association's activity are distributed to the meeting participants. Thus, each party (farmers, association, and exporting company) can increase the transparency of information. Thereby, with regard to the satisfaction level of information sharing with members, 30% of Mitra Turindo's members are "very satisfied" and 70% are "satisfied," while 60% of members are "very satisfied", and 40 % are "satisfied" with the association's performance<sup>3)</sup>.

#### 4.2.7 Conclusion

The partnership model introduced in Indonesia has not developed in the manner the government expected. However, the partnership in snakeskin fruit production between the Mitra Turindo Group Farmer Association and the AMS exporting company has proven that the strategy is right, since an equal partnership can produce good effects, particularly by increasing farmers' incomes and product quality. Increasing farmers' income is resulted by increasing products' price and increasing quality. The government should support this type of partnership. It is also clear that a successful partnership is based on a joint management of facilities such as a grading house, which is able to minimize unfair, corrupt, and manipulative practices in quality control and the allotment of interests and decision making, thus leading to an equal relationship between the two parties. For such management, farmers' initiative to develop their farming

activity is required. This analysis is the remaining task of the study.

**Note:**

- 1) The *Ijon system* is an informal credit system used in rural areas. It involves contracting to buy crop products still in an immature/green stage. The *Ijon* (derived from the Javanese word for “green”) covers an amazing variety of credit transactions characterized by (usually) borrowing cash and (always) repaying in kind (Partadireja, 1974).
- 2) 1 Japanese yen = 115 IDR (Indonesian Rupiah)
- 3) Results of our field survey



## CHAPTER V

### ANALYSIS OF FARMER PRICES AND THEIR INFLUENCING FACTORS

#### 5.1. Introduction

Indonesian tropical fruit still faces barriers to access the international market, especially related to sanitary and phytosanitary testing, continuity of supply, quality, and food safety. The total exports of Indonesian horticultural products in 2013 were US\$ 5,728.3 million, only 3.14% of total Indonesian exports (National Bureau of Statistics of Indonesia, 2014). Although Indonesia is primarily an agriculture-based country, the ratio of agricultural exports to agricultural production is still very low compared with neighboring Thailand and Vietnam.

To improve the competitiveness of Indonesian fruit, Government of Indonesia has launched many programs, such as the Good Agricultural Practices (GAP) program, an orchard registration system for agricultural growers, providing packing house registration, pest surveillance, and information for export (Dimiyati et al., 2008), as well as establishing a partnership system. The GAP program aims to improve the abilities of small farmers. To support this program, the government established the Farmer Group Association (FGA), which has improved farmers' fruit cultivation knowledge and skills (Dimiyati et al., 2008). The GAP program was introduced first in Sleman District, followed by Magelang and Banjarnegara Districts. Snakeskin fruit in Sleman District was designated as a pilot project of the GAP

program with specific Standard Operating Procedures (SOPs) in 2005. The total registered agricultural area producing snakeskin fruit through this program reached 897.8 ha in 2012. Through the GAP program, snakeskin fruit has been successfully exported to China since 2008.

Previous studies point out that snakeskin fruit exports increased the incomes of snakeskin fruit farmers by increasing market prices for both the export and domestic markets (Ari E.K.H., 2009). However, there is no analysis explaining why the prices have risen, as other factors also influence prices. This study analyzes the factors contributing to increased prices, especially related to the farmer's selling price in the domestic market.

This study has several aims. First, it aims to identify the factors contributing to increased prices. Second, it examines the effect of export activities on the marketing channel through a value chain analysis. Finally, it considers the contribution of exports toward the farmer's sales price of snakeskin fruit. The research area is located in Sleman District, Yogyakarta Province. Primary data were collected through interviews and questionnaires with the Prima Sembada Farmer Group Association, Mitra Turindo Farmer Group Association, 10 farmers, 34 small village traders, and 1 big trader in Sleman District, Indonesia. Secondary data were collected from the Regional Agriculture Office and the Regional Bureau of Statistics in Sleman District through literature reviews and direct observations. Data from 2005 to 2010 were collected mainly in 2011 and an additional survey was conducted in 2013. Data from 2005 and 2008 were mainly used for the analysis, because the GAP and exports based on the FGA that began in these years had a significant influence on prices and incomes.

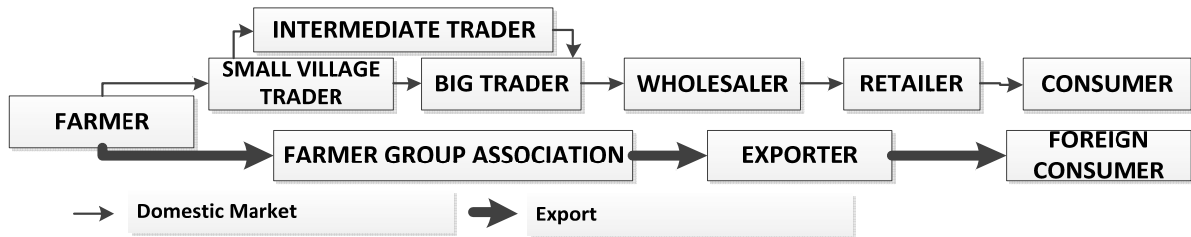
## 5.2. Implementation of GAP Program in Snakeskin Fruit Production

Snakeskin fruit is eaten raw and comes from a native Indonesian species with many cultivars. It is productive for up to 50 years and can be harvested throughout the year, though peak harvest season is from November to January, with a secondary peak from May to July. The total production of the fruit in Indonesia was 423,548 tons in 2000, which increased to 1,035,407 tons in 2012. Sleman District produced 40,262 tons. Other main production areas are located in Banjarnegara and Magelang District (Central Java), Karangasem District (Bali). The fruit grows in a cluster with 15–40 fruits at the base of the palm and farmers sell the product as bunches to village traders. Individual fruit is separated from the bunch by big traders and distributed to wholesalers and retailers. Snakeskin fruit was designated as a fruit for national excellence in Indonesia with export potential by a decree of the Minister of Agriculture, no. 272/Kpts/TP.240/1988, April 21, in 1988. The fruit has been exported to Singapore, Malaysia, Hongkong, and China. After 2008, China became the main market and 878.6 tons were exported to China in 2013. The export requirements, especially to China, are mainly that the fruit is produced and packed in at registered farms and packing houses, and that there is a quality assurance system to ensure quality, food safety, and traceability (Dimiyati et al., 2008).

Prima III certificate of the GAP program is required as a guarantee of product safety for consumption in destination countries, and the government promotes this program and defrays the certification-related expenses of GAP. Through the program, the government expected to improve product quality and to raise their competitiveness in international markets. The FGAs were established to support the introduction of SOPs of GAP and facilitate exports. The scope of SOPs includes standard operation of land preparation, seed preparation, planting, fertilization,

watering, disease control, sanitation, post-harvest handling, and packing and labeling.

Figure 9. Snakeskin Fruit Marketing Channel in Sleman District



In Sleman District, three FGAs for snakeskin fruit were established since 2008 to promote exports: Indomerapi FGA, Prima Sembada FGA, and Mitra Turindo FGA. Presently, two are active: Prima Sembada FGA, in collaboration with Alamanda Exporting Company; and Mitra Turindo FGA, in collaboration with AMS Exporting Company. Mitra Turindo FGA exports 25.5% of total production, while Prima Sembada FGA, which restarted snakeskin fruit exports recently, exports 2%. In Mitra Turindo FGA, 74.5% of the fruit grown with the GAP program is sold into the domestic market through village traders (collectors). The role of FGAs in the domestic market is still limited. Figure 9 shows the distribution channel of snakeskin fruit.

### 5.3. Value Chain of Snakeskin Fruit

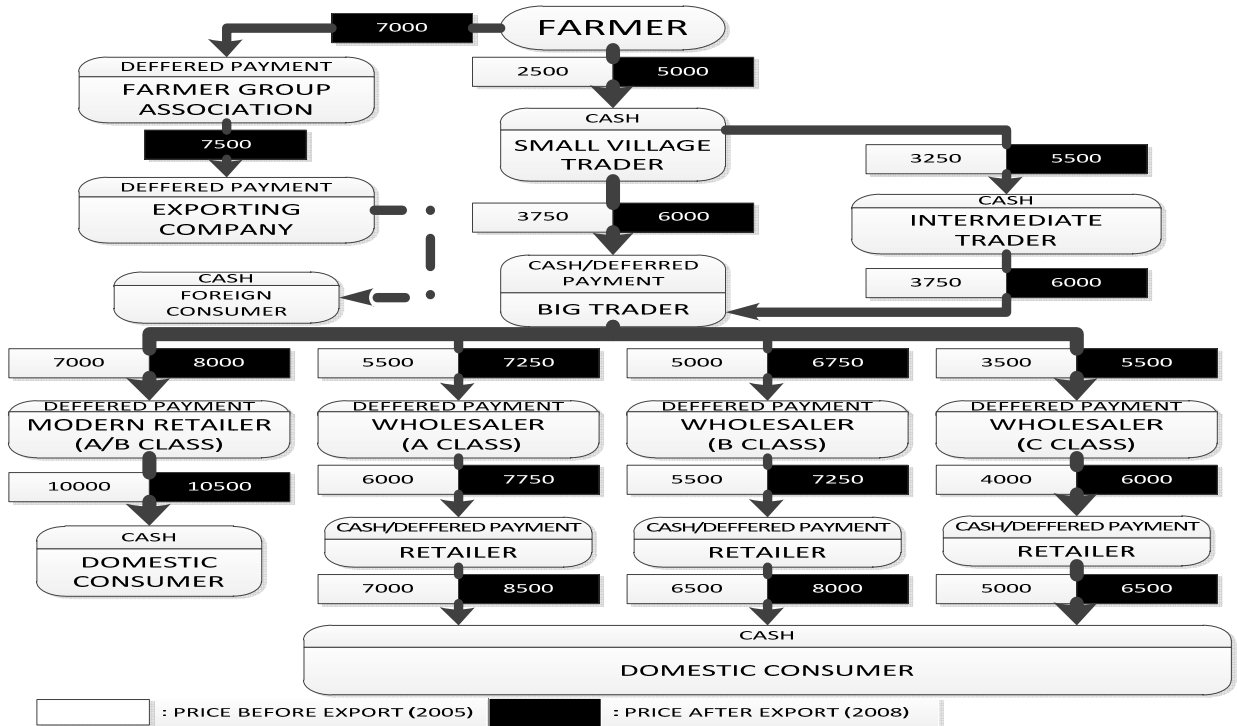
The export company buys A and B grade snakeskin fruit from the FGA after the farmer separates them from the bunch. At the start of the program, mainly B grade fruit was purchased

because the quantity of A grade fruit harvested was not enough to meet the exporter's requirements. The following value chain analysis aims to clarify the factors influencing the price increases.

Figure 10 shows the value chain of snakeskin fruit in Sleman district in 2005 and 2008. As there are no statistical data for the prices in 2005 and 2008, the data were obtained through a field survey using interviews and questionnaires. In the survey, respondents were asked to choose the most appropriate price range from a list of given options. For the farmer's sales price, all respondents chose the price range of 2,000–3,000 IDR/kg for 2005. In 2008, the range of 4,000–5,000 IDR/kg was chosen by 50% of the respondents, while the remainder chose the range of 5,000–6,000 IDR/kg. According to the Agricultural Office of Sleman District, the average price of snakeskin fruit in 2008 was 5,016 IDR/kg. The highest price was 6,900 IDR/kg in September, and lowest price was 2,500 IDR/kg in December. These data almost matched our findings. The price fluctuates considerably by season, so pricing data were collected in November, when the price was considered to be near the average annual price.

Workflow after harvesting is as follows: the farmer harvests the fruit, which is then sold to small-scale village traders who transport it by carrier's truck to small local market to sell to intermediate traders. At large local market, big traders buy the fruit from intermediate traders or small-scale village traders, and finally grade and pack the fruit.

Figure 10. Price of Snakeskin Fruit in 2005 and 2008 by Distribution Stage



Source: Field survey (2011, 2013). Data regarding margins on snakeskin fruit for modern retailers was collected from Octaviani (2008)

The farmer’s price data were acquired from 10 respondents in the Prima Sembada FGA, from 131 farmers who had orchard registration. The small-scale village trader’s data were collected through questionnaires, with six respondents from the Turi and Tempel Sub-districts. The data for big traders, modern retailers, and wholesalers were obtained from one big trader (middleman) in the Tempel Sub-district.

As shown in Figure 10, prices rose at each distribution stage, especially at the farmer level, which doubled. However, the rate of increase in each subsequent stage was not so high and was nearly the same as the general inflation rate for this period. It is interesting to examine

why only the farmers' sales price increased so much.

Table 16 presents traders' margins and farmers' incomes in 2005 and 2008. There is a remarkable difference between farmers and traders when investigating changes in incomes and margins between 2005 and 2008: farmers' incomes increased while traders' margins decreased considerably. Interestingly, only the price and farmers' incomes increased in 2008.

	2005		2008	
	IDR/kg: (percentage of margin)			
Small-scale village trader	750 (23.1%)* (33.3%)**	1,250	500 (9.1%)* (16.7%)**	1,000
Intermediate trader	500 (13.5%)		500 ( 8.3%)	
Big trader	788 (17.4%)		613 ( 9.3%)	
Modern retailer	3,000 (30.0%)		2,500 (23.8%)	
Wholesaler	500 (11.0%)		500 ( 7.3%)	
Retailer	1,000 (18.0%)		650 ( 8.7%)	
Farmer's income (income ratio)	1,690 (67.6%)		3,275 (65.5%)	

Source: Figure 2. Data regarding farmer's income was collected from the field survey in 2011 and 2013.

Note: 1) Percentage Of margins are calculated as follows: (sales price – buying price)/sales price × 100.

2) \* Price for intermediate traders, \*\*Price for big traders

3) Farmer's income/kg is calculated as follows: total sales/kg – (total cost/kg—family labor cost/kg)

#### 5.4. Factors Affecting Farmers' Price Increases

First, inflation should be considered as a factor increasing prices. The period between 2005 and 2008 saw high inflation: 6.6% in 2006, 6.69% in 2007, and 11.1% in 2008. High inflation contributed an estimated 26.2%<sup>1)</sup> toward price increases.

The second factor is the influence of product quality improvements through the implementation of the GAP program, where fruit was pruned to reduce the number of fruits per bunch in order to improve the overall quality and quantity. Quality improvements also came

through increases in A and B grade fruits and decreasing C and D grade fruits, as shown in Table 17. Grade D fruits are sub-standard with only a little value. After big traders separated each fruit from the bunch, they then sold them to wholesalers and retailers according to their standards. However farmers sold the product as bunches to small-scale village traders, so the increases in the higher-grade fruit raised the price of a bunch. Therefore, in the wholesale and retail markets, the price of snakeskin fruit did not rise significantly, while the sales price of the bunch increased considerably. Quality improvements contributed an estimated 12.3% to the price increases. Quality improvement contributions are estimated based on the price difference by grade and the change of the production ratio of each grade between 2005 and 2008; 25% of the product which consist of only A and B grade are sold to modern retailers and the remaining fruit are handled at wholesale markets. Though modern retailers deal in nearly 50% of A grade fruit, A and B grade are sold at the same price, while there is price difference among grades at a wholesale market.

Table 17. Changes in Product Quality

Grade	Pieces of fruit /Kg	Before GAP	Recent	Expectation
A	8–12	5%	20%	60%
B	13–15	30%	40%	30%
C	16–18	60%	40%	10%
D	>18	5%	-	-

Source: Agricultural Office of Sleman District

There are two possible factors contributing to the remainder of the price increases. The third factor was an intensification of competition among small-scale village traders to collect snakeskin fruit. As Table 18 shows, the number of small-scale village traders increased sharply until 2005, and snakeskin fruit transactions between small-scale village traders and farmers changed substantially thereafter.



Table 18. Number of Small-scale Village Traders and Big Traders in Sleman District

	1986	1988	1989	1997	2005	2008
Small-scale Village Trader	3	10	10	80–100	150	150
Big Trader	-	3	5–10	20–25	30	30

Source: Field survey (2011 and 2013)

A notable change occurred in the payment of small-scale village traders to farmers. For snakeskin fruit, the small-scale village traders used a deferred payment system until 2004, and more than 70% of small-scale village traders sold the fruit to intermediate traders and received payment on a cash basis. However, owing to intensified competition for collecting snakeskin fruit among small-scale village traders, they began to buy the fruit from farmers with cash or offer higher prices to farmers. As a result, farmers' sales prices have steadily increased since 2005<sup>2)</sup>.

Table 16 shows that when the buyers were intermediate traders, small-scale village traders' margins per kilogram decreased from 23.1% to 9.1%, and the income per kilogram decreased from 660 IDR/kg to 367 IDR/kg<sup>3)</sup>. To compensate, while small-scale village traders expanded their operations, they had to find a channel to sell fruit into at a higher price to maintain their businesses and income. Small-scale village traders skipped intermediate traders and began to sell products to big traders. Though big traders used a deferred payment system, paying 40% in cash, 10% 1 week later, 30% 2 weeks later, 15% 1 month later, and 5% 3 months later, their margin increased to 16.7% from 9.1% in 2008 as shown in table 14. The ratio sold by small-scale village traders to intermediate traders decreased to 50% in 2008 and to less than 10% in 2013, as a result, the 25 intermediate traders in 2005 decreased to 20 and 5 in 2008 and

2013, respectively.

The fourth factor is the bargaining power of FGAs. FGAs collaborate with export companies to export snakeskin fruit, and the transaction price was determined by negotiations, checking and rechecking of grading, and packing of harvested snakeskin fruit, performed jointly by association and export company staff. This was the first case in which a farmer negotiated the price with traders. Since most farmers in Sleman District did not have any price or market information, the farmer could only sell the fruit at the price that trader offered. Members of FGAs negotiated prices through their FGA, thus standardizing the price of snakeskin fruit for farmers who sold their product to small-scale village traders. This represented an increase in farmers' bargaining power relative to small-scale village traders. These factors contributed to a rise in farmers' sales prices, while simultaneously influencing each other.

- 1) The annual inflation rate from 2006 to 2008 was used to calculate the inflation rate for this period, as the November sales price was adopted.
- 2) According to Syafi'ah, sales prices from farmers to small-scale village traders in the selling price were as follows: 2500 IDR/kg in 2005; 3420 IDR/kg in 2006; 4517 IDR/kg in 2007; 5016 IDR/kg in 2008; and 5582/kg IDR in 2009. (Syafi'ah, 2010).
- 3) Small-scale village trader's income is calculated as follows: margin – cost (transportation, weighing and market service retribution).

## 5.5. Conclusion

Exports have increased farmers' incomes by 6.3% (Mitra Turindo FGA) through higher export prices for snakeskin fruit. However, domestic sales prices also increased, influenced by inflation, quality improvements, the GAP program, intensified competition among small-scale village traders, and farmers' increased bargaining power relative to small-scale village traders; the bargaining power were increased most by the establishment of FGAs and its price negotiations with export companies.

FGAs potentially may reorganize the marketing channel. One FGA, Prima Sembada FGA, already has plans to enter the domestic market in cooperation with the associated export company. This business becomes successful; the domestic distribution channel will also undergo change. To increase farmers' incomes, the Government of Indonesian should establish more FGAs, as they increase farmers' bargaining power and facilitate the GAP. The price increases through establishment of FGA in other fruits are remaining task of this study.

## CHAPTER VI

### GENERAL CONCLUSION

Small-scale village trader of snakeskin fruit in Sleman District is the one of contributing factor to price increase at farmer level. Most bureaucrats and academics have a negative perspective on small-scale village traders in agricultural marketing, and so far, there has been no support for government to empower them. However, in the Sleman District, small-scale village traders have developed as independent traders who take business risks with their own capital, bank/cooperative credit, and informal credit (*rentenir*). It means they can not only increase purchase price of the product, but also select buyer of the product.

Government program to shorten the marketing chain and increase farmer income is appropriate. However, government should consider that increase of farmer's income can be done by improving efficiency of small-scale village trader practice. In Indonesia, the small-scale village trader is not considered an important actor in the modernization of marketing system. Support and empowerment of small-scale village traders as development agents of the agricultural sector in Indonesia is recommended. Another need is to promote accessibility to low-rate with no collateral and simple procedure of formal credit for women small-scale village traders.

The other factor contributing to the increase of farmers' income is establishment of farmer group associations. This program was one of effort to increase farmers' bargaining positions especially bargaining power with traders. In Sleman district, farmer group association

improved quality of snakeskin fruit by introduction of SOP-GAP.

But, all of farmer group associations are not run well. Among three types of farmer group associations related to snakeskin fruit cultivation in Sleman district, only one type of them has exported snakeskin fruit continuously, based on the collaboration with exporting company. Trust building activities of farmer group association with various partners are the basis to guarantee sustainable exportation.

In Sleman District, the partnership between Mitra Turindo Farmer Group Association and AMS Exporting Company has developed. Implementation of an equal partnership between farmer group association and exporting company has good effects, and contributes increase of farmers' incomes through good product quality control. Joint management of facilities such as a grading house is able to minimize unfair, corrupt, and also increase quality by decreasing of damaged fruit rate. By equal relationship between stakeholders, that is farmers, farmer group association and exporting company, the partnership can improve the performance of organization.

Export price which was higher than domestic market price, increased farmers' incomes by 6.3%. However, Domestic market price of snakeskin fruit also increased simultaneously in Sleman District. The increase of domestic market price was influenced by inflation, quality improvements, GAP program, intensified competition among independent small-scale village traders, and farmers' increased bargaining power relative to traders.

Establishment of farmer group association played an important role for increase of farmers' income through entry to export market. It also means farmer group association changed the distribution channel of snakeskin fruit. The government should support the establishment of farmer group association to develop agribusiness partnership.

## REFERENCES

- (1) Addullah, I., (2001). Seks, Gender dan Reproduksi Kekuasaan, Tarawang Press, Yogyakarta, Indonesia.
- (2) Adang Agustian and Iwan setiaji A. (2008) “Dinamika Pembangunan Pertanian dan Pedesaan: Tantangan dan Peluang bagi peningkatan Kesejahteraan Petani”. seminar nasional, Bogor.
- (3) Afif Maysharoh, Irene Putri. P., Baca Uli Simanjuntak, Nuhasanah Margolang, Boy Sandy, 2013, Laporan Pemasaran Hasil Pertanian, Survey Pasar, Program study Agrobisnis Fakultas Pertanian Universitas Brawijaya, Malang.
- (4) Agung, M., (2011). Tengkulak (2), Mesin Distribusi Petani, Kompasiana, 13 Februari.
- (5) Ahmad Dimiyati, Sri Kuntarsih, DwiIswari and YennyNurchahya S. 2008. Meeting The Requirements of International Market for Salacca (Case Study: Export Challenge of Salacca ”Pondoh” Variety to China). Directorate General of Horticulture. Ministry of Agriculture of Republic of Indonesia.
- (6) Akbar, (2011). Strategi Keberlanjutan Program Pengembangan Usaha agribisnis Pedesaan (PUAP) (Kasus Kabupaten Karawang), Sekolah Pasca Sarjana, IPB, Bogor.
- (7) Al Hendri, (2012). Kebijakan Pemerintah dalam Pemasaran Produk Pertanian, [alhendri84.blogspot.jp](http://alhendri84.blogspot.jp)
- (8) Anonymous, 1998, Distribusi dan Pemasaran Salak Pondoh, IPPTP, Yogyakarta.
- (9) Anonymous, 2007, Sleman Regency in Figure 2006.
- (10) Anonymous, 2008, Kawasan Pengembangan Komoditas Salak 2008, Direktorat Budidaya Tanaman Buah, Direktorat Jenderal Hortikultura, Departemen Pertanian Indonesia.
- (11) Anonymous, 2009, Modul Kelembagaan Petani, Badan Pengembangan SDM Pertanian,

Deptan.

- (12) Ari Erta Kumala Hidayati (2009): Tirai Bambu Butuh Banyak “Sisisk Naga”, Agrina Vol. 2, March 2009.
- (13) Ashari and Endang L H. 2006. Mangga Gedong Gincu, Peluang Bisnis Baru. Pusat Analisis Sosial Ekonomi dan Kebijakan Pertanian. Warta Penelitian dan Pengembangan Pertanian vol 28.
- (14) Bpkp.go.id/diy/, <http://www.bpkp.go.id/diy/konten/830/Profil-Kabupaten-Sleman>.
- (15) Central Bureau of Statistics Yogyakarta, 2008, Statistic of Yogyakarta.
- (16) C.L.Hii, S.P. Ong and C.L. Lai, 2001, Drying Studies on Tropical Fruits Cultivated in Malaysia. A Review: Journal of Applied Science, 11:3815-3820
- (17) Coolier, W.I., Gunawan Wiradi and Soentoro, 1973, Recent Changes in Rice Harvesting Method Some Serious, Social Implication, Buletin of Indonesian Economic Studies, 60:2.
- (18) Darwin, Soesilowati, Endang S., (1998). Kondisi Sosial Wanita Pedagang kecil, LIPI.
- (19) Deptan, (2004) Diperlukan Lembaga Pemasaran Alternatif yang Baru untuk Memperbaiki Sistem Tata Niaga, [www.deptan.go.id/dit.buah](http://www.deptan.go.id/dit.buah).
- (20) Desi Kamira, Melinda Noer and Firman Tan, 2011, Evaluasi Pelaksanaan Program Pengembangan Usaha Agribisnis Pedesaan (PUAP) di Kota Padang, Program Pasca sarjana Universitas Andalas Padang.
- (21) Dhawe, Danang.,(2012). Petani Potret Penjajahan Ekonomi, Kompasiana, 2 Januari, 2012.
- (22) Distan Sumbawa, (2011) “Launching Pasar Tani “Mampis Rungan”. Dinas pertanian Tanaman Pangan Kabupaten Sumbawa.
- (23) Ditjen Hortikultura (2004), Rencana Strategis Pengembangan Hortikultura Indonesia.

- (24) Draft IRA Report, 2014, Salacca from Indonesia.
- (25) Elizabeth, R., (2007). Women Empowerment to Support Gender Mainstreaming in Rural Agricultural Development Policies, Forum Penelitian Agro Ekonomi, Volume 25 No 2.
- (26) E. Mora, 2015, Kajian Status Hara Tanah dan Hubungan dengan Produksi, Tesis Program Pasca Sarjana Pertanian, Universitas Sumatra Utara.
- (27) Endang Siti Rahayu, 2009, Mereposisi Peran Pemasaran Pertanian dalam Revitalisasi Pertanian, Pidato Pengukuhan Guru besar Sidang Senat Terbuka UNS Solo.
- (28) Endarwati, M., Lies., Penny Rahmawati and Musaroh, (2009). Kemiskinan dan Pengembangan Model Kredit Mikro bagi Perempuan Miskin di Kota Yogyakarta, Laporan Penelitian Universitas negeri Yogyakarta.
- (29) FAO, Gender and Agriculture Support System, SD Dimension ([www.fao.org/sd/WPdirect/WPdoe004.htm](http://www.fao.org/sd/WPdirect/WPdoe004.htm))
- (30) Fitriana Isnaeni N.A., Deasa Nurhausan Albana, Hiknal Suprihatin, 2014, Kontribusi 9 Sektor Ekonomi Terhadap Angka Kesejahteraan Penduduk di Kabupaten Sleman, Fakultas Ekonomi dan Bisnis Islam, UIN Sunan Kalijaga, Yogyakarta.
- (31) Gari, N.M., 2005, Studies on Bali Salak Cultivars (*Salacca zalacca* var. *amboinensis*)(Arecaceae), Master (research) Thesis, James Cook University, Australia.
- (32) Harian Berita Haluan, 2011, Lembaga Pertanian, Faktor Pendorong Atau Penghambat.
- (33) Herlambang, T., Peter J Batt, Murray J McGregor, (2006). Developing an Effective Food Chain Management in Developing Country. A Case Study on Manalagi Mango Fruit Supply Chain in Indonesia, Ifama.org.
- (34) Ian Patrick, 2004, Contract Farming in Indonesia: Smallholders and Agribusiness Working Together, Australian Centre for International Reserch (ACIAR), Canberra.



- (35) ILO & ADB, (2011). Women and Labor Market in Asia, Rebalancing for Gender Equality, Joint Publication of the International Labour Organization and Asian Development Bank, Bangkok.
- (36) Indraningsih, K,S., Ashari and Supeno, F., 2008, Strategy Pengembangan Model Kelembagaan Kemitraan Agribisnis Hortikultura di Bali, Pusat Analisis Sosial Ekonomi dan Kebijakan Pertanian, Bogor.
- (37) Irianto.B., S. Purnomo,2007, Toward Better Supply Chain Management Trough Micro-finance. A Case Study for Banana Production, International Society for Horticultural Science.
- (38) IT IS Report, *Salacca zalacca* (Gaertn) Voss., it is.gov.
- (39) Kompas, 2012, Masih Banyak Petani Terbelit Utang ke Tengkulak, Edisi 10 Desember 2012.
- (40) Kompas, 2015, “Si Buah Ular” Andalan Sibetan, Edisi 10 Maret 2015.
- (41) Letter decree of Minister of Agriculture no. 273/Kpts/OT.160/2007, 2007, Guidance of Farmer Institution Development, Department of Agriculture, Government of Indonesia.
- (42) Made Nurbawa (2012). “Antara Aku, Petani dan Tengkulak”. Metro Bali, Bali.
- (43) Manning and Tajuddin Noer Effendi (eds.), (1985). “Sektor Informal dan Kota di Dunia Ketiga”,Urbanisasi, Pengangguran dan. Sektor Informal di Kota. Jakarta: Gramedia.
- (44) Martowojaya Sumantoro, 2007, Indonesian Microfinance in the Crossroad, Caught between Popular and Populist Policies, July, IRIS Center, USA.
- (45) Mitra Turindo, 2011, Laporan Perkembangan Asosiasi Kelompok Tani Mitra Turindo.
- (46) Mubyarto. (1984). Pengantar Ekonomi Pertanian, LP3ES, Jakarta.
- (47) National Bureau of Statistic of Indonesia (2014): Berita Resmi Statistik (Statistic Release)

No 11/02/Th. XVII, Jakarta.

- (48) Nur Hidayat, et al, 2005, Keragaman Pendapatan Rumahtangga Tani di Agroekosistem Lahan Kering di Yogyakarta, Prosiding Seminar, Litbang Pertanian, Departemen Pertanian.
- (49) Nurbawa Made, 2012, Antara Aku, Petani dan Tengkulak, Metro Bali.
- (50) Octaviani Kumara Sari (2008): Studi Budidaya dan Penanganan Pasca Panen Salak Pondoh (*salacca zalacca* Gaertner Voss) di Wilayah Kabupaten Sleman (Study of Cultivation and Post-harvesting Handling on Snakeskin Fruit in Sleman District), Program Studi Hortikultura Fakultas Pertanian, IPB, Bogor.
- (51) Palmweb.org., Salacca
- (52) Partadirja, A. 1974. Rural Credit: The Ijon System. Bulletin of Indonesian Economic Studies 20(3):54-71.
- (53) Pemkab Sleman, 2013, Laporan SLHD Kabupaten Sleman.
- (54) Phil Simmon, Arif Daryanto, Rina Octaviani, Ria Puspa Yusuf, Ni Wayan Sri Astiti, I Gede Pitana, Moch. Muchlis Mustadjab, Nuhmil Hanami, and Dompok Napitupulu, 2004, Contract Farming in Indonesia: Smallholders and Agribusiness Working Together, Australian Center for International Agricultural Research, Canberra, Australia.
- (55) Priyatna, S.A., Sifa Imtihan, Mokhammad Dedik. S, Novan Farid Megfuri, Irvan Kurniawan, 2014, Kontribusi Sektor Pertanian Terhadap Gross Domestic Product (GDP) Indonesia Tahun 2004-2013, Economic Development Analysis Journal, Edisi 3(2).
- (56) Purnomo, 2001, Budidaya Salak Pondoh, Aneka Ilmu, Semarang.
- (57) Putra, A., (2007). Pengaruh Pengembangan Pasar Modern Terhadap Kehidupan Pasar Tradisional di Pusat Pasar Medan, Tesis Program Pasca Sarjana, Universitas Sumatra

Utara (USU), Medan.

- (58) Ramelan, R., (2002). Menyikapi Modal Asing: Bagian Pertama dari Dua Bagian, <http://www.leapidea.com/presentation%3Fid%3D41+social+capital+modal+social+di+perdagangan&hl=id&ct=clnk&cd=1&gl=id>.
- (59) Reni Lestari, 2005, *Ecophysiology and Postharvest Quality of Salak*, Logos Verlag Berlin, Germany.
- (60) Reni Lestari, Geurg Ebert, Susanne Huyckens Keil, 2013, *Fruit Quality Changes of Salak "Pondoh" Fruit (Salacca Zalacca (Gaerts ) Voss) During Maturation Ripening*, *Journal of Food Research Vol 2 No. 1*, Germany.
- (61) Republika, 2015, Ribuan Pedagang Karawang Terpedaya Rentenir, Edisi 9 Maret.
- (62) Revisond Baswir, 2010, *Pekebun Mandiri dalam Industri Perkebunan Sawit di Indonesia*, Sawit Watch, Indonesia.
- (63) Rosmawati, H., (2011). Analisis Efisiensi Pemasaran Pisang Produksi Petani di Kecamatan Lengkiti Kabupaten Ogan Komeng Ulu, *AgrobiS*, Vol. 3, No. 5.
- (64) Saptana, et al. 2005. *Development of Institutional Models on Competitive Enterprise Partnership in the Horticulture Production Center*. Ministry of Agriculture, Indonesia.
- (65) Schrader, H., (1997). *Changing Financial Land Scopes in India and Indonesia. Sociological Aspects of Monetization and Market Integration*, LIT, Hamburg.
- (66) Sinar Tani (Warsana), 2009, *Pemantapan Kelembagaan pada Gapoktan*.
- (67) Shephard, Andrew W., and Alexander J.F.Schalke, (1995). *An Assessment of the Indonesian Horticultural Market Information Services. Marketing and Rural Finance Support System Devision*, Fao of the UN, Rome.
- (68) Sleman Regency, 2005, *Final Main Report: Atlas Sleman Regency*, In cooperation with

Regional Development and Poverty Reduction Program (RDPRP).

- (69) Soesilowati, Darwin, Endang S., (1998). Kondisi Sosial Wanita Pedagang Kecil, LIPI.
- (70) Statistic of Sleman District, 2009, Sleman District in Figure.
- (71) Suarakawan.com, 2013, Lahan Pertanian Subur, Jatim Lumbung Pangan Nasional.
- (72) Sudiyono, A. (2004). Pemasaran Pertanian. Universitas Muhammadiyah Malang, Malang.
- (73) Sumamo, Sukindar, Budi Prasetyo and Syafrial, (2009). Development of Superior Commodity of Manggo in Madiun Regency, Agrotek vol. 17 no. 5.
- (74) Suryaningtyas, Risma., Rosihan asmara, Nuhfil Hanani, (2011). Analisis Usahatani Manggis dan Faktor-faktor Sosial Ekonomi Yang Mempengaruhi Keputusan Petani Memasarkan Hasil Usahatani Manggis Dengan Sistem Ijon.(Studi Kasus di Desa Songgon, Kecamatan Songgon, Kabupaten Banyuwangi), Universitas Brawijaya, Malang, Indonesia.
- (75) Sutaryono, (2012). Marjinalisasi Petani di DIY, Acuan Khusus pada Kontestasi Lahan Pertanian di Pedesaan, Disertasi Doktor Fakultas, Geografi UGM, Yogyakarta.
- (76) Suthikul.K., 2005, Fruit Production in Thailand, Horticulture NCHU 30(3): 15-29
- (77) Syafi'ah (2010): Analysis of Snakeskin Fruit's Supply in Sleman District, Fakultas Pertanian, UNS, Surakarta.
- (78) Syahyuti, (2007). Dibutuhkan Dukungan Kebijakan untuk Mengoptimalkan Peran Pedagang Hasil-hasil Pertanian, PSE Litbang Departement Pertanian, Indonesia.
- (79) The World Bank, 2013, Perkembangan Triwulan Perekonomian Indonesia' Tekanan Meningkat.
- (80) Tribun Jogja, 2014, 70% Pedagang bisa Survive Karena Rentenir, Edisi 11 Maret.
- (81) T. Sudaryono and Per. Prahardin, 1995, Teknologi Produksi Salak.

- (82) Utami Dewi, 2006, Analisis Kelayakan Usaha Tani dan Efisiensi Pemasaran Salak Pondoh, IPB, Bogor.
- (83) Wiasti, N. M., (2011). Perempuan Berpeluh yang Tak Mengeluh: Study Tentang Perempuan Pedagang Sayur di Pasar Baturiti, Tabanan, Bali, Ejournal Udayana University, Volume 1.
- (84) Wijaya, Faried, 1991. Perkreditan Bank dan Lembaga-lembaga Keuangan Kita. Yogyakarta: BPFE.
- (85) Wijaya Kusuma, 2013, 90% PKL Gantungkan Modal dari Rentenir, Kompas Edisi 9 Mei.
- (86) Witana, A., 2001, Hubungan Kausal antara Harga Sayuran di Tingkat Produsen dan Konsumen, Jurnal Hortikultura Vol 11. No. 4, PP 281-291.
- (87) Y. Nasution, 2013, Evaluasi Kesesuaian Lahan Salak Sidempuan di Tapanuli Selatan, Tesis Program Pasca Sarjana Pertanian, Universitas Sumatra Utara.
- (88) Zumaidar, 2014, *Salacca acehensis* (Arecaceae), New Species from Sumatra, Indonesia, Phytotaxa 159 (4): 287-290.