

ANNUAL REPORT YEAR 2: MARKETING-INDONESIA CASE STUDY

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I. Introduction

Small-scale farmers vary all the way from those that sell practically nothing to those that selling almost 50% of their products. A farmer can progress along this line, continuously selling more and more of his products. It is still opportunities and challenges for Nanggung's farmers to move toward from mainly subsistence category to become highly commercial without any appreciable increase in the size of their farms.

There are five essentials for growth in agricultural productivity anywhere. First is transportation. Unlike most other industries, agricultural can not be concentrated near its ultimate customers or near existing transportation facilities. Second is market for farm products and a marketing system to get them where they are wanted. Third, agricultural development requires the discovery, or invention, or development, largely through formal research, of more efficient techniques for the test of comparative costs and returns from the standpoint of the farm business as a whole. Fourth, the farmers must have access to the supplies and equipment needed to put these new techniques into operation on his farm. These fertilizers, improved seeds, pesticides and implements must be sound technically and priced so that they are profitable to use, dependable in quality and available precisely when needed. Finally, the farmers must have adequate incentives to cause him to adopt the new practices (Mosher, 1966 in Wharton Jr., 1969). Others activities or services are also required to accelerate the process of development, such as training of agricultural technicians, facilities for providing production credit to farmers and voluntary farmer association.

Cash from Agroforestry products can represent a substantial part of farmers' income. Effective marketing can help farmers maximize their income from these goods and also keep income stable, even predictable. Sound marketing can also reduce the risk of over-supplying the market and thus driving down the price of the product. Marketing tells to the producer what to produce and how to make the products and services available to the consumer in the most desirable and efficient way. Through linking production with marketing, farmers can learn what adjustments they must make in the production system to better meet market demand.

General objective of the research is to conduct market value chain research at the local, regional, and national levels that builds upon existing marketing strategies and to develop interventions to overcome constraints and make use of opportunities. The Conceptual framework of marketing research is presented in Figure 1.

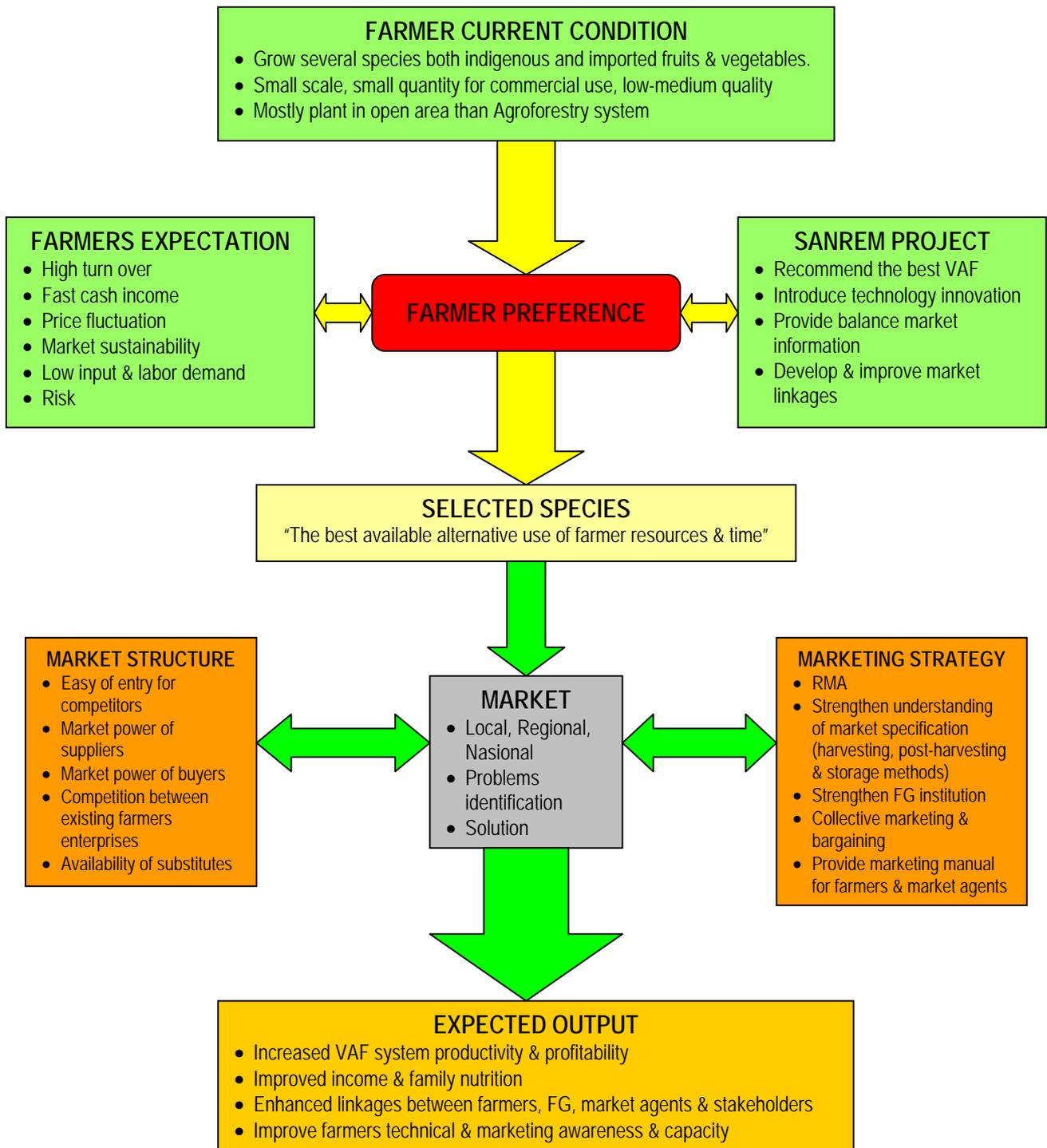


Figure 1. Conceptual framework of marketing research.

Rapid Market Appraisal (RMA) was main tool for marketing analysis. RMA is a method to better understand complex market systems within a short time. It is primarily based on interviews with key informants such as customers, traders, producers, and the government administration. These interviews are complemented by personal observations and secondary sources of information. Ideally, RMA is conducted by a multidisciplinary team of external specialists and local stakeholders.

All of studies are conducted in Parakan Muncang, Sukaluyu and Hambaro villages, Kecamatan Nanggung, a sub-district located in the western part of West Java Province. The activities are part of the SANREM CRSP program ‘Agroforestry and Sustainable Vegetable Production in Southeast Asia Watersheds’ in Indonesia implemented by World Agroforestry Centre – ICRAF Southeast Asia and Bogor Agricultural University. Kecamatan Nanggung, endow with relatively good accessibility to two lucrative urban centers of Bogor and Jakarta. This endowment holds advantages to support market-based agricultural commodities development through vegetables Agroforestry innovation. But in other side, the factor also influences mobility of Nanggung people to leave their agriculture activities for employment in the city. As a result, even most of people in Nanggung are engaged in agriculture (work as farmer).

It is unlikely that agricultural income is the greatest contributor to family income. Income from agriculture is not the main contributor to family income. Based on socio-economic baseline study in 2006, agricultural activities alone contribute only 14% to the total households’ income, with average time spent 5.16 hours/day. More detail observation reveal that in Parakan Muncang village, the most accessible village among the three sample villages, there are 68% of surveyed household engage in trade activities. This activity contributes about 42 % of the total off-farm income in Parakan Muncang (Suseno *et al.*, 2006).

2. Project Activities

2.1 VAF Marketing Baseline Study

The purpose of research are (1) to identify the potential VAF species or products for Nanggung Farmers; (2) identify market channels & marketing problems; (3) enhances farmers’ understanding of market mechanism; and (4) identify opportunities to improve the quantity & quality of VAF. The study was conducted on Sept-Oct 2006. Data and

information are collected through Focus Group Discussion (FGD) in each village that attended both men and women.

The study found that the most commercial vegetables that were grown in the area of study are yard long bean, tomato, chili, green bean, mustard green & cucumber. The characteristic of vegetable farming system are most of farmers grow the vegetables in open area (rice fields), water supply depend on rainfall and limited fertilizer both chemical and organic. The productions are in small quantity, mix grade & seasonal. Farmers sold their vegetables to neighbor and local market directly and/or by local collectors. Basically, there is no sustainable link between farmers & market. There are four types of market channel for selling the vegetables (Figure 2).

- **Channel A (74.67%)**
Farmers → Neighbors/local household
- **Channel B (8%)**
Farmers → directly sell to local market (Cibeber and Nanggung)
- **Channel C (15%)**
Farmers → Local Collectors/traders → Local market (Cibeber/ Nanggung)
- **Channel D (2%)**
Farmers → Local market → Regional Market (Leuwiliang, Bogor Market, Warung Jambu Market)

Figure 2. Type of vegetable marketing channel in Nanggung Sub district, Bogor.

Vegetable is perishable product and it will require good technique on post harvest handling as well as transportation to reach the market. Since the farmers have limited knowledge on harvest and handling their product, focus on low damage risk of vegetables will give competitive advantage for Nanggung farmers. The study identified four priorities of selected indigenous vegetables, i.e. katuk (*Sauropus androgynus*), kucai (*Allium odorum*), trubus (*Saccharum officinarum*) and honje (Ginger bud-*Etlingera spp.*). Table 1 showed the use, current condition and potency for development based on farmers' perception.

Tabel 1. Characteristic of selected indigenous vegetables in Nanggung Sub District

	Indigenous Vegetable			
	Katuk	Kucai	Trubus	Honje
Usage	Vegetable, medicine, dyeing, ornamental.	Vegetable, spice, medicine.	Vegetable, fodder, hedge, ornamental.	Spice, fruit, vegetable, medicinal, textile, tanning, perfume.
Existing Condition	• Planted in small & open area as	• Have been planted under	• Planted by a few farmers.	• Planted under the tree and

	Indigenous Vegetable			
	Katuk	Kuca	Trubus	Honje
	<ul style="list-style-type: none"> hedge at Kebun. • Mostly for household consumption (subsistence). • There was no information regarding the village production. • Perishable (1 day after harvest). 	<ul style="list-style-type: none"> Agroforestry system (AFs). • The price was good & the market was already existed. • It could be attractive short term income. • Irregular yields. • Need to assistance on production technology. 	<ul style="list-style-type: none"> • It can be grown under AFs. • It can be consumed until 7-14 days after harvest. • Low price and small quantity. • Mostly not for commercial use. 	<ul style="list-style-type: none"> open area. • Irregular yields & small quantity. • It can be consumed until 7-14 days after harvest. • Most of farmers know, grow and use the species. • The market has already existed. There are 3 local collectors.
Challenges for Improvement	<ul style="list-style-type: none"> • High demand on local market. • Cultivation is relatively easy & low capital required. • It can be grow under AFs. 	<ul style="list-style-type: none"> • Sustainability of production. • It could be potential VAF and main source of income. • Suitable packaging/storage method & material. 	<ul style="list-style-type: none"> • Based on qualitative data, trubus has high market demand at regional market. • There is success farmer at Cigudeg village (neighbor village) that can be used as a training field & motivator. • Enhance the production (quantity) & the quality (grading, packaging etc). • Develop market linkages. 	<ul style="list-style-type: none"> • Based on market agent info, demand of honje at Jakarta & Tangerang were good. • The demand was higher than the supply. • Increasing the production & the quality as well as the marketing issue. • Suitable packaging/storage method & material.

Growing Katuk under Agroforestry system (tree-shade management) is still challenging for Nanggung farmers in order to move toward to commercial market. When the innovation on katuk cultivation under AF resulted, it will more easy to encourage farmers to develop and produce katuk enterprise at the village. Recommendation on feasibility of indigenous vegetables required to create further marketing plan.



Figure 3. Katuk growth at SANREM demplot at Parakan Muncang.



Figure 4. Commercial oriented of katuk garden at Tegal Waru village.

Conclusion

1. Farmer plant the vegetables did not base on market demand.
2. Kucai, Honje, Tebu Telor and Katuk have prospect to be developed.
3. Farmers have limited knowledge on irrigation system, soil fertility management, pest and disease control, integrated crop management.
4. Source of market information are came from local traders and personal visit.
5. Farmers could improve their income as long as they can improve productivity of the land and the quality of VAF.
6. Vegetable is perishable products, which need to sell immediately after harvest. Storage will be important activity in post harvest.
7. Bogor and Jakarta market will be potential market for Nanggung Agroforestry products.

Recommendation

- Promote & develop indigenous vegetables (Honje, Kucai, Tebu Telor, Katuk) as VAF.
- Conduct research on how to improve the vegetables production & quality under AF.

2.2 Study on Collective Marketing Group: Improving Efficiency and Enhance Market Linkages for Smallholder Agroforestry Farmers

Successful integration of Agroforestry and vegetable production on farmers' fields depends on the economic viability of the system. In order to compete effectively in commercial markets, small scale farmers must have better access to market information, be able to provide reliable quantities of high quality produce (either individually or collectively), good communication network, and appropriate market planning. In the first

stage to develop collective marketing, we will build farmer awareness regarding the advantages collective marketing compared to individual marketing.

Nanggung farmers plant several species in their vegetable agroforestry system (VAF). VAF systems are small-scale, receive limited management, and produce small, irregular quantities of low to medium grade products. Species production is not based on market demand. VAF, farmers generally choose species that grow fast, produce cash income, have a high capital turn over rate, require limited labor and other inputs, and are low risk. Smallholder vegetable production imitates neighboring farmers. The existing SANREM Project in Nanggung sub district, West Java, Indonesia aims to help and facilitate smallholder farmers to overcome their market constraints and limitations. By conducted RMA (rapid market appraisal), the project will identify and recommend VAF systems are suitable and profitable under smallholder conditions. Recommendations will provide reliable market information and enhance market linkages.

The purpose of adopting collective marketing strategies is to improve farmer's share through receiving higher prices for their output. Why is collective marketing? By selling their product collectively, the farmers can increase their economies of scale, lowering transportation cost, raise and harmonize product quality, create incentive to increase production, assist farmers to access credit, facilitate the organization of training and agricultural extension services, and applying democratic decision making among the farmers. Banana marketing is selected as the case to test and analyze effectiveness of the strategies for Nanggung's farmers.

Data collection was obtained by FGD, market survey and depth-interview with potential market agents and was carried out in Jan-Feb 2007. Survey on current marketing constraints and opportunities was held by conducting FGD to 50 farmers and 5 local collectors. Data and information are analyzed and presented in descriptive-qualitative and tabulation. Mostly, farmers need evidence that the project approach will be success to improve the marketing's performance. As a first stage of implementing collective marketing, the project selected 'Kelompok Tani Lestari' at Parakan Muncang as a pilot project of this approach. The farmers association has 25 members and most of them plant banana trees.

In preparation for collective marketing activities, ICRAF and Kelompok Tani Lestari have conducted feasibility study on Nanggung's bananas potency. By collecting bananas' potency of 90 farmers at three villages, the study concluded that Nanggung has

quite big production to supply commercial fruit market. Table 2 presented the potency of banana plant and harvesting yield per month in Nanggung sub district.

Table 2. Potency of banana plant and harvesting yield per month in Parakan Muncang, Hambaro and Sukaluyu Villages, Nanggung sub district 2007

Village	Variety (No of plant)					Yield (Bunch/Month)	
	Ambon	Raja Bulu	Raja Sere	Tanduk	Uli	Min	Max
Parakan Muncang	1,146	819	327	1,776	1,941	331	667
Hambaro	1,155	75	45	711	805	138	305
Sukaluyu	524	415	372	810	884	209	406
Total	2,825	1,309	744	3,297	3,630	678	1,378

Using assumption that the weight of one bunch banana is 20 kg, the farmers could supply 13.56 tons at minimum and 27.56 ton at maximum production per month. But this opportunity required a collective action from farmers to organize the production. Formal institution will be needed to guarantee consistency of supply, quality of product, timelines and clear responsibility of each member.

Generally, the marketing constraints faced by farmers are (1) most of farmers grow vegetables on small area in dry land with low input and productivity; (2) because of no production plan, farmers can't produce vegetables regularly; (3) the quality of vegetables are mix, mostly in low and medium grade; (4) plant the species do not base on market demand and they don't have market information; (5) to extent the business, farmers faced limitation on credit access; and (6) farmer do not have collective marketing groups. Small-scale will influence the sustainability of the supply and can stop the market linkages. And irregular yields means the problems could be the weakness factor to make contract with market agents. By collective action, the group can enhance the farmer's role on marketing mechanism, especially their bargaining position during the transaction and making contract with market agent. Because of this, local collectors offered low price of the bananas and as individual farmers, they have little bargaining power with traders and must often accept almost any price offered. Table 3 present price comparison at each village based on varieties. Limitation of market knowledge and poor accessibility (transportation) affected farmers to sell their products. Most of farmers sold their banana to local collector (tengkulak) without grading. There are at least 22 collectors both locally and outside of the villages that bought the banana. But the farmers tend to sell their banana only to one or two tengkulaks because of family relationship and personal preferences.

Table 3. Average price of banana based on variety and villages

Village	Average Price (Rp/bunch)				
	Ambon	Raja Bulu	Raja Sere	Tanduk*	Uli
Parakan Muncang	10,880	8,362	6,111	839	6,685
Hambaro	11,414	12,000	9,000	819	10,448
Sukaluyu	10,400	9,212	7,680	740	6,963
Average	10,945	8,336	7,152	799	7,935

* Rp/finger

Market agents also have problems when they deal with small-scale farmers. The traders faced irregular supply of products, low to medium quality, limited knowledge of storage and capital. To cover marketing cost and risk, the traders applied 'significant profit' from bananas as describe in Table 4.

Tabel 4. Range of gross profit margin of banana marketing by tengkulak

Level of Gross Profit Margin	Average Gross Profit Margin				
	Ambon	Raja Bulu	Raja Sere	Tanduk	Uli
Minimum	82.73%	19.96%	39.82%	25.09%	26.02%
Maximum	174.09%	139.92%	179.64%	87.64%	152.04%

Actually, these information informed to the farmers that they have opportunities to increase their income from selling banana to other profitable buyer. Using the survey result, the marketing team and farmers promoted this potency to PT. Unifresh and proposed to make transaction. Through open and transparent negotiation, each party agreed to transact two kind varieties of banana, i.e. Ambon and Raja Bulu, at a dealing price, grade, packaging method, time delivery and minimum quantity. Usually farmers sell their banana in bunch and now the banana is sold based on grade and weight.

To prepare for collective marketing, expand farmers association roles and socialization of the advantages of this approach, it have been conducted a post harvest handling training on 31 Jan 2007 at Parakan Muncang and Hambaro villages. The training was attended by farmers representatives from 3 villages (include Sukaluyu) and total of participants were 35 persons. In this training, we invited PT. Unifresh, Tangerang to inform market specification of their bananas, when the best time to harvest, how to handle the product, sorting, grading, post harvest handling and also the packaging method and materials.



Figure 5. Farmer meeting to discuss strategy to market banana, facilitate by ICRAF.



Figure 6. Democratic decision making and transparency are applied in collective marketing.

On 5-13 February 2007 the project had visitor, Gerald (Jerry) Skiles, a marketing specialist volunteer from Winrock International under Farmer-to-Farmers Program. He provides assistance, sharing his experience working with small-scale farmers almost in 20 years in Africa and gave input on developing farm marketing association in Nanggung. As part of capacity building activities, we have conducted workshop on 9 Feb 2007 that are attended by 50 persons, representative of farmers in each village studied. Jerry has presented about importance of good business culture that should be hold and applied by the farmers in order to compete in market. The workshop also discussed about negotiation scenario in selling the farmers' products. There are eight farmers enterprise concept that will be implemented by the farmer association:

1. Using high quality germplasm of banana.
2. Apply proper cultivation technique and appropriate post-harvest handling.
3. Improve farmers/FG knowledge on market information and marketing skills.
4. Organize production, harvesting and selling the product collectively.
5. Take win-win solution when dealing with buyer and keep trust and transparency among the Farmer Enterprise's members.
6. Provide and satisfy customer's demand through quantity, quality, time delivery and continuity as required.
7. Keep trust and transparency among members and to customers/buyers.
8. Consider and maintain environmental services as long as production and marketing activities of the products.

In the past, most of farmers sold their banana to local collector individually in bunch without considering the grade/quality and received lower prices. Farmers have limited or no access to reliable market information, marketing skills and bargaining power. They also produced bananas in severe varieties, lower quality, irregular harvest and small quantity. By supporting SANREM's projects, currently a farmer group was selling their bananas as market specifications and collectively to a big fresh fruits wholesaler in Tangerang. The price depended on grade and quality of the bananas and there was minimum quantity in each transaction. Table 5 present improving price formulation of banana at Nanggung farm gate as a result from negotiation with the traders.

Table 5. Improving price formulation of banana at Nanggung farm gate.

Grade	No of hands	Weight (kg)	Price (Rp/kg)	Total (Rp)
Big	3	6.0	1,700	10,200
Medium	3	4.5	1,400	6,300
Small	2	2.5	1,100	2,750
Total				19,250
Grading Cost				1,000
Net Income				18,250
Increasing income				(66%)

When transaction is made, the price of Ambon variety at tengkulak level is Rp 11,000/bunch. By using assumption that one bunch equal to 20 kg, and consist of 9 hands (3 hands grade A, 3 hands grade B, 2 hands grade C and 1 hand reject), the farmers conduct their banana grading by themselves according to buyer specification required. The bananas are sold based on their quality and packed in wooden-case. Cost of cutting, washing and packing are estimated Rp 50/kg. And the buyer cover cost of wooden-case, plastic pack and pick up the bananas at the village points. Based on first transaction evaluation, farmers can increase their income about 66% in average.

Farmers have the opportunity to supply 4 tons of bananas/week to the company at a fixed price. At their current capacity farmers are only able to supply only 10% of that quantity. The evolving business plans seeks to build farmer group capacity to fulfill this opportunity over a 2-year period. Additionally new village economic opportunities are developing, such as employment for washing, grading, and packaging the bananas and production of wooden crates by semi-skilled laborers.



Figure 7. Grading banana activity to create value added.



Figure 8. Improving in banana packaging as requested by the market.

The experience will be a good starting point for farmers group and the project to revitalize the organization and encourage more farmers to join the collective marketing. It is important to hold regular meeting to identify good practice and analyzing bad practice that can maintain high standards and change the marketing strategies. To sustain collective marketing, the farmers groups and other farmers need to improve the quality and quantity of their products, strengthening the farmers group, keep trust and transparency among members, and also farmers' commitment and motivation. Since the factors have become failure factors in the previous project.

The recommendation is made for near term and long term activities. In the near term, the project need to activate the existing farmers group; .up date the banana's potency & list of farmers who interested to join the marketing strategy; replicate the strategy to produce and market VAF; and create harvesting schedule & targets. While for the long term, improving & maintaining the quality & quantity of bananas, and building capacity for potential/talented farmers as a leader of farmers enterprise will be needed.

2.3 Study on Consumer's Preference and Their Knowledge on Selected Indigenous Species

Any market study must start with an understanding of the consumer. Many consumers spend substantial parts of their income for vegetables. When the vegetables prices rise, the higher prices cause painful adjustments in consumers' buying patterns. No matter what the level of vegetable prices, consumers prefer them lower. The demand for vegetable as composite inelastic. Every dollar spent on vegetable is a dollar that is not available to be used in improving the standard of living along other dimensions.

Consumers are selfish when it comes to protect them selves. If the only way the standard of living of those producing and selling the product can improve is at the expense of the consumer, the consumer is not likely to be very sympathetic.

Characteristic of general vegetables market is large number of producers that its production and marketing decision can have no influence on market price. Consequently, the farmers faces a demand curve that is horizontal at the market-determined price level. Farmers have no pricing decision to make. Once production, storage, and “when to sell” decisions are made, the farmers must look to the market-determined price. So the ability to anticipate and react to move in the market-determined price will be more important.

The purpose of the study are (1) to identify consumer’s knowledge on local vegetables and their benefits; (2) to analysis consumer’s preference on local vegetables; and (3) to estimate consumption and market demand of selected indigenous vegetables. The study was conducted on June to July 2007. Data collecting is used semi-structure questionnaire both for household and trader. Respondent divided into three level of market. The details sampling frame is presented in Table 6 and 7.

Table 6. Sampling frame for consumer’s knowledge and preference study on indigenous vegetables.

Area of study level	Location	No of Respondent (person)	No of Trader (person)
Village/Local Market	Sukaluyu	30	8
	Hambaro	30	
	Parakan Muncang	30	
Sub district	Leuwiliang Market	30	10
District	Bogor Wet Market	30	12
Total		150	20

Table 7. Distribution of respondent based on their age (years old).

Age (years old)	Location						Total	
	Village		Sub district		City		f	%
	f	%	f	%	f	%		
below 21	4	4,44	1	3,33	1	3,33	6	4,00
21 - 30	42	46,67	10	33,33	6	20,00	58	38,67
31 - 40	26	28,89	13	43,33	10	33,33	49	32,67
41 - 50	11	12,22	6	20,00	9	30,00	26	17,33
51 - 70	7	7,78	0	0,00	4	13,33	11	7,33
Total	90	100,00	30	100,00	30	100,00	150	100,00

Result

The research finding is presented in tabulation and graphics. Discussion on specific issues will be done in another report.

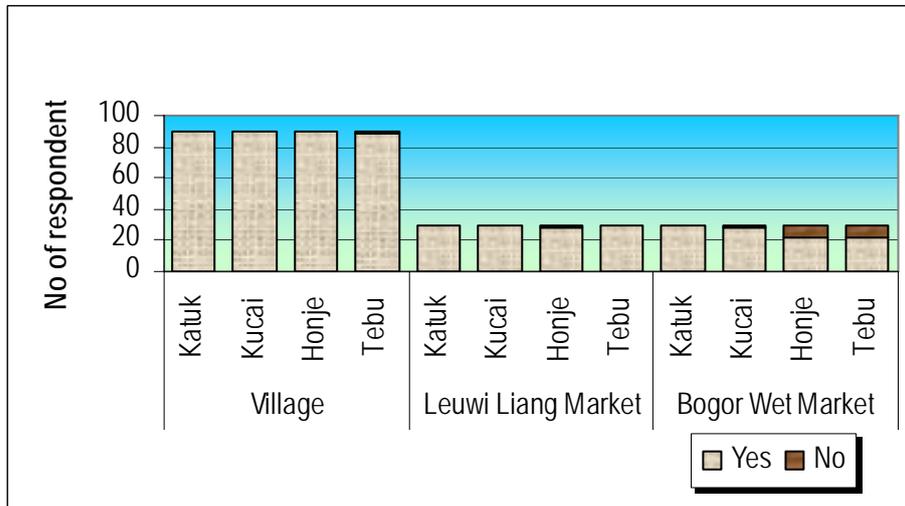


Figure 9. Household wife knowledge on selected indigenous vegetables

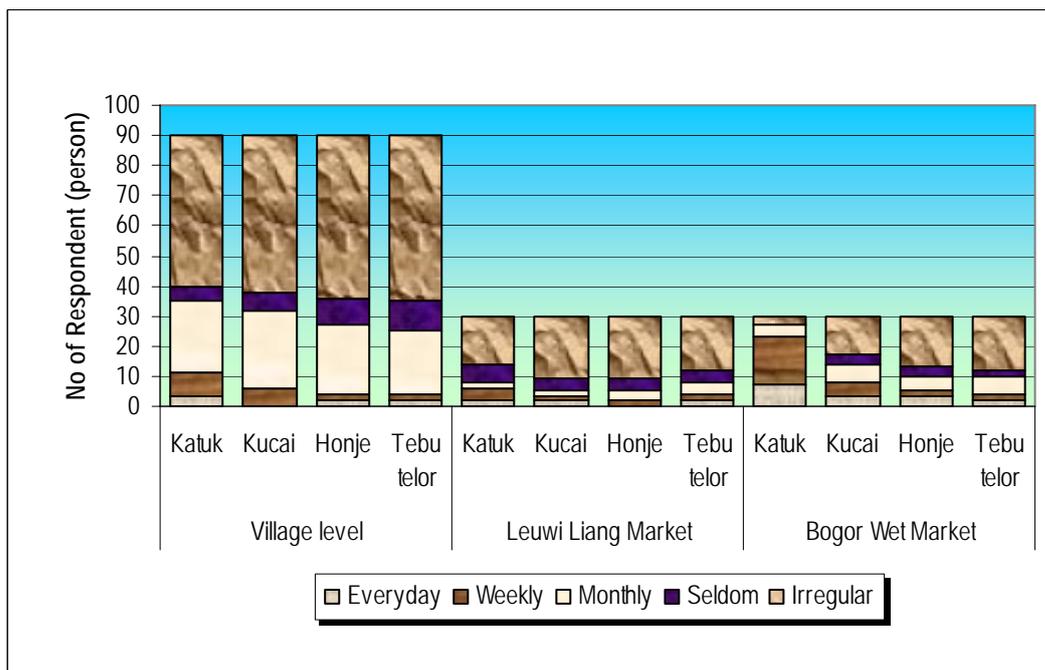


Figure 10. Consumption behavior of indigenous vegetables according to group of respondent

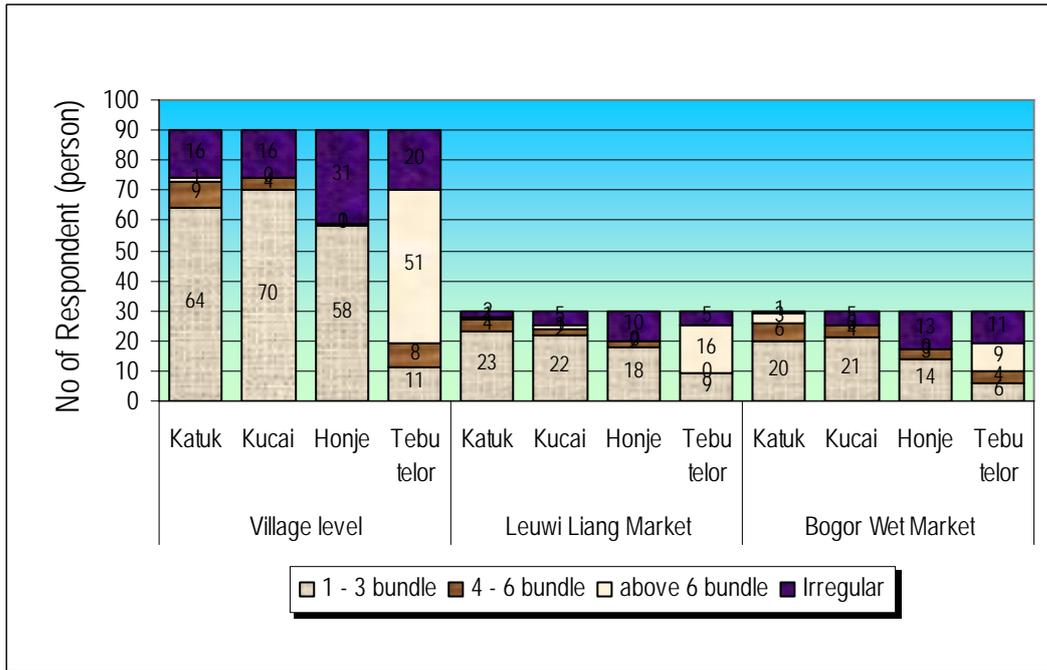


Figure 11. Rate of indigenous vegetables consumption per household

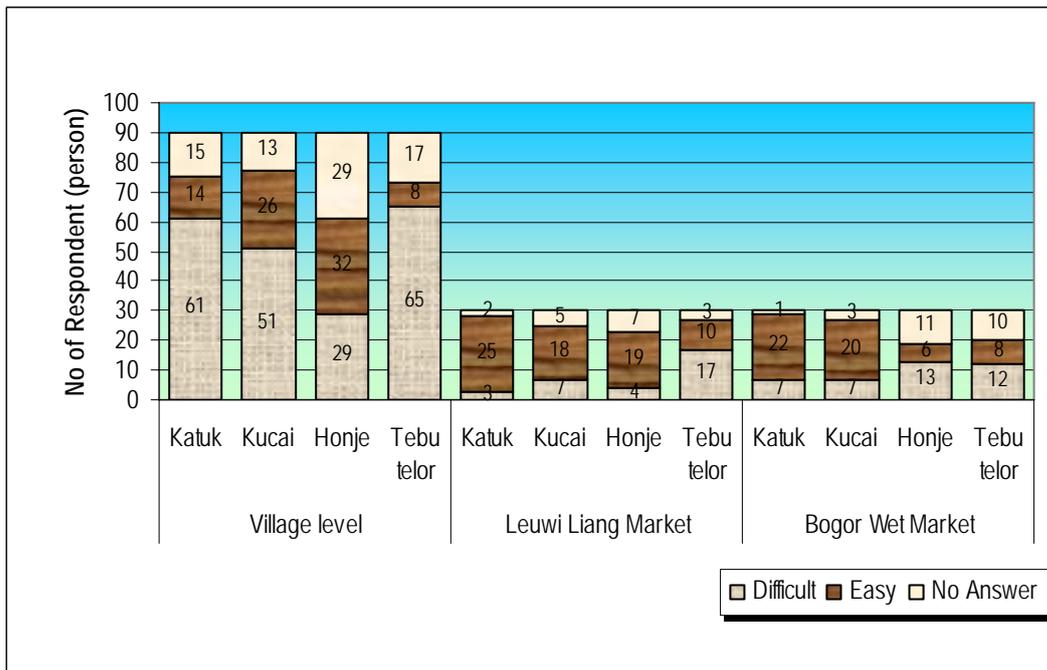


Figure 12. Respondents' perception to find indigenous vegetable in the market

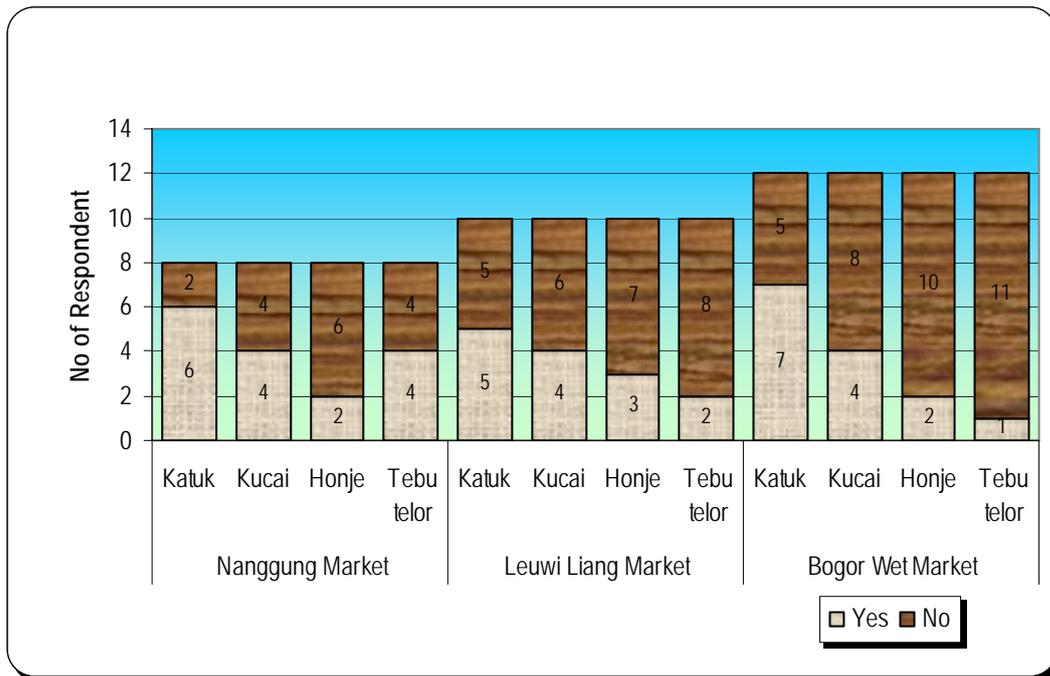


Figure 13. Number of trader who sell indigenous vegetables at three market level