



Republic of the Philippines
Department of Agriculture

Upland Development Programme in
Southern Mindanao (UDP)

**A MARKETING EFFICIENCY STUDY
ON**

DURIAN

**IN BARANGAY CABUYO-AN, MABINI,
COMPOSTELA VALLEY**

MAY 2001

PREFACE

This report is one of a series of market efficiency studies conducted in the UDP-covered areas for selected commodities. The marketing efficiency of durian in Barangay Cabuyo-an, Mabini, Compostela Valley was evaluated through the deconstruction of existing marketing margins. Recommendations to improve marketing efficiency are herein offered.

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Report data were gathered from a series of personal and group interviews with farmers of durian in Barangay Cabuyo-an, Mabini, Compostela Valley and a trader in Sto. Tomas, Davao del Norte. The time and effort that the respondents have placed into this study are acknowledged. The following were the farmer- and retailer-respondents of the study:

Farmers:

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Paterno Fuentes
Lourdes Partosa
Juanito Donillo

Retailer:

Paz Olaya of the Marsman Multi-purpose Cooperative

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DEFINITION OF TERMS

Cash costs	-	costs where actual money is involved.
Cash returns	-	the earnings, where actual money is involved, from the sale of the farm produce.
Depreciation	-	the expense brought about by the wear and tear of a piece of equipment, building or tool used in an enterprise for a given period of time.
Exchange labor	-	the value, non-monetary in nature, of the work (in man-days) put in by neighbors, friends or other laborers in exchange for the farmers help with similar farm activities in their respective farms.
Hired labor	-	the cash expense for engaging the services of farm laborers.
Home consumption	-	the value, non-monetary in nature, of the farm produce consumed by the farmer and his family.
Losses/shrinkage of produce	-	the value, non-monetary in nature, of the damages and spoilage sustained by the produce.
Market information	-	basic information on prices and quantities traded of major commodities, from all markets—assembly, wholesale and retail.
Marketing channel	-	the inter-organizational system composed of interdependent institutions tasked in moving the product from production to consumption.
Marketing efficiency	-	the maximization of the input-output relationship where inputs refer to resources (land, labor, capital) used in moving the products from point of consumption to the point of production and output referring to consumer satisfaction on goods and services made available in the market.
Marketing margin	-	the difference in prices between the different levels of the marketing system.
Marketing	-	series of services performed in moving the product from the point of production to the point of consumption.

Net farm income	-	returns of the use of capital and labor. The overall profit of the farm after all the expenses, cash and non-cash, have been paid off.
Non-cash costs	-	costs items used in the production process wherein no direct outlays occurred or the costs incurred are not monetary in nature.
Non-cash returns	-	the value, non-monetary in nature, of the farm produce consumed by the farmer and his family or those given away.
Opportunity cost of capital	-	the price of foregone opportunity in the use of the capital invested in the enterprise. It is usually pegged at the current savings interest rate.
Point of consumption	-	last sale of the product.
Point of production	-	point of first sale.
Profit margin	-	the return to the middlemen for their entrepreneurship, the risks and the cost of money.
Return on investment	-	measures the amount of cash that the entrepreneur gets from the capital investment after first paying the opportunity expenses on the value of family labor and management. It also determines how much money the producer got in return for every one peso invested.
Unpaid family labor	-	also called own labor. The value, non-monetary in nature, of work (valued in man-days) by the farmer and his family.

DURIAN

INTRODUCTION

1. Durian is considered an exotic fruit and is highly in demand year-round. The peak season for this fruit is from July to October. If in season, a tree could bear a hundred to a thousand fruits depending on the age, climate, cultural practices of the farmers on the durian, and nutrition of the tree.
2. Admittedly, Durian is a low-maintenance crop, especially for native durian under indigenous management. Farmers usually only visit the fruit trees when the flowering season is about to start. Some practice smoking of the tree to induce flowering or to increase the flowers of the tree. Otherwise, most farmers wait for a few weeks before the durian season begins to check if their trees have fruit. The farmers are also reluctant to plant more durian trees since it would entail costs while the returns would not be immediate.
3. Barangay Cabuyo-an, Mabini was identified as one of the producers of Durian in Compostela Valley. In this area, mostly the native variety is grown and harvested annually. A Cabuyo-an farmer has an average of five (5) trees and average harvest of 26 fruits per tree every season, a fruit weighing about 1 kilogram each. The low production is mainly due to the relatively low investment of the farmers on durian production. They hardly apply any fertilizers on the trees nor use pesticides.
4. The marketing efficiency study for durian in Barangay Cabuyo-an, Mabini was conducted last March 20, 2001.

Objectives

5. The main objective of the study is to assess the impact of existing marketing systems of durian vis-à-vis income of the farmers.
6. Specifically, the study aims to determine the levels of participants in the marketing chain of durian;
7. Determine the marketing practices involved in terms of storage, handling, pricing, delivery systems and terms of payment;
8. Determine the percentage of consumer price that the producer receives through the deconstruction of marketing margins of durian at each level in the system, exclusive of production costs;
9. Identify strengths and weaknesses of the existing marketing system of durian; and
10. Determine appropriate marketing interventions needed to improve economic efficiency of durian in Barangay Cabuyo-an, Mabini.

Methodology

11. From the initial agribusiness profile of UDP, it was determined that Barangay Cabuyo-an has the most durian farmers among the UDP areas of Compostela Valley. Furthermore, upon consultation with the Municipal Agriculturist's Office and the farmers themselves, it was determined that there are a total of 27 durian farmers in Barangay Cabuyo-an, 13 of whom have productive trees and of that only five (5) farmers have harvested durian in the most recent durian season. Of the five farmers, four (4) were interviewed for the study.

12. The farmers were asked about their production and marketing practices, volume and value of sales, production and marketing costs of durian. They were also asked on available market information with emphasis on what they need to know to improve their production and marketing practices, thereby increasing the farmers' income.

13. The respective buyers of durian from each farmer were then traced accordingly.

14. The traders were, in turn, asked about their marketing, costs, volume, value of sales and the problems and constraints they have encountered in the marketing of durian.

15. The marketing margins were then deconstructed and the profitability was of each marketing participant's enterprise was also analysed. In the case of the farmers, the Net Farm Income (NFI) was determined. An NFI greater than zero (0) would mean that the production and marketing activities of the durian farm is profitable, whereas an NFI less than zero (0) would mean that the farm is at a loss.

16. On the part of the trader, the Return on Investment (ROI) was compared with the opportunity cost of capital, pegged at the existing current savings interest rate of eight percent (8%) per annum. A ROI higher than the opportunity cost of capital would mean that marketing durian is more profitable than just saving the trader's money in a bank, while a ROI less than the opportunity cost of capital would mean that it would be more profitable for the trader to invest his money in a bank rather than spend it on marketing durian.

17. The percent share to the consumer peso of each marketing participant was also determined by getting the percentage of the marketing participant's selling price (in the case of traders, less their buying price) relative to the final buying price of the consumer. This indicates the proportion of the final buying price that goes to each marketing participant for durian.

18. Moreover, focused group discussions (FGDs) with key informants and selected farmers were conducted to probe into the importance and the demand for market information in each province. This provided rapid feedback on the available market information and the information dissemination strategies existing in the area.

19. Also, key informants such as the Municipal Agriculturists and the Agricultural Technicians were interviewed to obtain an overview of the local agriculture industry.

Limitations and Constraints

20. During the interviews, it was observed that the farmers relied on their memories in recalling their past production level, income, farm tools and equipment. There were no record-keeping practices. Thus the cost and return that were analysed were only estimates. The Return on Investment (ROI) was excluded on the analysis of the farmer income due to the ambiguity of the values arrived at. This is mainly due to the fact that some factors on capital investment were not properly quantified in the study. For instance, land valuation was excluded because none of the farmers hold titles to the land that they cultivate. Land, therefore, was not considered a fixed investment in this enterprise and was merely considered as an expense through the credit of land cost (land tax if owned, rent if tenanted).

21. In the marketing aspect, the respondents interviewed were the middlemen named by the farmers. Most of who also based their answers on their memories since they do not keep records regarding their marketing operations.

22. On the analysis of the marketing efficiency on the part of the farmers, only the Net Farm Income (NFI) analysis was utilized since the available data could only allow for this kind of analysis and not the more complicated input-output efficiency analyses.

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24. Lastly, the size of the durian market, specifically, the estimation of demand was not included in the study.

Margin of Error

25. Using the population size of five (5) as the farmers who have harvested durian in the most recent production season, the margin of error was established at $\pm 24.5\%$ at a 95% confidence level. This means that there is a 95% confidence that the real values of the parameters used in this study are within 75.5% to 124.5% of the computed values (using the data from the respondents' interviews).

THE MARKETING SYSTEM OF DURIAN

Marketing Channels

26. The marketing participants involved in the durian marketing system in Barangay Cabuyo-an are as follows:

a. Farmer

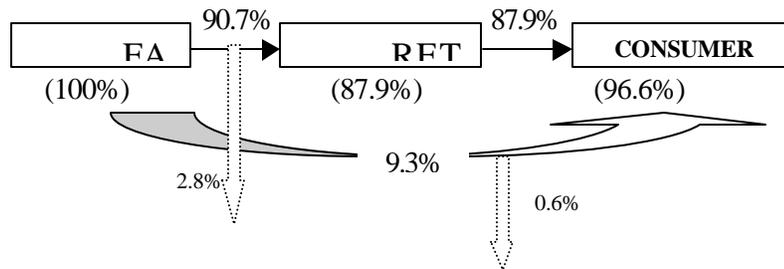
A person engaged in durian cultivation for sustenance or commercial purposes. They usually sell their produce direct to consumers or, in cases of larger quantities of harvest, to retailers; and

b. Retailers

A person or entity who relies on the farmer for their supply. They usually sell durian only when the farmer brings the produce to their place of business and are not actively and regularly in search of suppliers.

27. Based on farmer interviews, an estimated 515 pieces of durian were sold in the year 2000 and the following product flow was established:

Figure 1. Product flow of Durian from Barangay Cabuyo-an, Mabini.



Selling Price(P/piece):

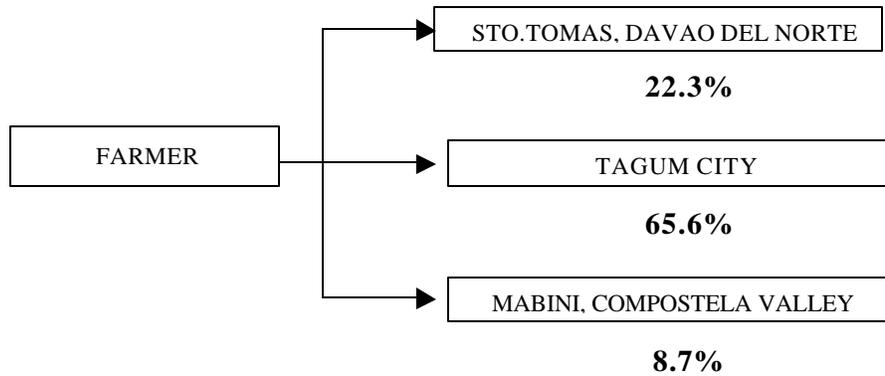
Farmer	Retailer
Case 1=51.72	na
Case 2=50.00	55.00

28. Case 1 for the farmers are those who sell directly to the consumers while Case 2 is for the farmer who brings his produce to either Tagum City or Sto. Tomas, Davao del Norte.

29. Initially, 90.7% of the produce was brought to the retailer, while 9.3% were sold directly to the consumers. However, after accounting for the losses and shrinkages in durian (2.8% and 0.6% losses for durian sold to the retailer and direct to consumers, respectively), only 87.9% and 8.7%, respectively, were actually sold. The retailer also incurred losses. Losses are caused mainly by bruising and spoilage of the fruits that occur from the transfer of the fruits from the farm until the actual sale of the durian to the consumers.

30. The geographic flow of durian, on the other hand, follows the following path/structure:

Figure 2. Geographical flow of Durian from Barangay Cabuyo-an, Mabini.



31. There is only one farmer who sells his produce to a retailer, all other durian farmers interviewed sell direct to the consumers. The volume sold by the farmer who goes to the retailer, however is 87.9% of the total durian from Barangay Cabuyo-an, Mabini. This has greatly influenced the values presented in both the product and geographic flow.

Marketing Practices and Costs

32. From harvest, the farmers clean the fruits by picking dead leaves off the spikes, tie them together or put them in baskets and bring them down by tricycle from the barangay to the National Highway. Transportation cost from the barangay center to the highway is P3 for every basket (1 basket=50 kg or 50 pieces).

33. Table 1 presents the marketing costs at the different marketing levels for durian.

Table 1. Marketing costs for different marketing levels of durian (P/piece).

ACTIVITY	FARMER	RETAILER
Cleaning	0.47	na
Transportation	3.90	na
Labor and other non-cash costs	na	0.17
TOTAL	4.37	0.17

34. In an isolated case, a farmer delivered his produce to a university canteen in Tagum and to a cooperative in Sto. Tomas, Davao del Norte for retail. Including the hauling from the farm to the barangay center and the transportation cost for the sole trader who sold his produce in Tagum and Sto. Tomas, transportation cost is an average of P3.90 per piece of durian. At the roadside, the farmers themselves retail the durian to the consumers.

35. For the trader, expenses are non-cash costs such as the labor for marketing and the overhead cost per kilogram of durian was determined to be P0.17.

Price Formation

36. Durian commands a very high price in the market. During its production or peak season, the lowest price for durian is P33 apiece. The crude grading system of small, medium, large and extra large is commonly practiced during the months of July to October. Prices during peak months are as follows:

?? Small (1kg):	3 pieces for P100;
?? Medium (2 kg):	P50/piece;
?? Large (3kg):	P60; and
?? Extra Large (4-5 kg):	P100

37. However, on lean months, durian is sold at an average of P40 per kilogram or P40 per piece of the small grade.

38. Note that since the Cabuyo-an farmers sell direct to the consumers, farm-gate price is the same as the consumer price.

Marketing Margins

39. A comparison between the Net Farm Income (NFI) of the farmers, as established in Appendix A, for the two cases show that the profit or income of the farmer is higher when it is directly retailed to the consumers (Table 2). However, it is important to note that the volume sold directly to the consumers is considerably less than the volume sold to the retailers. The case might be different if that single farmer, who sells to the retailers, chose to sell direct to the consumers. It may be that he would bring down the price of durian or, more likely, bear more losses brought about by a longer selling period compared to a single, large-volume sale to a retailer.

Table 2. Marketing margins and income for durian at different marketing levels.

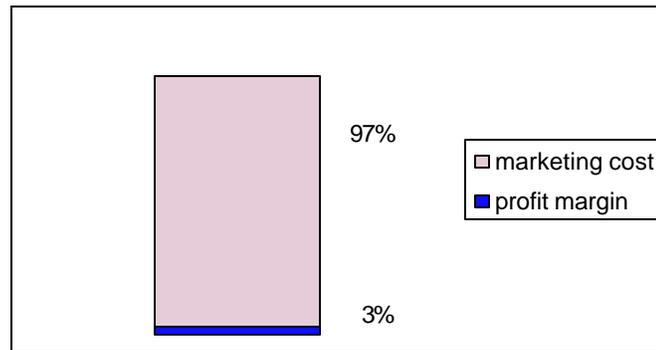
ITEM	CASE 1	CASE 2	
	Farmer	Farmer	Retailer
Selling Price (P/piece)	51.72	50.00	55.00
Buying Price (P/piece)	<i>na</i>	<i>na</i>	50.00
Marketing Margin (P/piece)	<i>na</i>	<i>na</i>	5.00
Marketing Cost (P/piece)	0.77	4.37	0.17
Profit Margin (P/piece)	<i>na</i>	<i>na</i>	4.83
Net Farm Income (NFI) (P/piece)	42.33	40.28	<i>na</i>
MC as % of MM	<i>na</i>	<i>na</i>	3%
PM as % of MM	<i>na</i>	<i>na</i>	97%
%ROI	<i>nil</i>	<i>nil</i>	76.7%
Opportunity Cost of Capital	<i>na</i>	<i>na</i>	8%

40. The marketing margins for the retailer shown on Table 2 measures the total value added to durian as it moves along one marketing channel to the other. In this case, there is only one marketing channel after the fruit leaves the farm. The retailer with whom the Cabuyo-an farmer brings his produce marks up the durian prices by 10%. So, at a buying price of P50.00 per kilogram, the durian is retailed at P55.00 per kilogram (Table 2). The marketing margin of P5.00 covers the marketing costs of P0.17 and a profit margin of P4.83 per kilogram.

41. By dividing the profit margin with the capital investment of P6.30 per piece, the ROI was determined to be 76.7%. This means that for every peso invested by the retailer on the marketing of durian, he gets P0.767 back. This relatively high %ROI can be explained by the minimal marketing activities, compounded by the relative high demand for durian. Despite the 10% mark up in price, the consumers are still willing to buy the durian from the retailer.

42. To illustrate the marketing margin of the retailer, Figure 3 shows the percentage of the marketing cost and the profit margin relative to the marketing margin.

Figure 3. Marketing margin of a durian retailer, Barangay Cabuyo-an, Mabini.

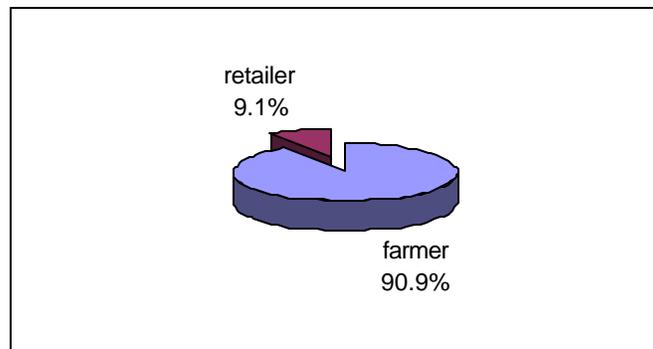


43. The percentage of the consumer peso, is presented on Table 3 and Figure 4.

Table 3. Percentage share to the consumer peso.

MARKETING LEVEL	SELLING PRICE (P/piece)	% SHARE
Farmer	50.00	90.9
Retailer	55.00	9.1

Figure 4. Percentage share of the consumer peso.



44. This means that for every peso spent by the consumer on durian, P0.909 goes to the farmer and P0.091 to the retailer.

STRENGTH AND WEAKNESS

45. Due to durian's rarity and perceived high demand, the farmer's harvests are already assured of buyers' demand for the fruit regardless of season. However, in the case of the durian farmers in Barangay Cabuyo-an, their produce are limited to and

could only reach as far as Mabini, Tagum and Sto. Tomas. Despite the fact that demand is higher in the more urban areas such as Davao City and Digos.

OTHER KEY FINDINGS

46. It was determined from the Agricultural Technicians that durian, subject to improved cultural management and practices, could yield 100 to 1,000 fruits per tree. But since the durian trees in Barangay Cabuyo-an are poorly managed, yield is low.

CONCLUSION

47. By analyzing the Net Farm Income (NFI) of the farmer and the percent return on investment of the retailer, the conclusion that durian marketing, on both farmer and retail level, is efficient. This means that investing or engaging in production and marketing of durian in the study area are profitable and efficient.

48. Although production and marketing of durian in Barangay Cabuyo-an is efficient, a marketing problem or weakness was identified. The durian market was determined to be limited to the Mabini, Tagum and Sto. Tomas areas, whereas demand would be bigger in other urban areas such as Davao City.

49. Another problem identified was the relatively low production of durian in the area, which is limited to the native variety and poor management practices.

RECOMMENDATIONS

50. It is recommended, therefore, that the local government units, along with the Department of Agriculture, conduct technical training on possible ways to increase durian yield given the indigenous management of the native variety.

51. Also, it is recommended that a market expansion be facilitated, through the aid of the local government unit, by promoting the municipality as a durian producer, thereby encouraging buyers and consumers from other areas to buy from the local farmers.

52. Regular price information should also be provided to the farmers, to inform them of the prices of durian and the corresponding transportation costs to Tagum, Panabo, Nabunturan and Davao City, key urban areas where durian consumption is higher since the population there is denser.

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APPENDIX A. Cost and returns per unit of Durian in Barangay Cabuyo-an, Mabini
(Average for Cases 1 and 2).

ITEM	P/piece
RETURNS	
Cash	
Sales	48.45
Total Cash Returns (A)	48.45
Non-cash	
Home consumption	2.33
Total Non-cash Returns (B)	2.33
TOTAL RETURNS (C)	50.78
COSTS	
Cash	
Planting material	-
Fertilizer	1.71
Pesticide	-
Hired labor	1.33
Transportation	3.37
Land cost	-
Others	-
Total Cash Costs (D)	6.41
Non-cash	
Unpaid family and/or exchange labor	1.75
Depreciation	0.54
Losses/Shrinkage of produce	0.51
Opportunity cost of capital	0.51
Others	-
Total Non-cash Costs (E)	3.31
TOTAL COSTS (F)	9.72
Net Returns Above Cash Costs (C-D)	44.37
Net Farm Income	41.06

APPENDIX B. Breakdown of costs per unit of Durian in Barangay Cabuyo-an,
Mabini.

ITEM	P/kg
I. Production Cost	
Depreciation	0.54
Fertilizers	1.71
Own labor	1.28
Hired labor	1.31
Total Production Cost	4.84
II. Marketing Cost	
A. Cleaning	
Own labor	0.47
Sub-Total	0.47
B. Transportation Cost	
Hired labor	0.02
Transportation	3.37
Losses/shrinkage	0.51
Sub-Total	3.90
Total Marketing Cost	4.37
III. Opportunity cost of capital	0.51
TOTAL COSTS	9.72
