



Republic of the Philippines
Department of Agriculture

Upland Development Programme in
Southern Mindanao (UDP)

**A MARKETING EFFICIENCY STUDY
ON**

COPRA

**IN SITIO COOG, MAHAN-UB, BAGANGGA,
DAVAO ORIENTAL**

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 copra in Sitio Coog, Mahan-ub, Bagangga, Davao Oriental was evaluated through the deconstruction of existing marketing margins. Recommendations to improve marketing efficiency are herein offered.

This report was prepared by:

Jaymee Alcos
Elizabeth Supangco
Julianne Revilleza

May 2001

ACKNOWLEDGEMENTS

Report data were gathered from a series of personal and group interviews with producers of copra in Sitio Coog, Mahan-ub, Bagangga, Davao Oriental, traders and processors. The time and effort that the respondents have placed into this study are acknowledged. The following were the farmer- and trader-respondents of the study:

Farmers:

Larelyn Lagenza
Flordecita Tesiorna
Eugenio Balug
Proserpina Obidencio
Leoncito Linsag

Assemblers:

Uldarico Cuta
Erlinda Hapitan
Ruisina Agbot

Processor:

Michael Ling of INTERCO

The valuable assistance extended by the Bangangga Municipal Agriculturist's Office and the Mahan-ub Barangay Council is also recognized.

TABLE OF CONTENTS

	Page number
Preface	i
Acknowledgements	ii
Table of Contents	iii
Definition of Terms	iv
Introduction	1
Marketing System of Copra	4
Weaknesses	9
Conclusion	9
Recommendations	9
References	10
Appendices	
A. Cost and Returns per unit of Copra in Sitio Coog, Mahan-ub, Bagangga	11
B. Breakdown of costs per unit of copra in Sitio Coog, Mahan-ub, Bagangga	12

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.
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.

COPRA

INTRODUCTION

1. Copra, or the dried meat of the coconut's (*Cocos nucifera*) nut, is valued as the source of coconut oil and coconut-oil cake (www.britannica.com).
2. The nuts are harvested from the tree by cutting them off with a sickle attached to a long bamboo pole or by bringing them down manually. The nuts are then husked and cracked open to expose the meat, which is roughly 50% water and 30-40% oil. About 30 nuts are needed to make 4.5 kilograms of copra.
3. The Philippines remains as the world's second leading supplier of traditional coconut products (<http://memory.loc.gov/frd/cs>) and from 1993 to 1999, Mindanao produced 55% of the Philippines total copra production (Vargas, 2001).
4. Sitio Coog, Mahan-ub, Bagangga was identified as a major copra producing UDP area in Davao Oriental with three (3) copra seasons per annum, where copra farmers have an average landholding of 3.6 hectares and an average yield of 1,639 kilograms of copra per hectare in one season.
5. The marketing efficiency study for copra in Sitio Coog, Mahan-ub, Bagangga was conducted last March 15,2001.

Objectives

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

Methodology

12. From the initial agribusiness profile of UDP, 11 copra producers were identified in the UDP areas of Davao Oriental. Most of those initially profiled were from different areas and only two copra producers came from the same barangay- Barangay Mahan-ub. Barangay Mahan-ub, therefore, was chosen as the area of study.

13. Upon consultation with the Municipal Agriculturist's Office and the farmers themselves, other copra producers in the area were identified and three more copra producers were interviewed for the study.

14. The farmers were asked about their copra production, marketing practices, and marketing costs. 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 income.

15. The respective buyers of copra from each farmer were then traced accordingly.

16. 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 copra.

17. The marketing margins (MM), or the total value added to the copra per kilogram as it moves along one marketing channel to another, were then deconstructed and the profitability 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 copra farm is profitable, whereas an NFI less than zero (0) would mean that the farm is at a loss.

18. 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. An ROI higher than the opportunity cost of capital would mean that marketing copra 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 copra.

19. 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 copra.

20. 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.

21. 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

22. 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).

23. 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.

24. 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.

25. Lastly, the size of the copra market, specifically, the estimation of demand was not included in the study.

Margin of Error

26. Aside from the UDP Agribusiness Profile, there are no other available data on the population size of copra producers in the area. The margin of error on the analysis, therefore, cannot be established since the formula requires not only the sample size, but the population size as well.

THE MARKETING SYSTEM OF COPRA

Marketing Channels

29. The marketing participants involved in the copra marketing system in Sitio Coog, Bagangga are as follows:

a. Farmer

A person engaged in copra production for sustenance or commercial purposes. He usually sells his produce to the barangay assemblers;

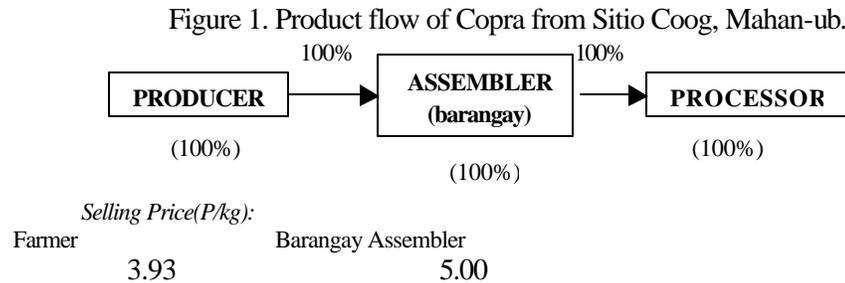
b. Barangay assembler

A trader, based in Bagangga, who buys copra from the farmers and brings it to the copra processor; and

c. Processor

End-buyer of copra. Processes the copra into coconut oil and coconut-oil cakes and sells these products for export.

30. Based on farmer interviews in the area, an estimated 5,900 kilograms of copra were sold for the first season of the year 2001 and the following product flow was established:



31. As shown in Figure 1, from the copra producers, all copra is bought by the assemblers and sold to a processor, which in this case, is Interco in Mati.

32. Similarly, Figure 2 illustrates the geographic flow of copra from Sitio Coog, Mahan-ub.

Figure 2. Geographical flow of Copra from Sitio Coog, Bagangga.



33. From the producer's farm, the copra is brought to the sitio proper where it is bought and picked-up by the barangay assemblers. These assemblers, in turn, assemble all the copra bought from Sitio Coog and other neighboring sitios, barangays and municipalities in their warehouse in Bagangga. From Bagangga, the copra is loaded onto trucks, brought to the processing plant of Interco in Mati and sold there for processing.

Marketing Practices and Costs

34. Most of the coconut meat used for copra production come from the producers' own coconut farms. In some cases, although none were interviewed for this study, other producers buy some coconuts from other farmers living in the upper portions of the barangay and other barangays further up since the farmers in these distant areas are reluctant to process their own copra because that would mean traversing a difficult, high sloping, extensive path carrying sackfuls of copra. Instead, they opt to sell their harvested coconuts to copra producers in the lower parts of Sitio Coog, Mahan-ub.

35. The process of making copra starts after the harvesting of nut when the nuts are husked and cracked open to reveal the meat. The meat is then scraped off from the nut and the process of drying begins.

36. There are two ways to dry copra in Sitio Coog, Mahan-ub. The first, done during sunny days, is the air- and sun-drying method where the nuts are merely exposed to the sun and air. This was the earliest, and is still the most extensively used, method of drying copra.

37. The second, more rapid process is through kiln drying where the copra is placed in a fire pit overlaid with a grid. This improvised kiln is also protected from the rain by a roof made from either woven coconut leaves or galvanized iron. This method produces better quality white copra than that of the sun-dried method.

38. Well-dried copra contains four to five percent (4-5%) moisture and 63 to 70% oil (www.britannica.com).

39. The copra is then put into sacks, each sack weighing 50 kilograms, brought to the sitio proper and sold to the barangay assembler.

40. One of the major costs incurred by the farmers is the labor cost since it is common for the farmers to enter into "60-40" contracts with hired laborers for all activities from harvest until the sacking of copra. The "60-40" agreement is a contract wherein the farmer passes on all harvest and post-harvest activities and responsibilities to the hired laborer given that the laborer gets the 60% share of the net earning from copra production. A modification in this agreement is the "50-50" agreement where the laborer agrees to split the net earning into half provided that the

farmer shoulders the food expenses of the laborers for the duration of the harvest and post-harvest activities.

41. Table 1 presents the summary of the marketing costs of copra for the farmers and other marketing levels.

Table 1. Marketing costs for different marketing levels of copra (P/kg).

ACTIVITY	FARMER	ASSEMBLER
Cleaning	0.27	<i>na</i>
Drying	1.76	<i>na</i>
Packing	0.28	<i>na</i>
Transportation	0.86	0.25
Labor	<i>na</i>	0.25
Supplies and materials	<i>na</i>	0.05
Utilities and other fees	<i>na</i>	0.15
TOTAL	4.09	0.48

42. Within the barangay, there are two sets of traders, agents who purchase at small amounts and sell the assembled copra to the assemblers, and the barangay assemblers who sell the copra outside the barangay.

43. Although none of the farmers, interviewed for the study, had recent sales to such agents, there were anecdotal evidence established that the reason farmers sell to these traders is because they provide them with financing for food, medical supplies, and other household and personal expenses. The farmers who have debts with these agents, therefore, are bound to sell their copra to them at a P0.50 per kilogram-lower farm-gate price.

44. The barangay assembler brings the copra to Interco in the town of Mati. Interco is the biggest producer and exporter of copra oil in the province of Davao Oriental, much like Legaspi oil based in Davao City.

45. Most of the copra producers in Davao Oriental and nearby towns in the province of Surigao del Sur, bring their produce to Interco since it is the nearest major buyer of copra next to Davao City.

46. Interco's purchasing activities include preliminary product examination where a small sample of copra is first tested of moisture content. Upon delivery, the assemblers, or any other seller, gets paid 70% of the estimated value of the delivered copra and only when the moisture content from the sample is known, about two weeks after, would the remaining 30% be paid to the seller.

47. At Interco, the copra are then processed into copra oil and its by-products and shipped for export.

Price Formation

48. At present, the price for copra is very low. Prices are dictated by the world market and demand. The prevailing farm-gate price for copra with 16% moisture content, in the area is pegged at a mere P4.50 per kilogram. This price has discouraged many farmers to continue copra production. In the past, farmers harvest coconut and produce copra more than three times a year, unlike at present where there is only one season of copra production per annum.

49. There are also some farmers who totally neglect their coconut trees hopefully waiting for copra prices to rise.

50. Thus, with very low copra prices, farmers venture into other forms of farming such as planting rice, corn, banana and root crops where capital turnover is more evident and the activities are relatively profitable.

Marketing Margins

51. Table 2 presents the marketing margins and Net Farm Income of the copra traders and farmer, respectively, the details of which are shown in Appendix A

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

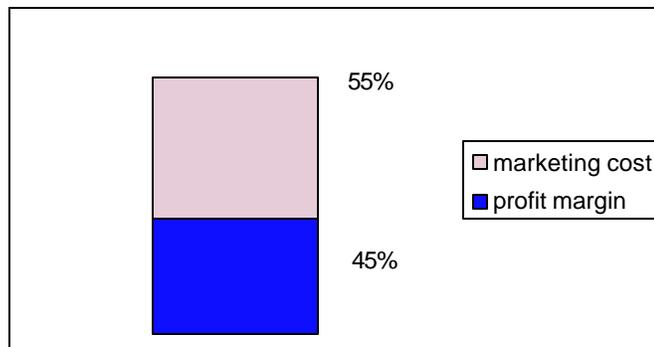
ITEM	Farmer	Barangay Assembler
Selling Price (P/kg)	3.93	5.00
Buying Price (P/kg)	<i>na</i>	3.93
Marketing Margin (P/kg)	<i>na</i>	1.07
Marketing Cost (P/kg)	0.86	0.48
Profit Margin (P/kg)	<i>na</i>	0.59
Net Farm Income (NFI) (P/kg)	(0.16)	<i>na</i>
MC as % of MM	<i>na</i>	45%
PM as % of MM	<i>na</i>	55%
% ROI	<i>nil</i>	0.05%
Opportunity Cost of Capital	<i>na</i>	8%

52. The P-0.16 Net Farm Income (NFI) of the copra farmer, being less than zero (0), indicates that copra production and marketing in Sitio Coog, Bagangga is not profitable (Table 2).

53. The marketing margins (MM) are shown on Table 2. Of the P1.07 per kilogram marketing margin of the assembler, 55% accounts for the marketing costs while 45% is for profit.

54. To illustrate the marketing margin of the barangay assembler, Figure 3 shows the percentage of the marketing cost and the profit margin relative to the marketing margin.

Figure 3. Marketing margin of a copra assembler, Sitio Coog, Bagangga.

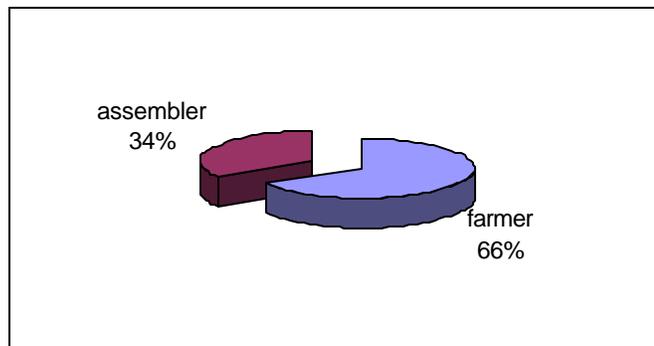


55. On the other hand, the percentage of the processor peso, as indicated on Table 3, means that 66% and 34% of the final buying price (P5.00/kg) goes to the farmer and the assembler, respectively.

Table 3. Percentage share to the processor peso.

MARKETING LEVEL	SELLING PRICE (P/piece)	% SHARE
Farmer	3.93	66
Retailer	5.00	34

Figure 4. Percentage share of the processor peso.



WEAKNESSES

56. Although copra and its derivatives are one of the country's top exports, the world demand for these commodities have decreased due to the presence of alternative sources of oil, which are healthier and safer. Copra prices, therefore, have been constantly decreasing.

57. Also, the duration of the two weeks allotted for determining the moisture content of the copra that the assemblers have to wait for before they get their final 30% payment, increases the inefficiency in marketing. This is due to the fact that the remaining 30% payment, if given during the actual of sale, could have been used by the assembler as capital in other profitable activities.

CONCLUSION

58. An analysis of the Net Farm Income (NFI) of the farmer show that the P –0.16 per kilogram NFI of the farmer means that copra production and marketing in Sitio Coog, Bagangga is not profitable.

59. On the side of the traders, an analysis of the marketing margins of copra as it was transferred from one marketing participant to another was done to determine which among the cost and the profit have the most share in the marketing margin (Table 2). Results show that 55% of the price mark-up is attributable to profit and that the actual cost of the product is 45% of the processor's buying price.

60. The return on investment was also determined to show if the enterprise of the assembler is efficient, specifically if the sale of copra by the assemblers is profitable and efficient. A positive ROI, this indicates a profitable marketing of copra by the assembler. By further comparing this ROI to the opportunity cost of capital and determining that, in the case of copra marketing, it is lower, it can be concluded that the marketing of copra by the assembler, although profitable, is not efficient. This means that his profits are relatively small compared to the amount of investment he has put up in his copra-marketing activities.

RECOMMENDATIONS

60. With current trend in demand and price of copra, farmers should be taught on the different and more profitable uses of coconut. The community should set up livelihood projects wherein handicrafts can be made from the leaves of the coconut, fiber (from the husk) and charcoal making.

REFERENCES

- AGARRADO, R.E. et al. Marketing and Information Needs Assessment for Davao City. BAS-DA-USP, Davao City.
- CORRE, S. 1996. A Market Efficiency Study for Palay/Rice in Biliran Published under the Small Islands Agricultural Support Services Programme.
- REVILLA, R.S. 1999. Production and Marketing of Sinta Papaya in Laguna, 1998. Unpublished Undergraduate Thesis, CEM, UPLB, Laguna.
- VARGSA, R.. 2001. Coconut Industry Developmnt Program. A presentation on the Third Mindanao Food Congress, Center for Food and Agri Business-UA&P, Pasig City.
- UDP 1999. The Terms of Reference for Consultancy Services-Marketing Efficiency Study. UDP, Davao City.

www.britannica.com

<http://memory.loc.gov/frd/cs>

APPENDIX A. Cost and returns per unit of Copra, Sitio Coog, Mahan-ub, Bagangga.

ITEM	P/kg
RETURNS	
Cash	
Sales	3.93
Total Cash Returns (A)	3.93
Non-cash	
Total Non-cash Returns (B)	-
TOTAL RETURNS (C)	3.93
COSTS	
Cash	
Hired labor	2.61
Transportation	0.86
Land cost	0.10
Total Cash Costs (D)	3.57
Non-cash	
Unpaid family and/or exchange labor	0.09
Depreciation	0.09
Losses/Shrinkage of produce	0.05
Opportunity cost of capital	0.29
Total Non-cash Costs (E)	0.52
TOTAL COSTS (F)	4.09
Net Returns Above Cash Costs (C-D)	0.36
Net Farm Income	(0.16)

**APPENDIX B. Breakdown of costs per unit of copra, Sitio Coog, Mahan-ub,
Bagangga.**

ITEM	P/kg
I. Production Cost	
Land cost	0.10
Depreciation	0.09
Own labor	0.03
Hired labor	0.41
Total Production Cost	0.63
II. Marketing Cost	
A. Cleaning/Dehusking	
Own labor	0.02
Hired labor	0.24
Losses/shrinkage	0.01
Sub-Total	0.27
B. Drying	
Own labor	0.01
Hired labor	1.73
Losses/shrinkage	0.02
Sub-Total	1.76
C. Sacking	
Own labor	0.03
Hired labor	0.24
Losses/shrinkage	0.01
Sub-Total	0.28
D. Transportation	0.86
Total Marketing Cost	3.17
III. Opportunity cost of capital	0.29
TOTAL COSTS	4.09
