



Republic of the Philippines  
Department of Agriculture

Upland Development Programme in  
Southern Mindanao (UDP)

**A MARKETING EFFICIENCY STUDY  
ON**

**CORN**

**IN BARANGAY NEW LA UNION, MAITUM,  
SARANGGANI**

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 corn in Barangay New La Union, Maitum, Saranggani was evaluated through the deconstruction of existing marketing margins. Recommendations to improve marketing efficiency are herein offered.

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May 2001

## ACKNOWLEDGEMENTS

Report data were gathered from a series of personal and group interviews with producers and traders of corn in Barangay New La Union, Maitum, Sarangani. 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:

<i>Farmers:</i>	<i>Retailer:</i>	<i>Wholesaler-retailer:</i>
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The valuable assistance extended by the Maitum Municipal Agriculturist's Office and the New La Union Barangay Council is also recognized.

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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.
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.

# CORN

## INTRODUCTION

1. Corn (*Zea mays*) is the one of the major crops produced in the Philippines after rice. There are two general types of corns in the Philippines, white corn and yellow corn. White corn is the staple food of around 20% Filipinos living in the Visayas and Mindanao regions. Yellow corn is the major input for the livestock industry, which now comprises about 70% of the total corn production. Most obviously, yellow corn production is now a major source of income for producers in Mindanao.
2. There is a steady growth of the yellow corn industry that resulted from the increasing demand for feed corn for poultry and livestock industries. On the other hand, the demand for food corn has not grown substantially due to substitutes like bread, noodles, and rice.
3. The Mindanao region accounts for 60% of the total national production with an average yield of 1.62 metric tons per hectare. Fifty-two percent of the total production in 1999 is composed of white corn while the other 48% is yellow corn (BAS, 1999). A study on the Corn Supply/Demand Analysis by the University of Asia and the Pacific cited that Mindanao is considered self sufficient in corn with over 1.6 million metric tons available for other regions. In Mindanao, corn is planted twice a year, from March to April and September to October.
4. The white corn variety or *taniguib* is grown in Barangay New La Union, Maitum, with a 2.57 hectare landholding on average per farmer. And the average production of *Taniguib* corn in the area is 463.8 kilograms per hectare..
5. The marketing efficiency study for corn in Barangay New La Union, Maitum, Sarangani was conducted last March 7, 2001.

### *Objectives*

6. The main objective of the study is to assess the impact of existing marketing systems of corn vis-à-vis income of the farmers.
7. Specifically, the study aims to determine the levels of participants in the marketing chain of corn;
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 corn at each level in the system, exclusive of production costs;

10. Identify strengths and weaknesses of the existing marketing system of corn; and
11. Determine appropriate marketing interventions needed to improve economic efficiency of corn in Barangay New La Union, Maitum .

### *Methodology*

12. From the initial agribusiness profile of UDP-Sarangani, 18 corn farmers were identified; five of which come from Barangay New La Union, Maitum. Complete enumeration of the New La Union corn farmers was done for the interview.
13. The farmers were asked about their production and marketing practices, production and marketing costs of corn. 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.
14. The respective buyers of corn from each farmer were then traced accordingly.
15. The traders were, in turn, asked about their marketing, costs, and the problems and constraints they have encountered in the marketing of corn.
16. The marketing margins (MM), or the total value added to the corn per kilogram as it moves along one marketing channel to another, were then deconstructed and the profitability of each marketing participant 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 corn farm is profitable, whereas an NFI less than zero (0) would mean that the farm is at a loss.
17. 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 corn is more profitable than just saving the trader's money in a bank. While an 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 corn.
18. 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 corn.



19. 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.

20. 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*

21. Upon interview, the farmers only recalled past production level, income, farm tools and equipment used, as there were no records kept of their operations. Thus the cost and return that were analyzed were only estimates. The Return on Investment (ROI) was excluded on the analysis of the farmer's income due to the ambiguity of the values arrived at, as some factors on capital investment were not quantified. 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).

22. On the marketing aspect, the respondents interviewed were the middlemen identified by the farmers. Most also based their answers on their memories since they too do not keep records of their marketing operations.

23. On the analysis of the marketing efficiency 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.

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

#### *Margin of Error*

25. Aside from the UDP Agribusiness Profile, there are no other available data on the population size of corn 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.

## MARKETING SYSTEM OF CORN

### *Marketing Channels*

26. The marketing participants involved in the corn commodity system in Barangay New La Union, Maitum are as follows.

a. Farmer

One who engages in the production and post harvest activities of corn.

b. Wholesale-retailer

One who procures harvested corn either shelled or in cob from the farmers consumer.

c. Retailer

One who engages in the selling of corn directly to the consumer.

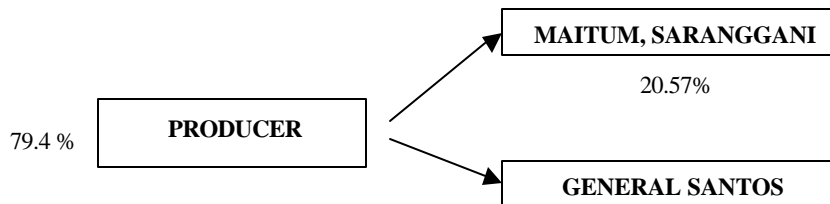
27. Based on farmer interviews, an estimated 5,960 kilograms of corn were sold for most recent cropping season of 2000. The following product flow was established:

Figure 1. Product flow of corn from Barangay La Union, Maitum, Saranggani.



28. Figure 1 shows that farmers in Barangay New La Union either sell their produce to the retailer or to the wholesaler-retailer.

Figure 2. Geographical flow of corn.



29. Figure 2 describes the geographical flow of corn from the barangay. It is delivered to only two areas, the town proper of Maitum or to General Santos City.

#### *Marketing Practices and Costs*

30. In the farm, farmers perform post-harvest activities such as drying, grading/sorting, shelling and packing. From the group of farmers interviewed, there were only a few who shell corn.

31. Farmers dry the grain before it is milled to prolong the shelf life of the corn grains. After drying, shelling is done, although most of the farmers prefer not to shell the corn because of the additional cost of shelling and the absence of drying facilities in the area.

32. After the corn is dried or shelled, farmers would sort the corn using the *visual method* where ocular examination of the corn is done to determine if it is spotted. Farmers also employ the *feel method* where it involves the determination of the wetness and dryness of the corn, then wet corns are set apart for drying.

33. Bagging is done after the corn is graded. The corn or the grits are packed in the sacks, each weighing 50 kilograms, it is then transported to the wholesaler-retailer or retailer.

34. There is no problem in transporting the produce in the trading centers. The farmers would use the passenger jeepney in transporting the produce.

35. After delivering the produce the farmer is paid in cash by the wholesaler-retailer or retailer.

36. Marketing cost at different levels is shown on Table 1.

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

ACTIVITY	FARMER	WHOLESALE- RETAILER	RETAILER
Grading/Sorting	0.10	<i>na</i>	<i>na</i>
Packing	0.15	<i>na</i>	<i>na</i>
Transportation	0.38	0.40	0.40
Labor	<i>na</i>	0.08	0.06
Fees and Payments	<i>na</i>	0.05	0.01
Packaging Materials	<i>na</i>	0.02	0.01
Non-cash cost	<i>na</i>	0.01	0.16
<b>TOTAL</b>	<b>0.63</b>	<b>0.56</b>	<b>0.64</b>

37. Transportation cost is high at different levels as this makes up almost 65% of the marketing cost.

#### *Price Formation*

38. Price trends for corn are well defined, as high prices fall on lean months and low prices on peak months. White corn, being the commodity for human consumption, has generally been priced higher than the yellow corn.

39. Despite Mindanao's sufficiency in corn, the price of corn increases throughout the years primarily because of a growing gap between demand and supply on a national scale brought about by a faster growth in demand compared to the relatively slow growth in production.

40. In Barangay New La Union, corn prices have been stable for the past years. This can be attributed to the steady supply in the area. However, prices differ because of the grade and quality of the produce. Dry corn has a higher price compared to the semi-wet corn. Corns with spots have lower prices as compared to the smooth white corn.

#### *Marketing Margins*

41. Shown on Table 2 are the marketing margins for corn at the different marketing levels. Included in the table is the Net Farm Income of the farmer which is presented in detail on Appendix A.

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

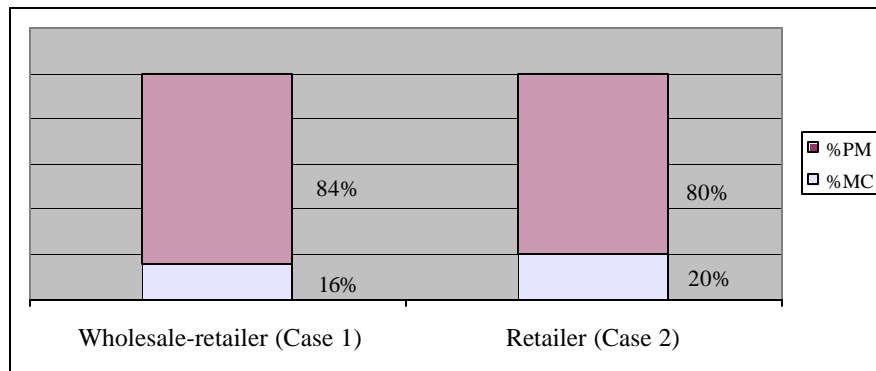
ITEM	Farmer	Wholesaler-retailer (Case 1)	Retailer (Case 2)
Selling Price	4.80	8.20	8.00
Buying Price	<i>na</i>	4.80	4.80
Marketing Margin	<i>na</i>	3.40	3.20
Marketing Cost	0.63	0.56	0.63
Profit Margin	<i>na</i>	2.84	2.57
Net Farm Income	2.16	<i>Na</i>	<i>na</i>
MC as % of MM	<i>na</i>	16%	20%
PM as % of MM	<i>na</i>	84%	80%
% ROI	<i>na</i>	12.6%	40.8%
Opportunity Cost of Capital	<i>na</i>	8%	8%

Note: Case 1 represents the movement of corn from farmer to wholesaler-retailer.  
Case 2 represents the movement of corn from farmer to retailer.

42. The marketing margins for each participant in the trading of corn were determined. Each level in the marketing channel enjoys large profit for every kilogram of produce they sell. For the wholesaler-retailer 84% of his margin is profit and 16% is the marketing cost. Retailer, on the other hand, has a relatively lower share of profit margin (80%) as 20% his price mark-up goes to the cost of marketing corn.

43. Graphically, the marketing margins are illustrated below.

Figure 3. Marketing margins



44. Table 3 shows the percentage breakdown of retail price to the consumer peso.

Table 3. Percentage share prices to the consumer peso.

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MARKETING PARTICIPANTS	SELLING PRICE (P/kg)	% SHARE
<i>Case 1</i>		
Farmer	4.80	14.5%
Wholesaler-retailer	8.20	85%
<i>Case 2</i>		
Farmer	4.80	14.9%
Retailer	8.00	8%

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45. Case 1 and Case 2 have the same percentage share to the consumer peso. Wholesaler- retailer and retailer have a 85 % share while the farmer has a 15% share.

46. The graphical presentation of the percentage share of the consumer peso for both cases are shown below.

Figure 4. Percentage share prices to the consumer peso (Case 1).

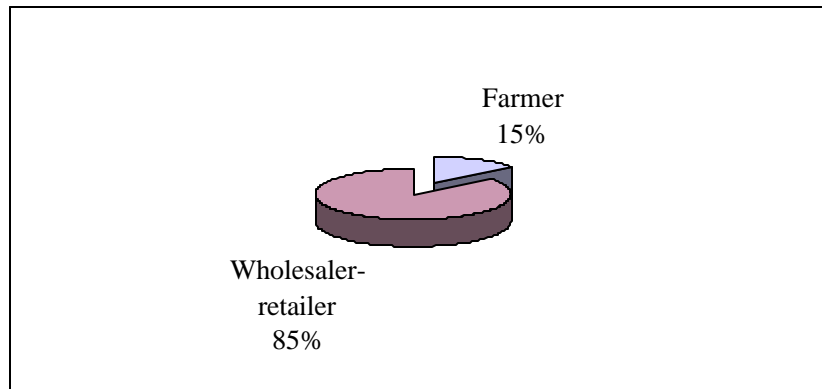
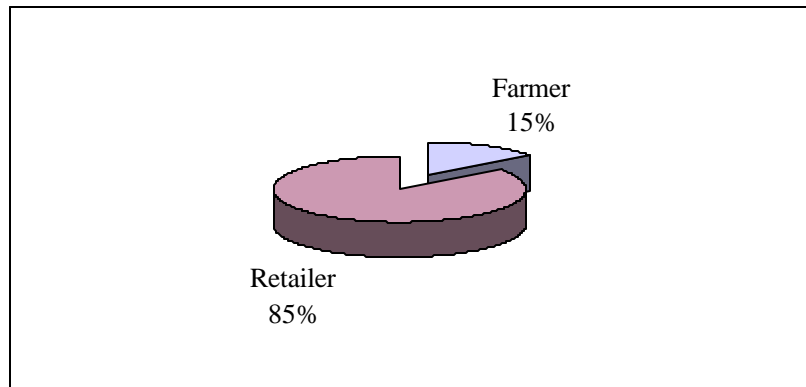


Figure 5. Percentage share prices to the consumer peso (Case 2).



### STRENGTHS AND WEAKNESSES

47. Aside from the high demand of corn and the well-established marketing system, no other market-related strengths were determined in the study. Problems and weaknesses, however, abound.

48. In the case of corn, problems on the grading standards are often encountered by the farmers. Although the ideal moisture content of corn is 14%, moisture content determination is done arbitrarily by feel of the grains. Also, the buyers' requirements on the percent adulteration is unknown to the farmers.

49. Another weakness in the corn marketing system is the absence of drying and storage facilities in the area. The farmers, therefore, rarely dry corn. Consequently, the quality of grains sold by the farmers is substandard.

50. Lastly, the corn farmers' access to other markets/buyers is hindered by the distance of the area which leads to high transportation costs.

### OTHER KEY FINDINGS

51. It was also determined that Barangay New La Union corn farmers are unaware of the growing demand for yellow corn, thus, corn production in the area is still predominantly of the white variety.

## CONCLUSION

52. To determine the efficiency of the farmers, the Net Farm Income is evaluated. Table 2 shows that for every kilogram of corn sold to the traders the farmer gain a net income of P2.16. In this, we could say that the farmers are performing efficiently.

53. In evaluating the efficiency of the traders, ROI and cost structure are examined. The wholesaler-retailer with an ROI of 12.6% greater than the opportunity cost of capital (8%) is determined to be performing efficiently. In addition, results showed that the wholesaler-retailer' marketing cost of P0.56 per kilogram is much lower than the profit margin of P2.84 per kilogram also implying efficiency in marketing.

54. Similarly, the retailers' marketing activities were determined to be efficient since his ROI is higher than the opportunity cost of capital and the marketing cost is significantly low relative to the marketing margin.

## RECOMMENDATIONS

55. Based on the findings and conclusions established in this study, the following recommendations are offered:

- ?? Trainings and information drives on the grading standards of corn should be conducted to enlighten the farmers on the classification of corn and requirements of the buyers;
- ?? Drying and storage facilities should be built to enable farmers to dry and/or store corn, as both these practices allow the farmers to receive a higher farm-gate price; and
- ?? To improve the farmers' market knowledge on corn, market information on the buying prices of yellow and white corn should be made available along with information on the corresponding buyers of each variety.



## 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.
- CENTER FOR FOOD AND AGRIBUSINESS-UNIVERSITY OF ASIA AND THE PACIFIC. 2001. Corn Supply/Demand Analysis and Projections. A presentation on the Third Mindanao Food Congress, UA&P, Pasig City.
- UDP 1999. The Terms of Reference for Consultancy Services-Marketing Efficiency Study. UDP, Davao City.

[www.britannica.com](http://www.britannica.com)

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

APPENDIX A. Cost and returns per unit of corn in Barangay New La Union,  
Maitum.

ITEM	P/kg
<b>RETURNS</b>	
Cash	
Sales	4.80
Total Cash Returns (A)	4.80
Non-cash	
Total Non-cash Returns (B)	-
<b>TOTAL RETURNS (C )</b>	<b>4.80</b>
<b>COSTS</b>	
Cash	
Seeds	0.70
Fertilizers	0.36
Hired labor	0.13
Transportation	0.38
Land cost	0.10
Total Cash Costs (D)	1.67
Non-cash	
Unpaid family and/or exchange labor	0.68
Depreciation	0.10
Losses/Shrinkage of produce	0.03
Others	0.03
Opportunity cost of capital	0.13
Total Non-cash Costs (E)	0.97
<b>TOTAL COSTS (F)</b>	<b>2.64</b>
Net Returns Above Cash Costs (C-D)	3.13
Net Farm Income	2.16

APPENDIX B. Breakdown of costs per unit of corn in Barangay New La Union,

Maitum

ITEM	P/kg
<b>I. Production Cost</b>	
Land cost	0.10
Depreciation	0.10
Seeds	0.70
Fertilizers	0.36
Own labor	0.50
Hired labor	0.09
Others	0.03
<b>Total Production Cost</b>	<b>1.88</b>
<b>II. Marketing Cost</b>	
<b>A. Grading</b>	
Own labor	0.05
Hired labor	0.04
Losses/shrinkage	0.01
<b>Sub-Total</b>	<b>0.10</b>
<b>B. Packing</b>	
Own labor	0.13
Losses/shrinkage	0.02
<b>Sub-Total</b>	<b>0.15</b>
<b>C. Transportation</b>	<b>0.38</b>
<b>Total Marketing Cost</b>	<b>0.63</b>
<b>III. Opportunity cost of capital</b>	<b>0.13</b>
<b>TOTAL COSTS</b>	<b>2.64</b>