



## PREFACE

This study was financed under a **SECID/AUBURN/USAID** project, formerly called the Haiti Agroforestry II Project, and later the Haiti Productive Land Use Systems Project. The market study which was requested by CARE, and was intended to study the sale and price movements of agricultural products in the Northwest, began in December, 1990. The study was interrupted several times because of political unrest experienced in Haiti. These were accompanied by changes in staff at the **SECID/Auburn** office, USAID and CARE office. In May of 1993 **SECID/Auburn** requested a continuation of the study.

This study contributes to the Monitoring and Evaluation effort of PLUS by providing a better understanding of the marketing of agricultural products in Haiti. It includes a description of the marketing system in the Northwest, an analysis of the marketing channel, the evaluation of the market structure, performance and conduct for several produce markets, price analysis and an examination of the technical and policy support provided to food marketing in the Northwest. A number of individuals contributed to this study. These included CARE's field team, the interviewers, Ms. Marilyn Louis, Dr. Dennis Shannon and SECID office staff. Among those who were directly responsible for field activities were:

### SECID/Auburn

Ms. Sigrid D'Aquin	-	Data Analyst
Mr. Rosnick Norelia	-	Chauffeur and interviewer
Dr. Paul Starr	-	Sociologist and Chief of Party
Mr. Raynold Bien Aimé	-	Assistant Data Analyst
Mr. Roosevelt Saint-Dic	-	Local Technical Assistant
Ms. Beatrice Fenelon	-	Marketing Research Assistant
Dr. J. D. (Zach) Lea	-	Agricultural Economist

### CARE

Ms. Kathleen Rorison	-	Assistant Project Coordinator
Mr. Atus Pierre	-	Assistant Project Coordinator

## EXECUTIVE SUMMARY

The marketing study was initiated in October, 1990. The objectives were to identify the crops produced and sold in the Northwestern region, collect and analyze prices of crops, evaluate marketing costs and identify market potentials for crops produced in the region. The food marketing system is dominated by a number of small producers, selling small quantities of marketable surpluses after harvest at primary and secondary marketplaces. There are linkages between the markets. For example, the Poste Metier market depends on the Port-de-Paix market for manufactured goods. The Port-de-Paix market depends on the Beauchamps market for beans, grains, and small livestock, such as chicken.

The marketing channels are simple and straight forward. Produce are either sold on the farm or at the marketplace. Only a few products are sold on the farm. Contractual arrangements are few and are purely in the form of verbal agreements. The intermediaries can be wholesalers who invest substantial amounts of money buying a vehicle and erecting storage houses, or a retailer selling small quantities of commodities to earn a daily wage.

Market information was obtained from visits to the marketplaces. Market participants were the most common source of information. Little information was supplied by the public service on market prices, and product availability.

There were no signs of intermediaries preying on farmers or consumers. The cost of moving goods from producer to consumer constituted a major component of marketing cost. When the time spent in marketing products is factored in sales cost, it is observed that marketers just earned enough money to cover their daily wages.

Prices are set at the marketplace. Most market participants were aware of the existing market prices, and usually charged the on-going market price. The amount of haggling depended on the value of the product, and its perishability. Price variation within and between regions, and seasonal price differences were observed for almost all crops. The degree of variation depended the crop storage life. Price fluctuation was less for the crops such as cassava and sweet potatoes which could be stored in the ground for some time.

The processing of food products generated a substantial amount of revenue to processors. There was no control over product quality and standards. Mill owners for the processing of cereals were found in the vicinity of the large markets such as Gonaive and Port-de-Paix, but were inaccessible to vendors and producers at secondary markets.

There are potentials for increasing the role of the market in stimulating the agricultural sector. Market opportunities for increasing farm income were identified.

### Opportunities

1. The increased production of specialty crops such as pigeon peas, sweet potatoes and plantains for local consumption and export seem to be an avenue

- for increasing farm revenue. The use of fertilizers could help increase yields so that production can exceed domestic needs. Pigeon peas can become an income earner if exported to the United States, and neighboring countries, such as Jamaica and the Bahamas, where demand for pigeon peas is increasing.
2. The increased production of fruits, such as mango and paw paw can enhance income generation from agriculture. These crops are already grown in the region, and sold throughout the country, but the distribution of varieties with high export potentials can be included in the national agricultural program. Haitian mangoes are already sold in a number of U.S cities, such as Atlanta, Baltimore and Washington, and are well appreciated.
  3. The yield of cereals has been on a decline. The improvement in the production of cereals will depend on increased yields, and not on the expansion of surface area planted; therefore, cultural practices which will improve yields should be a priority.
  4. Food processors realize profits from the sale of agricultural products; therefore, the improvement of processing techniques should help increase revenues from agriculture.
  5. The increase in para-agricultural activities such as the production of hats, bags and art from straws seem to be common in Haiti and the Northwest, but these were not included in the original design of the study. These have potentials for increasing farm revenue, either from local sales or from exports. Attention should be paid to the propagation of crops for the production of straw products.
  6. Production and sale of small stock did not form part of this study, but through observations made at the marketplace there is a tremendous opportunity for farm income generation through the increase in production of small stock, such as rabbits, goats and chicken, which do not require substantial amounts of investments and improved techniques.

Opportunities for increasing farm income exist, and can be tapped if the infrastructure are in place and the factors which impede the flow of market goods and services are eliminated.

### **Marketing Constraints**

The most pressing constraints which impede the marketing of agricultural products in the Northwest are:

1. The road conditions, especially to secondary markets, seemed to be one of the major constraining factors impeding the marketing of produce in the Northwest.
2. Food storage at the farm and market levels seem to be a concern to intermediaries and farmers.
3. Small mills are inaccessible to farmers and intermediaries around secondary markets. The value added from farm products are captured by owners of processing plants in large cities, and very little is returned to the farm.

4. The absence of a market information system limits the market opportunities for small producers. This limits the farmers' planning horizon.
5. Present product quality will reduce the quantities and quality of produce shipped if export opportunities develop. A large number of products, for example plantains, deteriorate before they arrive at the marketplaces.

The market can have a significant effect on the agricultural sector if some of these recommendations are accepted and acted upon.

### **Recommendations**

1. The public service needs to be made aware of the importance of road improvements to the agricultural sector. Roads which link major production areas must be given immediate attention. It has been shown that the returns to feeder road construction in developing economies can more than cover the construction cost.
2. The improvement of the marketplaces and their accessibility should be given due consideration. Some amenities such as toilets and parking areas for humans and corrals for animals, can greatly improve the marketing process.
3. The development of a market information system is not expensive and this should be one of the priority considerations. The local radio can be used for diffusing market information on prices and products available.
4. Product quality demonstration and the effects of increased product quality on farm revenues should be planned by the extension service.
5. New techniques for food preservation at the farm level should be demonstrated. A feasibility study on cereal processing mill location in close proximity to farming areas with high potentials should be conducted.
6. Farmers should be advised on the use of new methods of reducing storage losses. Some of the present methods in use by farmers for storing their products, such as the use of toxic chemicals as DDT and organophosphate compounds should be discouraged and improved methods demonstrated to farmers by the extension agents. Farmers own techniques should be studied for their scientific merit, and if proven effective should be extended to other farmers.
7. Farmers should be encouraged to produce crops with export potentials. Crops such as mangoes, paw paw, sweet potatoes, plantains, pigeon peas, cashew and cassava should be evaluated as export revenue generators for northwest farmers.
8. An advertisement program, which encourages Haitians to buy local, especially local preserves, would help boost the sales of processed products.

## REZIME

Etid sou komèsyalizasyon sa-a te kòmanse an Oktòb 1990. Objektif étid la se pou jwenn ki sa yo pwodwi ak vann nan Nòdwès, chèche konnen ak analize pri pwodwi yo, etidye konbyen sa koute pou pote pwodwi yo nan mache, etidye tou ki posibilite ki genyen pou vann sa ki pwodwi nan zòn Nòdwès la. Machann yo se plis kiltivatè ki ap vann ti kantite manje yo fè an plis yo nan gwo tankou nan ti mache. Gen rapò ant mache yo. Pa egzanp, Mache Pòs Metye-a depann de mache Pòdpè-a pou pwodwi atizanal yo. Mache Pòdpè-a depann de mache Bochan pou pwa, mayi, pitimi, diri, ak bèt tankou poul.

Wout pwodwi yo fè pa konplike ditou. Yo vann yo oubyen depi nan jaden oubyen nan mache. Anjeneral se nan mache yo al vann. Se pa fasil pou moun k-ap achte ak vann fè kontra epi le yo fèt yo pa ekri sou papyè. Entèmedyè se oubyen moun ki achte an gwo, ki investi anpil lajan pou achte machinn pou transpò pwodwi yo, ki konstwi depo, oubyen se moun ki achte an detay pou fè you ti kòb chak jou.

Enfòmasyon yo te rasanble pandan vizit nan mache yo nan pale ak machann yo. Nou pat jwenn anpil enfòmasyon nan sèvis piblik yo sou pri pwodwi yo, lè yo ka jwenn yo ak ki kote yo ka jwenn yo.

Sanble pa genyen entèmedyè k-ap eksplwate kiltivatè yo ak konsomatè yo nan zòn lan. Pri transpò pwodwi yo sanble pi gwo moso nan kòb ki depanse pou komèsyalizasyon pwodwi yo. Lè ou detaye pri yo vann pwodwi yo, ou wè ke machann yo pa fè gwo benefis.

Pri yo fikse nan mache-a. Majorite machann yo konnen pri yo e yo vann machandiz yo menm pri ki sou mache-a. Pri pwodwi-a ka diskite. Sa depann de valè pwodwi-a e de posibilite pou-l konsève. Pou tout pwodwi yo, nou remake ke pri yo varye nan you menm rejion, ant de rejion ou byen ankò pou de sezon diferan. Li depann de posibilite pou konsève pwodwi-a. Pri yo te mwens varye pou pwodwi tankou manyòk ak patat ki ka konsève nan tè pandan yon sètin tan.

Transfòmasyon pwodwi pou manje yo rapòte moun ki ap fè aktivite sa-a. Pa gen kontwòl sou kalite pwodwi sa yo. Nou te jwenn moulen mayi, pitimi, diri, tou pre gwo mache yo tankou Gonayiv, Pòdpe, men pa bò mache ki mwen enpòtan yo.

Si yo ankouraje moun yo fè agrikilti yo ka ogmante enpòtans mache yo. Nou te idantifye mwayen pou moun yo fè plis lajan nan lavant pwodwi yo.

## MWAYEN POU MOUN YO FE PLIS LAJAN

1. Yon mwayen pou ogmante kantite lajan moun yo fè, se ta ogmante pwodiksyon kèk kilti tankou pwa kongo, patat ak bannann pou vann sou plas ou byen pou voye vann aletranje. Yo ka itilize angrè pou ogmante randman yo. Pwa kongo ta ka vann lòt bò dlo, tankou Ozetazini, Jamayik, Baamas ak lòt peyi nan Karayib la.
2. Yo ta ka ogmante pwodiksyon fwi tankou mango, papay, pou fè plis lajan. Yo fè kilti sa yo nan zòn nan deja e yo vann yo nan tout peyi-a. Yo ta ka sèlman vini ak lòt varyete ki bay plis nan pwogram agrikòl yo. Mango ayisyen ap vann deja nan kèk vil Ozetazini, tankou Atlanta, Baltimò, Wachinton, epi yo byen renmen yo.
3. Randman sereal yo ap bese. Sèl jan pou ogmante pwodisyon sereal yo se ogmante randman yo. Pa gen mwayen pou ogmante kantite tè yo plante yo. Yo dwe bay priorite a teknik pou ogmante randman yo.
4. Moun ki genyen moulen yo fè anpil pwofi. Si yo ameliorye teknik nan moulen yo, ap gen plis kòb ki rantre toujou.
5. Gen lòt aktivite atizanal tankou fè chapo, valiz ak lòt bagay an pay ki pèmèt moun yo fè lajan nan Nòdwès la, men yo pat nan etid la. Tou sa, se aktivite ki ta ka fè moun nan zòn nan rantre lajan. Yo ta ka vann yo sou plas oubyen lòt bò dlo. Yo te dwe okipe miltipliye kilti ki pèmèt moun yo jwenn pay pou fè travay atizanal sa yo.
6. Elvaj ak la vant bèt pat antre nan etid la. Men dapre sa nou obsève nan mache yo, gen anpil posiblite pou fè lajan si moun yo fè elvaj bèt tankou lapen, kabrit ak poul ki pa mande anpil kòb ak gwo teknik.

Mwayen pou fè moun nan zòn nan fè plis lajan egziste, e yo ta pi klè si ta gen wout ak si yo ta elimine tout sa ki anpeche pwodwi ak sèvis rive kote yo dwe rive.

## PWOBLEM KI POZE SOU MACHE-A

Pi gwo pwoblèm nan Nòdwès ki anpeche komès pwodwi agrikòl yo fèt kòm sa dwa, se:

1. Move kondisyon wout yo sanble se pi gwo pwoblèm pou pwodwi yo rive kote yo dwe rive, sitou nan mache ki pa pre vil yo.
2. You lòt pwoblèm ankò se konsèvasyon pwodwi yo kay kiltivatè yo ak lè yo pote yo nan mache.

3. Kiltivatè ak entèmedyè yo pa jwenn ti moulen toupre ti mache yo. Se pwopriyetè moulen lavil yo ki fè tout kòb la; you ti kras kòb al nan men plantè yo.
4. Pa gen you rezo enfòmasyon pou kiltivatè yo pa konnen debouche yo, yo pa konnen ki posiblite ki egziste pou fè plis kòb.
5. Pwodwi yo, jan yo ye kounye-a, pa finn bon kalite. Sa ka limite kantite bagay yo ta ka voye vann lòt bò dlo. Anpil pwodwi tankou bannann finn pouri anvan yo rive kote pou yo achte yo-a.

Komèsyalizasyon pwodwi ka you ankourajman pou devlopman agrikilti si yo konsidere rekòmandasyon sa yo e si yo aplike yo:

### REKOMANDASYON

1. Léta dwe konsyan ke wout enpòtan pou devlopman agrikilti. Yo dwe fè wout pou gen relasyon ant tout zòn agrikòl enpotan yo. Eksperians nan peyi k-ap devlope yo montre ke benefis ki ka tire nan konstwi wout ka depase kòb yo te investi nan konstriksyon wout yo.
2. Yo dwe panse amelyore mache yo ak tout mwayen pou rive ladan yo.
3. Sa pa koute chè pou devlope you sistèm pou bay moun enfòmasyon sou mouvan nan mache yo. Yo te dwe bay sa priorite.
4. Sèvis ekstansyon dwe planifye seyans pou fè demonstrasyon sou kalite pwodwi yo e montre kòman kalite pwodwi yo ka rapòte plis lajan.
5. Yo dwe demontre nouvo teknik konsèvasyon pwodwi yo kay kiltivatè yo. Yo dwe fè you etid pou wè ki kote yo ka mete moulen mayi pitimi diri pa lwen kay kiltivatè yo.
6. Yo dwe montre kiltivatè yo nouvo metòd konsèvasyon pou yo diminye pèt. Ajan ekstansyon yo pa dwe ankouraje peyizan yo konsève pwodwi yo ak DDT oubyen lòt ensektiskd danjere. Yo dwe montre yo lòt fason pou yo fè. Yo dwe etidye teknik ke peyizan yo itilize, gade sa ki efikas pou montre lòt moun.
7. Yo dwe ankouraje kiltivatè yo plante pwodwi yo ka voye vann lòt bò dlo, tankou mango, papay, patat, bannann, pwa kongo, nwa kajou, manyòk ke yo dwe evalye pou Nodwes-la.
8. Ta dwe gen you pwogram pou fè reklam pou ayisyen achte pwodwi yo fè lakay yo, sitou konsè. Sa ta ka pèmèt pi gwo lavant pwodwi ki transfòme an Ayiti.

## TABLE OF CONTENTS

	Preface	i
	Executive Summary	ii
	Rezime	v
	Table of Contents	viii
	List of Figures	xi
	List of Tables	xii
	List of Tables in Appendix A	xiii
	List of Figures in Appendix B	xiv
	List of Tables in Appendix C	xv
I.	INTRODUCTION	1
	Objectives and Methodology	2
	Objectives	2
	Methodology	2
	Market Prices	2
	Research Protocols	4
	Complementary Surveys	4
	Marketplace Description	5
	Market Participants Information	5
	Marketing of Processed Foods	5
	Transportation Costs	5
	Producer Information	6
	Measurement of Coefficients	6
II.	FOOD MARKETING	7
	Marketplaces	7
III.	MARKETING CHANNELS	11
	Product Flows	11
	Information Flows	13
IV.	MARKETING FUNCTIONS	15
	Assembling	15
	Collect	15
	Method of Payment	15
	Contractual Agreements	15
	Storage	17
	Transportation	17
	Processing	20
	Product Selection and Standardization	25
	Risk Bearing	25
	Financing	27
	Market Intelligence	27

V.	MARKET STRUCTURE CONDUCT AND PERFORMANCE	28
	Structure and Performance	28
	Market Efficiency	28
	Physical Efficiency	28
	Transportation	28
	Transportation Time	29
	Product Spoilage	30
	Economic Efficiency	30
	Transport Costs	30
	Marketing Margin	35
	Market Conduct	35
VI.	PRICE ANALYSIS	39
	Farm Level Prices	39
	Market Level Prices	39
	Possibilities for Inter-Regional Trade	43
	Market Price Trends for Individual Products	43
	Corn, Corn Meal and Corn Flour	43
	Millet/Sorghum	44
	Cassava and Cassava Farine	44
	Sweet Potato	44
	Rice	45
	Bananas	45
	Eggplant	45
	Avocado	45
	Peanuts	46
	White Beans	46
	Pigeon Peas	46
	Red Beans	46
	Lima Beans	47
	Mango	47
	Orange	47
	Coconuts	48
	Paw Paw	48
VII.	INSTITUTIONAL AND TECHNICAL SUPPORT	49
	Land Tenure System	49
	Credit Availability	49
	Transportation and Infrastructure	50
	Market Organization	50
	Legal System	50
	Marketing Problems	50

VIII.	SUMMARY AND CONCLUSIONS	53
	Market Opportunities	54
	Marketing Constraints	56
	Recommendations	56
IX.	REFERENCES	58
	Appendix A	59
	Appendix B	75
	Appendix C	97

## LIST OF FIGURES

1.	CARE/PLUS Regions	3
2.	Percentage of Individuals Selling the Most Frequently Traded Crops at Primary Marketplaces in Northwest Haiti, September, 1991	9
3.	Percentage of Individuals Selling the Most Frequently Traded Crops at Secondary Marketplaces in Northwest Haiti, September, 1991	10
4.	A Schematic Representation of Marketing Channels for Locally Produced Goods in Northwest Haiti, 1991	11
5.	Cost of Moving Produce to Primary Markets by Four Principal Means of Transportation in the Study Regions of the Northwest Haiti, 1991	18
6.	Cost of Moving Produce to Secondary Markets by Four Principal Means of Transportation in the Study Regions of the Northwest Haiti, 1991	19
7.	Capital Turnover Ratio for Processed Products in Northwest Haiti, 1991	22
8.	Capital Turnover Ratio for Processing Selected Products Sold at Primary Markets in the Northwest Haiti, 1991	23
9.	Capital Turnover Ratio for Processing Selected Products Sold at Secondary Markets in the Northwest Haiti, 1991	24
10.	Cost of Moving Goods by Truck to Primary and Secondary Marketplaces in the Northwest Haiti, 1991	31
11.	Cost of Moving Goods by Bus to Primary and Secondary Marketplaces in the Northwest Haiti, 1991	32
12.	Cost of Moving Goods by Animal Power to Primary and Secondary Marketplaces in the Northwest Haiti, 1991	33
13.	Cost of Moving Goods by Horse Power to Primary and Secondary Marketplaces in the Northwest Haiti, 1991	34

## LIST OF TABLES

1.	Percentage of Crops, Sold, Stored, Buyer and Place of Sale by Selected Farmers in Northwest Haiti, 1992	12
2.	Percent of Farmers with Knowledge of Prices at the Closest and Neighboring Markets, and Source of Information, 1992	14
3.	Percentage of Farmers Receiving Visits by Intermediaries on the Farm to Purchase Products at Selected Zones and Means of Payment	16
4.	Products Processed in the Northwest, Cost of Processing, Total Revenue, Net Profit, Revenue Per Hour, and Capital Turnover Ratio	21
5.	Percent of Selected Farmers Grading and Selecting Crops after Harvest and Before Sale, 1992	26
6.	Marketing Margin for Selected Crops in the Northwest Region of Haiti, 1991	36
7.	Selling Price Regressed on Buying Price for Rice, Beans, and Flour at the Retail and Wholesale Levels, 1992	37
8.	Average Seasonal Market Prices and Coefficient of Variation of Products Sold in Northwest Haiti, 1990-1991	40
9.	Crops Produced in the Northwest of Haiti and F-Statistic for Region and Cycle	42
10.	Problems Faced by Farmers in Marketing Produce and Times These Problems Most Commonly Occurred, 1992	51

## LIST OF TABLES IN APPENDIX A

1.	List of Markets Studied in the Northwest Region, 1991	60
2.	List of Crops Selected for Study, 1991	61
3.	The Number and Percentages of Sellers by Region Selling Selected Crops in Study Markets in the Northwest, 1991	62
4.	Description of the Marketplaces Studied in the Northwest Region of Haiti, 1991	63
5.	Cost of Transporting Selected Crops to Primary and Secondary Markets in Northwest Haiti by Four Transport Modes, 1991	64
6.	Cost of Transporting Produce to Primary Markets in Four Different Regions in Northwest Haiti, 1991	66
7.	Cost of Transporting Selected Crops by Truck to Primary Markets in Four Regions of Northwest Haiti, 1991	67
8.	Cost of Transporting Produce to Secondary Markets in Four Regions in Northwest Haiti, 1991	68
9.	Cost of Transporting Selected Crops to Secondary Markets in Four Regions of Northwest Haiti, 1991	68
10.	Processed Products, Cost of Processing, Total Revenue, Net Profit, Rate Per Hour and Capital Turnover Ratio of Selected Products Sold in Northwest, Haiti, 1991	69
11.	Cost and Returns in Gourde for Retailers and Wholesalers Selling Rice, Beans, and Corn in Northwest Haiti, 1991	72
12.	Average Market Prices in Gourdes and Ranges for Selected Crops Sold in Markets in the Four Study Regions During the Six Cycles	73

## LIST OF FIGURES IN APPENDIX B

1.	Average Price (in gds) for Corn by Region, 1990 - 1991	76
2.	Average Price (in gds) for Corn Meal by Region, 1990 - 1991	77
3.	Average Price (in gds) for Corn Flour by Region, 1990 - 1991	78
4.	Average Price (in gds) for Millet by Region, 1990 - 1991	79
5.	Average Price (in gds) for Cassava by Region, 1990 - 1991	80
6.	Average Price (in gds) for Cassava Farine by Region, 1990 - 1991	81
7.	Average Price (in gds) for Sweet Potato by Region, 1990 - 1991	82
8.	Average Price (in gds) for Rice by Region, 1990 - 1991	83
9.	Average Price (in gds) for Bananas by Region, 1990 - 1991	84
10.	Average Price (in gds) for Eggplant by Region, 1990 - 1991	85
11.	Average Price (in gds) for Avocado by Region, 1990 - 1991	86
12.	Average Price (in gds) for Peanuts by Region, 1990 - 1991	87
13.	Average Price (in gds) for White Beans by Region, 1990 - 1991	88
14.	Average Price (in gds) for Pigeon Peas by Region, 1990 - 1991	89
15.	Average Price (in gds) for Red Beans by Region, 1990 - 1991	90
16.	Average Price (in gds) for Lima Beans by Region, 1990 - 1991	91
17.	Average Price (in gds) for Mango by Region, 1990 - 1991	92
18.	Average Price (in gds) for Orange by Region, 1990 - 1991	93
19.	Average Price (in gds) for Coconuts by Region, 1990 - 1991	94
20.	Average Price (in gds) for Paw Paw by Region, 1990 - 1991	95
21.	Cropping Calendar for Three of CARE'S Regions, Regions II, III and IV	96

## LIST OF TABLES IN APPENDIX C

1.	Coefficient of Measurement Used to Convert Local Units into Standard Units for Price Analysis	98
2.	List of Questionnaires	99

## I. INTRODUCTION

Haiti is an island nation with an agricultural based economy. In 1990/1991 agriculture contributed 34.8 percent of the gross national product (GNP) and employed 63.1 percent of the labor force (Europa Year Book 1992). Agriculture's contribution to the country's gross domestic product, is however, declining. From 1980/1985 to 1985/1989, agriculture experienced a negative growth rate of -1.7 percent. Most agricultural products are for domestic use. Small quantities of sugar and coffee are, however, exported. The principal crops grown for food consumption are corn, rice, sorghum, bananas, red beans and plantains. It has been mentioned that Haiti's export policies discourage food exports and favor domestic food production (World Bank, 1991).

Haiti's agriculture is based on peasant cultivation, with an average farm size of 1.8 ha per farm family. The farms are usually located on steep slopes since Haiti's terrain is very rugged. About 75 percent of the island is mountainous with only 29 percent having slopes less than 10 percent, while 63 percent has grades more than 20 percent, too steep to grow crops on a sustainable basis. This topography generates a wide range of micro-climates which vary over short distances. It also influences crop and livestock distribution.

Only a very small portion of the country, 11.3 percent, has high agricultural potential. The rest of the arable lands vary from average to low agricultural potential (RONCO Consulting Co., 1987). Rice is produced on the flat plains in the west and southwest and south of the country in low lying areas under irrigated conditions. Crop production is distributed throughout the country, but agricultural production is not distributed according to population size of the regions. In most regions there are production imbalances and in others there are usually acute shortages of essential crops. The Northwest which has 6 percent of the population, but produces no rice, and only 5.8, 1.1, and 0.4 percent of the national production of maize, sorghum, and black beans respectively. These foods form the core of the basic diet of most Haitians. The Northwest region, where the study was conducted, is semi-arid with limited agricultural potential. Rainfall varies from 508 mm around Mole St. Nicholas, on the extreme western end of the northern peninsula, to 1524 mm in the mountainous areas around Port-de-Paix.

Farmers in the Northwest region produce a number of crops, but production varies from year to year due to uncertain rainfall on one hand, and to the failure of the agricultural marketing system. Food aid is frequently distributed to suffering farmers. The frequency of food distribution has increased with time. Low prices and poor roads have been blamed for most of the decline in crop production of the past decade. It is felt that with the reduction of market constraints and more incentive to farmers the region can produce sufficient food to meet local food needs with a surplus for export to other regions. The purpose of this research was to evaluate the efficiency of the food marketing system in Northwest Haiti and to examine the constraints and potentiality of food production and marketing in Northwest.

## Objectives and Methodology

### Objectives

The SECID/Auburn team was requested by CARE to conduct marketing research on food products grown and sold in the Northwestern part of Haiti. The objectives of the study were to:

- 1.) identify the crops produced and sold in the Northwest of Haiti;
- 2.) track the prices of crops sold in primary and secondary markets over a 9-month period in order to measure seasonal price variations and crop availability;
- 3.) identify crops with potential for income generation in the Northwest, and;
- 4.) estimate marketing costs and value added of the selected crops.

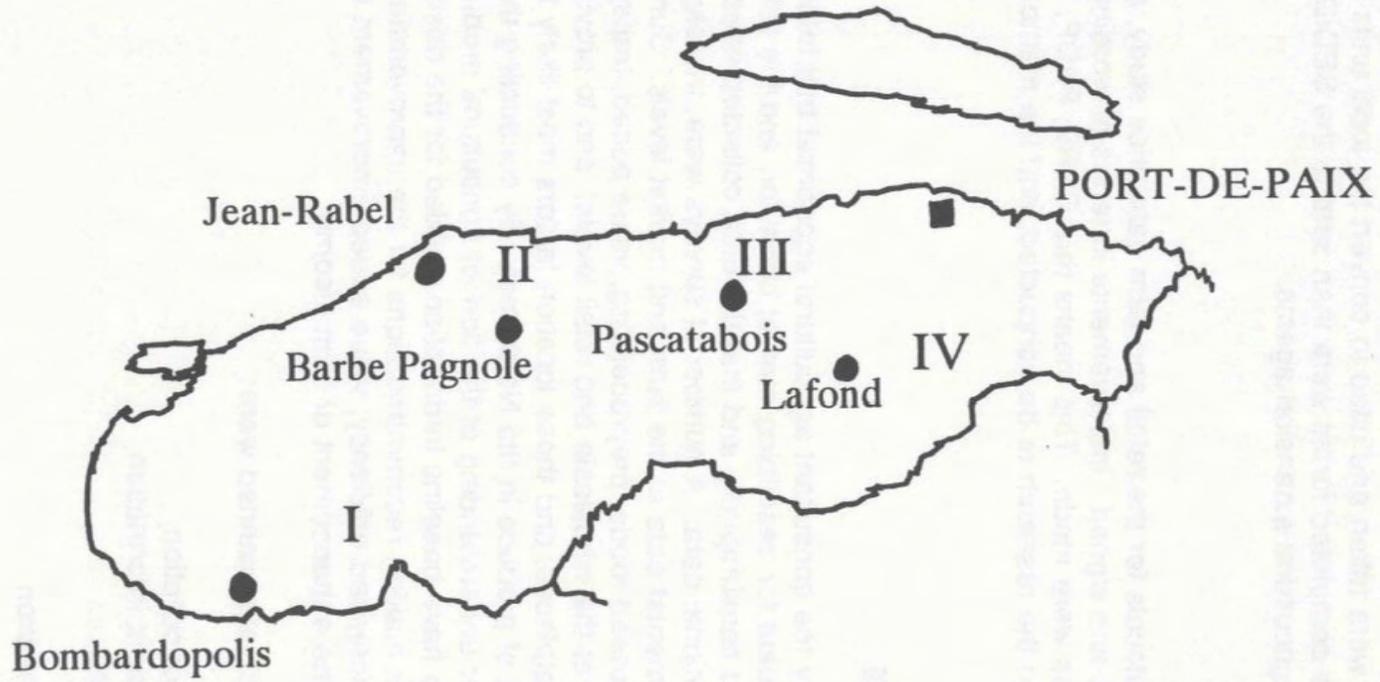
### Methodology

The marketing study began in October, 1990, and initially involved on-farm and market surveys to study crop yields and market prices. The study began with the design of surveys. The data analyst was responsible for the design of the survey instruments, the recruitment and training of interviewers, the scheduling of field activities, and the review and analysis of data. In January, 1991, an agricultural economist, was employed to continue the marketing study. Given the volume of work required to be completed in a limited time period, the project requested the services of a consultant agricultural economist to provide technical assistance. He was delayed until June 1991 because of political instability and a mission-wide restriction on travel. The study was interrupted by political events in Haiti and farm level data were not collected during the scheduled period. The on-farm survey was rescheduled for May 1993.

### Market Prices

The planned market research involved the collection of farmgate and market prices for agricultural products traded in the Northwestern section of Haiti. The research area is seen in Figure 1. Data collection began on foods produced and sold in the area at primary and secondary markets in four of CARE's regions in the Northwest and in Anse Rouge and Gonaives. The list of markets and produce are seen in Tables 1 and 2 in Appendix A. The criteria for choosing the markets were based on their importance as outlets for agricultural produce in the Northwest, and their degree of accessibility. CARE and SECID personnel collaborated in producing the data collecting instrument (see Appendix C). CARE then selected three

**Figure 1. CARE/PLUS REGIONS**



candidates from the Bassin Bleu area as possible data collectors. From this group, two candidates were chosen. The candidates were trained in survey techniques and in the use of the instruments. The list of selected markets were then given to the trained interviewers, who visited each market once every six weeks for a period of nine months. Data on the prices of crops and other goods sold in the markets were collected over this period. The prices were collected in local units and currency. Various measurements were taken and used to convert the local units into more standardized units. The completed forms were then sent to the SECID/Auburn data analyst via the CARE agricultural extension agents.

### Research Protocols

The research protocols for the retail and farm gate price study, and the on-farm survey were completed, and signed. Improvements in terms of wording and restatement of objectives were made. This means that CARE, PADF, SECID and USAID had all agreed to the research to be conducted, and the methodology to be employed.

### Complementary Surveys

It was later felt by the consultant agricultural economist that information on price and yields were inadequate for describing market behavior, and the relationships between production and consumption, and that the data collected needed to be supplemented with additional data. A number of surveys were, therefore, planned for the collection of supplemental data at the farm and market levels. Surveys were planned: to study processed foods, preprocessing, value added, transportation cost, and marketing margins at the wholesale and retail levels; and to provide a solid description of the marketplaces, and those location factors most likely to facilitate or constrain the marketing of produce in the Northwest. By conducting these surveys one would have a better understanding of the flow of agricultural products to and from the Northwest, and also have baseline information needed for the design of specific market studies aimed at making recommendations for the improvement of food marketing in terms of increased efficiency, value added, improvement of market information flows, and the enhancement of farm income.

The additional surveys planned were:

- a) market place description
- b) market participant information
- c) food processing
- d) transport cost
- e) producer information

The survey instruments are listed in Appendix C.

## Marketplace Description

The project agricultural economist and her assistant visited all selected markets in 1991, and described the marketplaces. The visits allowed them to observe the activities performed at the marketplaces. Information gathered during these visits was used to evaluate the products traded in the Northwestern region of Haiti. The physical conditions under which the agricultural products are traded were evaluated and the quality and quantity of produce sold in these markets were appraised. A survey instrument was used and a survey on the nature of the marketplace and existing facilities conducted. They interviewed several individuals in the neighboring community associated with the management of the marketplaces.

## Market Participant Information

This survey was designed to obtain information from market intermediaries on the types of commodities, origin of products, and the quality of the produce sold. During the month of September, 1991, the agricultural economist, her assistant, CARE's field assistants, two interviewers and an assistant to the data analyst conducted the survey. A total of ten participants from each of the regions were selected for the survey including four wholesalers, four large retailers, and two producers who were also retailers, giving a sample size of 40. These market participants were interviewed at the marketplaces and/or at their homes. Each interview lasted an hour.

## Marketing of Processed Foods

This survey provided information on foods processed locally, or outside the region, and sold at the marketplaces. Processors, wholesalers and retailers of processed food items sold in the marketplaces were interviewed. Two sellers and two processors in each market were chosen for the survey, giving a sample size of 56 sellers and 56 processors. This survey was conducted during the months of August and September, 1991.

## Transportation Costs

Conducted in September, 1991, the transport cost survey included a sample of three to four transport units from each market. The sample size was 84, and was composed of truck and bus drivers, owners of animal power (horses, mules and other draft animals). Information on transport cost and market accessibility was collected.

## Producer Information

A total of 109 farmers associated with selected markets in the area were chosen for the study. Farmers who collaborated with CARE, and who were willing and able to provide information were interviewed personally. These farmers were questioned by trained interviewers and asked to recall certain practices in the production and distribution of farm products. Information on market prices and marketing constraints were collected.

## Measurement of Coefficients

Five measurements of the selected crops were taken at the markets selected for the study. These measurements were taken during the month of April. The measurements were "mamite, lo, rejim, cuvette, and panyé". The measurements were then converted to kg, and the results compared to those obtained in other areas of Haiti (see Table 1 in Appendix C for conversion table).

## II. FOOD MARKETING

### Marketplaces

Food marketing in Northwest Haiti is conducted mainly in marketplaces or at roadside stands. The term marketplace in Haiti, as in many developing countries, is used synonymously with market. Food marketing in the rural areas takes place on selected week days at specified market locations. The number of market days depends on the importance of the market in terms of the volume and value of products traded. The marketplaces where the number of traders are many and the volume of goods are significantly large are called primary markets, and usually convene on several week days. The less important markets in terms of volume of goods traded, and the number of market participants are called secondary markets and occur on one or two week days. Calculations made from Table 3, in Appendix A, indicate that the average number of traders selling ten of the most important crops in the region at primary markets averaged 875, whereas the average for the secondary markets averaged 289. Most of the primary markets are located in the larger towns or villages, and are easily accessible.

The marketplaces in the large cities are large structures, with a main building, circled by several smaller buildings, and/or hangers. Primary markets are usually elaborate with a central, permanent, market building and some small buildings where specialized marketing takes place. Most of these market buildings were erected more than fifteen years ago. Since most of the markets have out grown themselves over the years, market organization is a problem in these markets. These marketplaces stretch for several kilometers, ranging anywhere from 2 to 5 sq. km. The secondary markets are in villages and are not easily accessible to producers, traders, and consumers, and are usually located at the crossroads of secondary or feeder roads. The secondary markets are housed in small sheds which are more temporary in nature. Table 4 in Appendix A provides information on the location and infrastructure of these marketplaces. Primary markets are usually found on main roads, not necessarily paved, and located near a church or some important community buildings. The remoteness of some secondary marketplaces limit the quantities of goods transported to the markets and hence the amounts traded.

Public conveniences are absent in all of these marketplaces. In one or two of these marketplaces, private individuals made toilets available to market participants at a small fee. Private traders also sold drinking water, refreshments and food to other market participants and clients. Parking spaces were not provided for vehicles or animals. Individuals, however, parked their vehicles, or tethered their animals at particular areas. These places became the main parking spaces after long occupation.

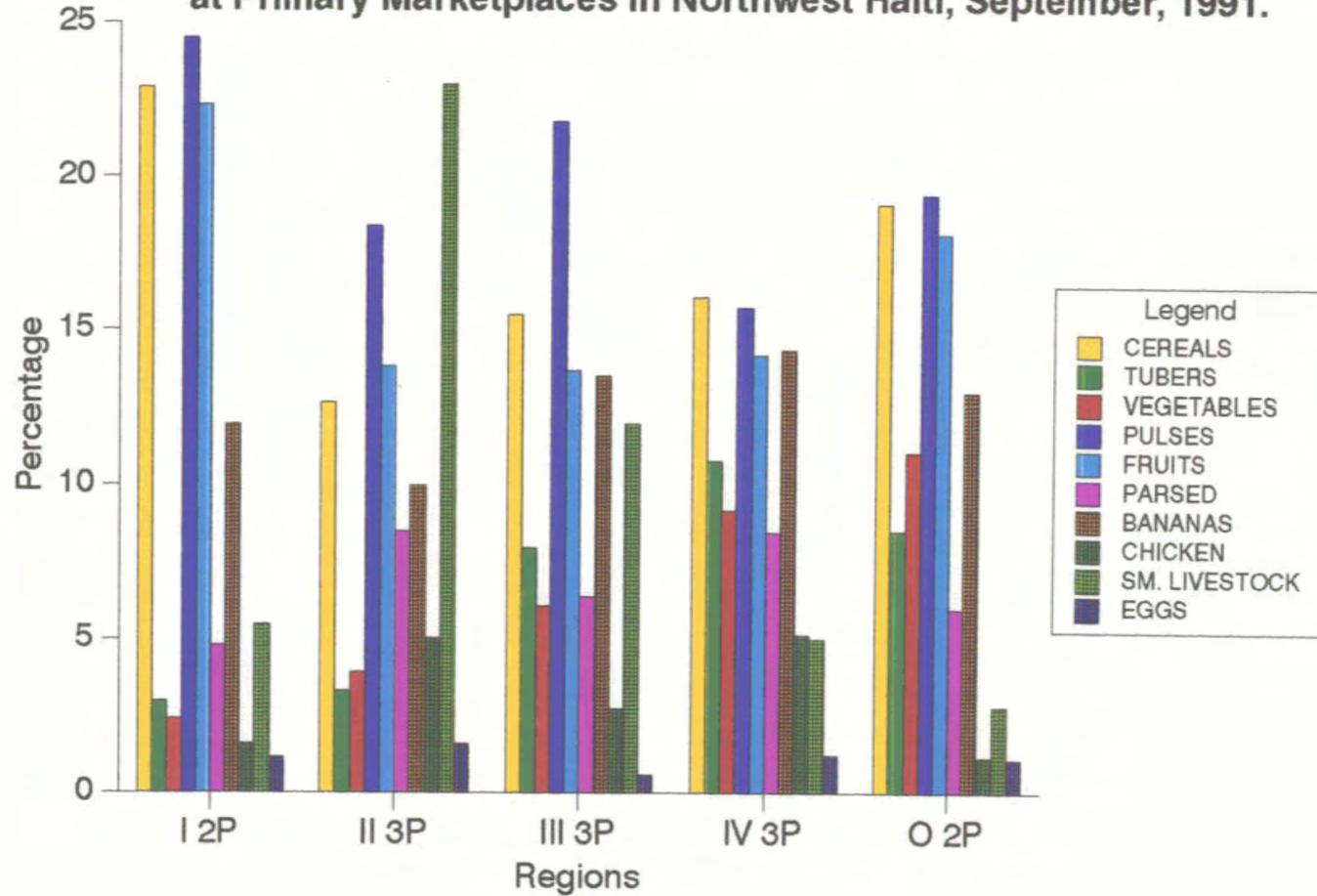
Taxes and market fees have been abolished for years now. Expenses for cleaning of the markets were paid by the town council or the local government. A number of individuals, however, usually disguised themselves as tax collectors and extorted money from traders and farmers. The market participants revealed that these individuals could be very aggressive at times.

A variety of locally produced and imported goods are sold in the various markets throughout the region. Goods were sometimes grouped according to quality. The market participants and buyers interviewed at the marketplaces all rated goods from good to fair. Figures 2 and 3 show that the commodities most traded are the cereals, pulses and fruits in both the primary and secondary markets. Bananas were sold by a large number of individuals in Regions II and III. Bananas are produced in areas with adequate water from catchments or rainfall. It should be noted that only a small percentage of individuals sell tubers, eggs and vegetables in both the primary and secondary markets.

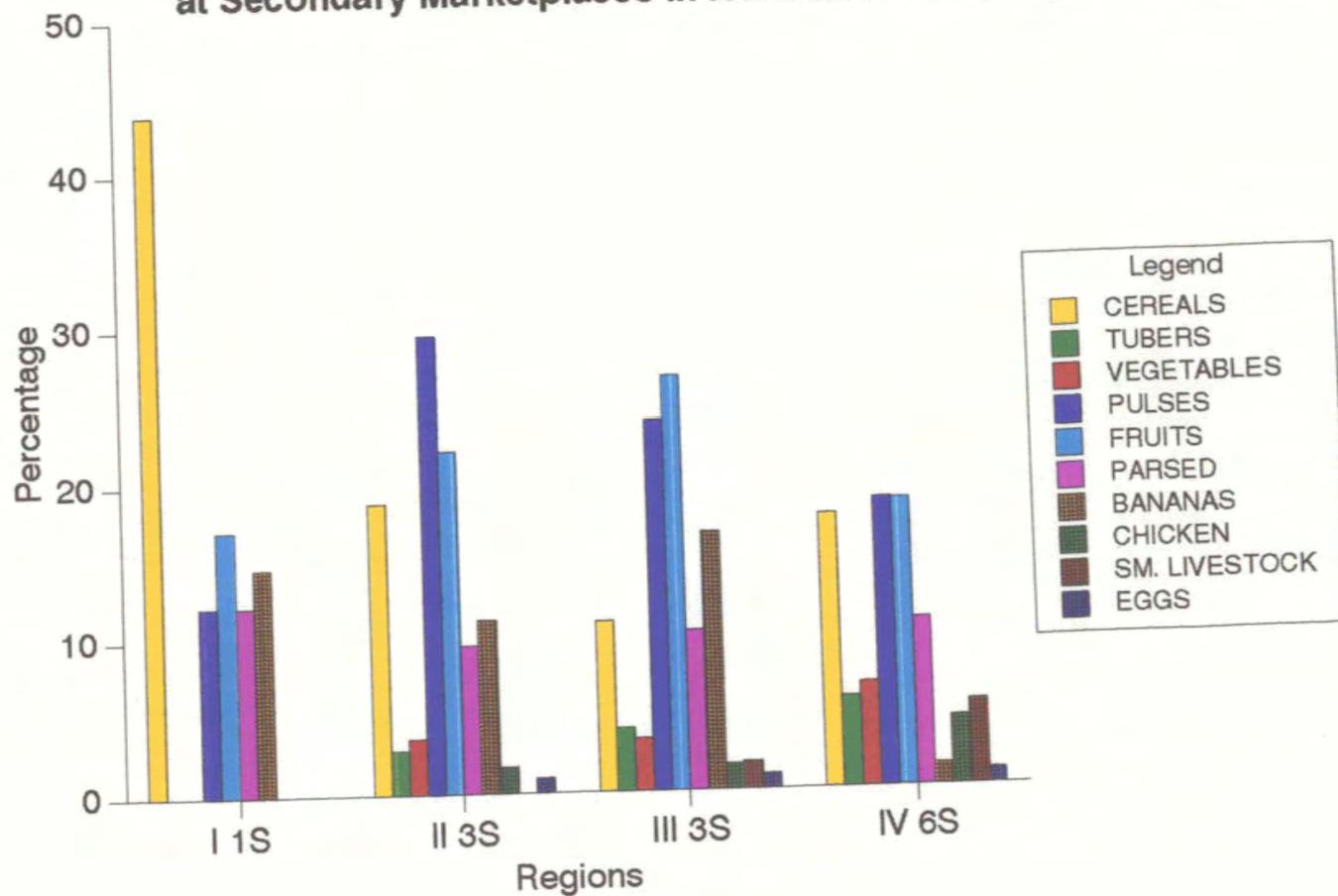
The quality of food traded at these markets ranged from good to fair. Most of the sellers thought that the foods sold were of good quality, whereas the consumers considered the food products to be of average quality. The processed foods were of better quality than the vegetables and the fruits. The only exception was that of imported rice which was sometimes contaminated with weevils.

The market participants varied in age and sex. However, most of the individuals selling (89 percent) were women, who dominated the marketing of perishable goods, and others requiring little investment. Men usually sold the more durable and expensive items, and goods requiring physical strength for handling and distribution (Jolly, 1991). There are a few exceptions wherein women sold products habitually handled by men. These included the sale of meats and hardware items which were not included in the study.

**Figure 2. Percentage of Individuals Selling the Most Frequently Traded Crops at Primary Marketplaces in Northwest Haiti, September, 1991.**



**Figure 3. Percentage of Individuals Selling the Most Frequently Traded Crops at Secondary Marketplaces in Northwest Haiti, September, 1991.**



### III. MARKETING CHANNELS

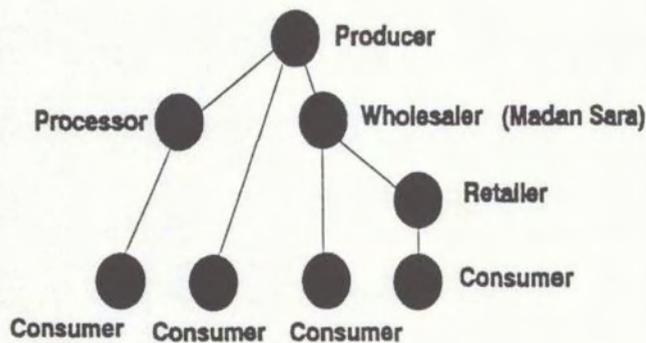
#### Product Flows

The food marketing channels in Northwest of Haiti are simple and straight forward for many crops. Most farmers produce food for their own consumption and sell any marketable surplus at the end of the harvest when they are in need of cash. There are some crops such as bananas, plantains, avocado, cassava, mangoes and in some cases cereals, which are produced specifically for the marketplace. In general, the minor crops (red and black beans, and peanuts) are principally cash crops of which about 75 to 85 percent of the production is sold.

An estimated average of 94 percent of producers sold their products at the marketplace. Only about 4.2 percent stated that they sometimes sold their products at the farmgate. Most of the marketing is done at the retail level. For some crops (plantain and cassava) 30 to 40 percent of the producers sold their products through a type of forward contracting mechanism which was rather informal.

Table 1 indicates that only a small percentage of farmers sold their products to wholesalers, while most sold directly to retailers. Figure 4 serves as a general framework for the network through which most products pass through before reaching

**Figure 4. A Schematic Representation of Marketing Channels for Locally Produced Goods in Northwest Haiti, 1991.**



the hands of the final consumers. The produce are either sold at the farmgate or at the marketplace to an intermediary or a consumer. Product form hardly changed as most products moved through the channel, indicating that the amount of processing and packaging is limited. Some crops, such as sorghum, corn, rice, cassava, and sugarcane are processed on a small-scale by producers or middlemen who sometimes vended their transformed products at the retail level.

The market harbored a number of participants of varying ages and levels of proficiency. The intermediaries were mostly women, although, older men and young boys also serve as intermediaries. A number of transportation owners also purchased large quantities of produce at the secondary markets and transported them to primary markets to be sold. The purchase of a truck requires a substantial amount of cash for many Haitians since most purchases are on a cash basis; therefore, the transport owners often tried to recoup the investment in a very short time. The owner, consequently, overloaded the vehicle. This resulted in the spoilage of many products.

**Table 1. Percentage of Crops Sold, Stored, Buyer and Place of Sale by Selected Farmers in Northwest Haiti, 1992.**

Crops	Sale Percent	Stored <sup>a</sup> Percent	Buyer <sup>b</sup>		Place of Sale <sup>c</sup>		
			Wholesaler Percent	Retailer Percent	Market Percent	Home Percent	Field Percent
			Corn	57	30	20	100
Sorghum	45	25	2	98	97	3	0
Beans (white)	76	38	13	88	93	7	0
Pigeon Peas	46	16	2	98	96	4	0
Lima Beans	56	34	1	100	100	0	0
Plantain	84	-	42	76	73	0	32
Cassava	73	-	6	98	59	2	41
Sweet Potatoes	75	-	12	94	88	0	12

**Notes:**

- <sup>a</sup> Plantains are harvested and sold immediately. Cassava and sweet potatoes can be stored in the soil.
- <sup>b</sup> The percentage of farmers who sell or sometimes sell to these buyers.
- <sup>c</sup> The percentage of farmers who do sell (or sometimes sell) to these outlets.



## Information Flows

Generally farmers are aware of the existing market prices. About 70 percent of the farmers sampled stated that they always knew the on-going market prices. Rarely did a farmer say he was unaware of the going prices of products at the markets closest to him, or the prices at other distant markets.

Farmers stated that the most common sources of price information were from market intermediaries and neighbors. About 90 percent of the farmers usually employed these two information sources. The radio is the information source the least used, with only 1.0 percent of sampled farmers receiving information from this source (Table 2). No distinction was made between sources of information for primary and secondary markets. Farmers and traders all indicated that the marketplace was the area in which the majority of them received most of their information on product prices and quantities.

Market information on products and prices at other regional markets seemed to be one of the main constraints impeding the flow of goods and services from one area to the next in Haiti. Products from far distant places such as Port-Au-Prince and Jacmel find their way to the Northwest, but area farmers seemed to have little information on these markets. The production and diffusion of information by the local radio is not expensive and weekly information programs could help increase the variety and quantity of products available at area marketplaces.

All sellers in the marketplaces seemed to be aware of the existing prices at the marketplaces surveyed. About 66 percent of the sellers were cognizant of the prices in the neighboring marketplaces. (This included 62 percent of retailers and 81 percent of wholesalers.) About 71 percent of the sellers knew of the possibilities of selling their crops at other markets, and 82 percent were willing to transport their goods if they had the means of doing so. The movement of goods seemed to be the major constraint faced by most of these vendors. Approximately 73 percent of the sellers interviewed believed that the transportation cost was much too high.

**Table 2. Percent of Farmers with Knowledge of Prices at the Closest and Neighboring Markets and Source of Information, 1992.**

Zone	Nearest Market				Other Markets				Source of Information					
	AR	OF	SOM	NEV	AR	OF	SOM	NEV	MKT	ROAD	NEIB	RAD	FR	O
Jean Rabel	80	-	10	10	80	-	10	10	-	-	-	-	-	-
Bochan	80	-	10	10	80	-	10	10	50	20	30	-	-	-
Mobin	14	43	43	-	-	-	100	-	86	-	43	-	14	-
Bassin Bleu	100	-	-	-	12	-	-	88	88	-	-	12	-	-
Port de Paix	12	25	63	-	-	-	88	12	12	-	13	-	25	50
Pendu	50	50	-	-	-	-	100	-	88	-	100	-	38	-
Nan Kan	80	-	-	20	70	-	10	30	40	-	60	-	-	-
Grd. Mare	100	-	-	-	86	-	-	14	-	-	100	-	-	-
Nantante	100	-	-	-	75	-	25	-	50	-	75	-	12	-
Port Metier	90	-	-	10	100	-	-	-	22	44	34	-	-	-
Pass Catabois	-	-	71	29	-	-	86	14	14	29	43	-	14	-
Baze	80	-	10	10	40	-	10	50	11	-	67	-	67	22
Sample	70	5	15	7	50	-	32	19	41	12	47	1	23	6
Primary Mkt.	65	12	21	2	44	-	35	21	51	19	21	2	28	9
Secondary Mkt.	71	0	18	10	53	-	29	18	32	7	65	0	18	3

Source: Survey of Farmers in Northwest Haiti, 1992.

AR - Always Aware  
 OF - Often  
 SOM - Sometimes  
 NEV - Never

MKT - Market  
 NEIB - Neighbor  
 ROAD - Road  
 RAD - Radio  
 FR - Friend  
 O - Others

#### IV. MARKETING FUNCTIONS

A number of functions were performed by the markets. These included the exchange (assembling, buying and selling), physical (storage, transportation, and processing), and the facilitating (standardization, risk bearing, financing and market intelligence). Not all of these functions were explicitly carried out by all markets in the sub-regions. The number of functions performed depended on the product and the length of the marketing channel. Each of these main functions is discussed in detail.

##### **Assembling**

###### Collect

Many of the intermediaries were also farmers. Therefore, the time spent collecting products for resale was included in the harvest time. The survey results indicated that only a few products were sold at the farm gate. These included cassava, plantain and sweet potatoes. Of the farmers interviewed, 50 percent said intermediaries travelled to the farm to purchase cassava, 45 percent indicated that plantains were collected on the farm, and 15 percent reported having sold sweet potatoes on the farm. In specific zones such as Baze, NanTante, Pendu, and Port-de-Paix, all farmers said they sold cassava in the field.

###### Method of Payment

Most of the sales was made on a cash basis. About 30 percent of the cassava and plantain was sold on credit. The period of sale varied throughout the year. About 62 percent of the farmers sold their crop between October and December, and 50 percent sold plantains during the months of September and October, while 100 percent sold their sweet potatoes during the months of February and March. Table 3 shows the methods of payment used by farmers in trading cassava, plantains, and sweet potatoes in the Northwest. Most on-farm transactions were cash sales, however.

###### Contractual Agreements

Contractual agreements are rare in the zones studied. Only 20 percent of the farmers surveyed received payments in advance for their crops. In certain zones contractual arrangements for future purchases of certain crops were common, including:

Bassin Bleu:	plantain
Port-de-Paix::	plantain, cassava, sweet potatoes
Pendu:	plantain, cassava
Grand Mare:	corn, pigeon peas
Poste Metier:	plantain, beans, corn, sorghum
Base:	beans, corn, sorghum

**Table 3. Percentage of Farmers Receiving Visits by Intermediaries on the Farm to Purchase Products at Selected Zones and Means of Payment.**

ZONE	CROPS											
	Cassava				Plantain				Sweet Potatoes			
	Farmer Percent	Cash	Credit	Cash or Credit	Farmer Percent	Cash	Credit	Cash or Credit	Farmer Percent	Cash	Credit	Cash or Credit
Jean	50	---	---	---	---	---	---	---	14	---	---	---
Rabel												
Bochan	---	---	---	---	---	---	---	---	---	---	---	---
Mobin	---	---	---	---	---	---	---	---	---	---	---	---
Bassin	14	100	---	---	23	33	35	30	20	100	---	---
Bleu												
Port de	100	100	---	---	33	80	20	---	20	100	---	---
Paix												
Pendu	100	---	100	---	---	---	---	---	---	---	---	---
Nan Kan	---	---	---	---	100	100	---	---	---	---	---	---
Grd.												
Mare												
Nan	100	100	---	---	100	100	---	---	---	---	---	---
Tante												
Port	---	---	---	---	80	50	25	25	---	---	---	---
Metier												
Pass	50	100	---	---	60	65	35	---	---	---	---	---
Catabois												
Baze	50	---	100	---	100	100	---	---	---	---	---	---

Source: Farm Survey, 1992.

These contracts had both advantages and inconveniences. Farmers signing contracts often offered a lower price than the prevailing market price. On the other hand, early cash received is placed in a fund to pay for labor and other agricultural inputs.

### **Storage**

Between 15 and 40 percent of corn, sorghum, beans and pigeon peas were stocked. This stock is used for consumption, seeds, and for future sale. The storage data provided by the farmers were not always consistent, because farmers were often of the opinion that the stock was not destined for home consumption, but rather for sale or seeds. Farmers may not want to reveal the quantities of cereal stocked. However, it is important to underline, that about 50 to 70 percent of farmers were interested in stocking corn, and sorghum, and in some zones this percentage reached 100 percent. Farmers revealed that they stored 30, 25, 38, 16 and 34 percent of their corn, sorghum, beans, pigeon peas, plantain, cassava and sweet potatoes. Some of these were stored for sale at later periods when cash was needed. Only a very small number of farmers used their stored grains for speculation. Farmers indicated that they lost some of their produce in storage because of insect and rat infestation. About 93 percent of the farmers said they faced storage problems with their corn, while 68 and 65 percent of the farmers faced problems with beans and sorghum. The farmers encountered these problems throughout the year. A number of chemicals were used to control these pests, including sevin, smythion, and DDT. Other traditional methods were also attempted. Local products used in the control of storage pests included coffee powder, ashes, and crushed peppers. Preventive methods included proper drying and early sale of produce to minimize storage losses. Market vendors stored some of their goods at primary marketplaces overnight. The storage spaces were constructed with their own funds. Most market level storage was done only at primary marketplaces. The vendors often slept at the marketplaces and sold all of their stock before returning to the countryside, or to purchase more stock.

### **Transportation**

Transportation from the farm to the marketplace is done by various means. There was a difference as to whether the produce was transported to a primary or secondary market. The most common means utilized by market participants were buses, trucks, animals (usually donkeys and mules) and human power. There were only a few instances in which farmers owned buses or trucks. In those limited cases, farming became the secondary activity and trucking the primary occupation. Farmers paid a fixed rate to transport their products to market. The cost can be a substantial portion of the gross revenue. Tables 5, 6, and 7 in Appendix A show the average cost of moving selected goods to primary and secondary markets in the Northwest regions. The cost per kg seems quite substantial and could be higher based on the type of roads and products transported. Figures 5 and 6 show the costs per kg per hour of

**Figure 5. Cost of Moving Produce to Primary Markets by Four Principal Means of Transportation in the Study Regions of the Northwest Haiti, 1991.**

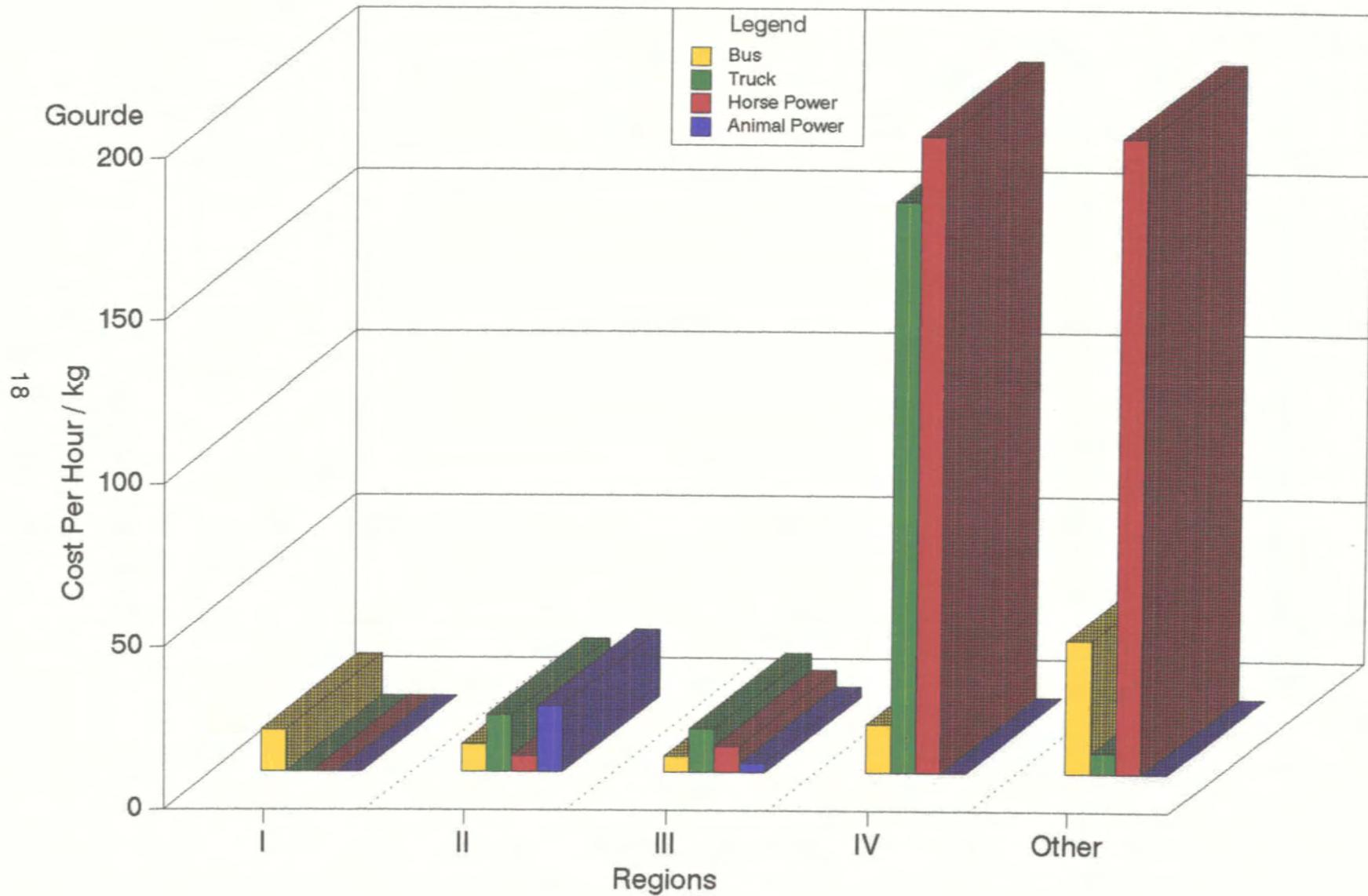
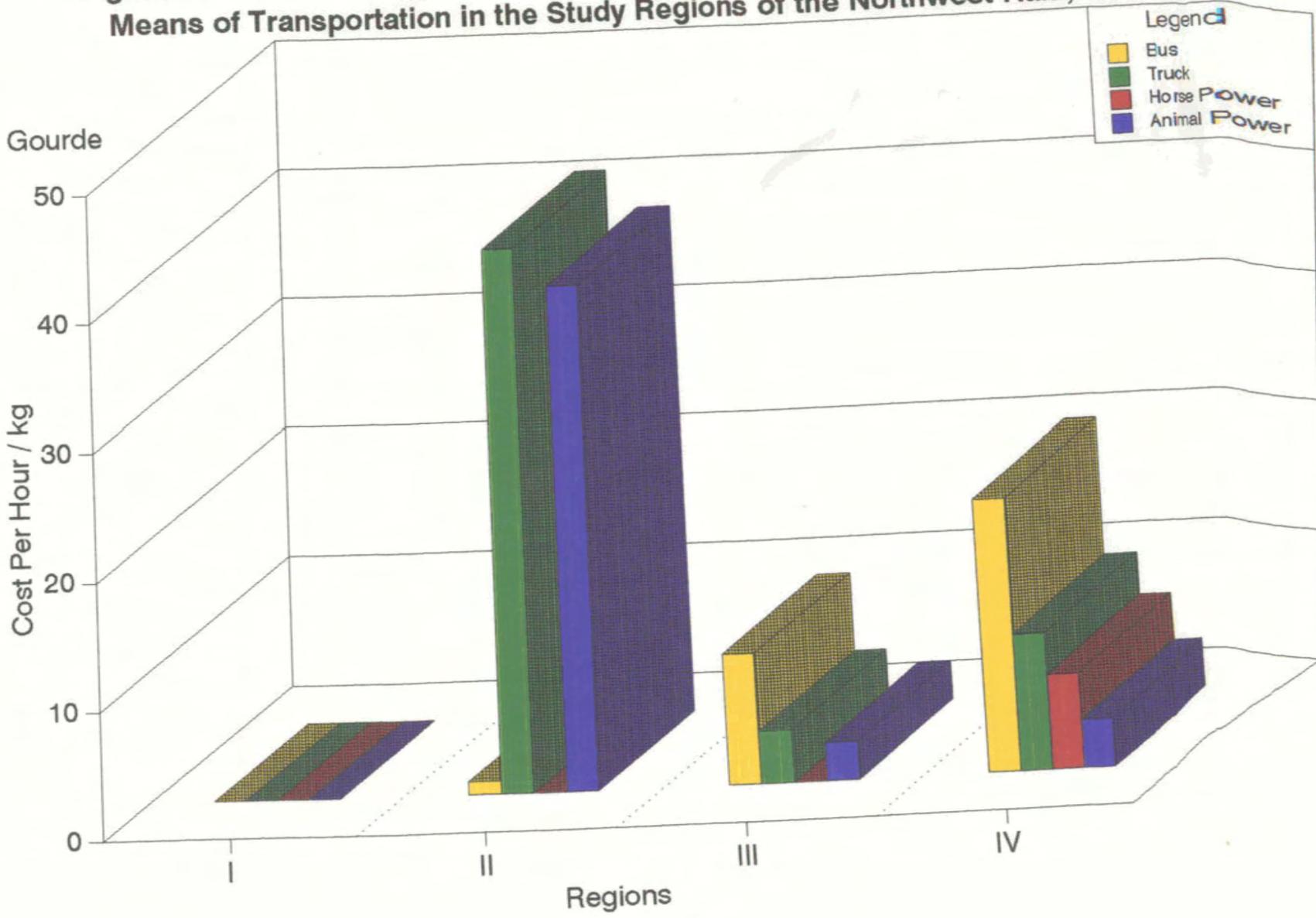


Figure 6. Cost of Moving Produce to Secondary Markets by the Four Principal Means of Transportation in the Study Regions of the Northwest Haiti, 1991.



transporting goods to primary markets in the Northwest of Haiti. Animal power and trucks are the most expensive means of transporting goods to markets in the Northern section of Haiti. The costs seem exorbitant, looking at the graphs, but in actuality they are fairly reasonable. Producers usually pay a fixed rate for transporting their produce to market, which when examined, would be less than the real cost of the trip. The rate is based on the incomes in the rural areas. What the graphs in Figures 5 and 6 show is the cost related to the difficulty encountered in transporting the produce to the marketplaces in the various regions. A high cost per kg per mile signifies the presence of good roads. This means that the individual is paying a relative higher cost for transporting goods through roads which are in fairly good condition relative to cost of products transported through rough roads. A low cost per kg per mile corresponds to relative high real cost of transporting the goods to the market place, given the road constraints. As can be seen in both graphs, the road conditions in Region IV influence the cost of transporting goods. In Regions I and II the costs are very low. The roads remained a major constraint to increasing the quantity of produce marketed in the region, and the quantity traded inter-regionally.

### Processing

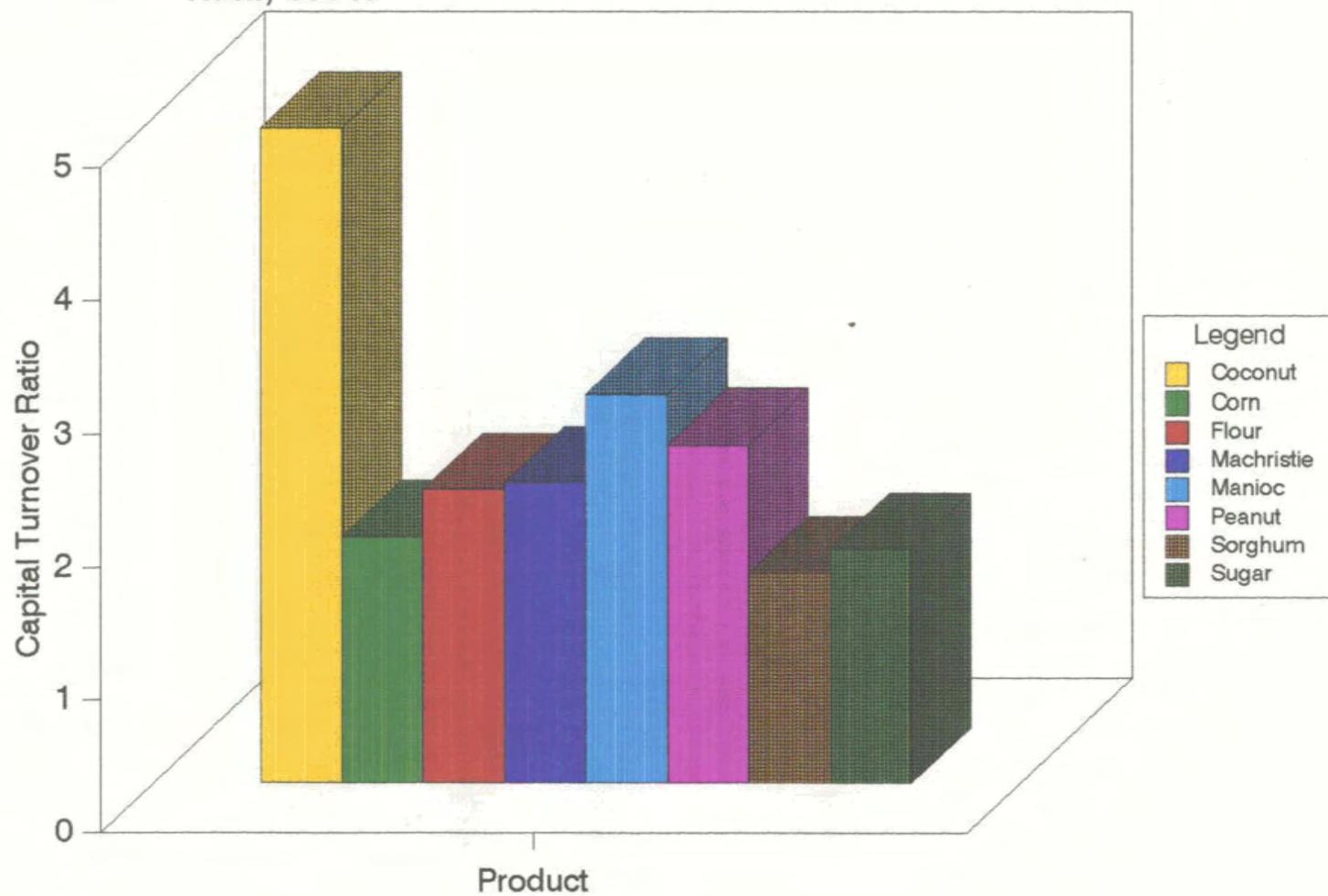
Only a limited amount of processed foods produced on the farm was sold at the marketplaces in the Northwest. The list of processed foods is seen in Table 4. The majority of processed foods were from the conversion of cereals to flour. The processing of foods is not very complex and the technology used is rather rudimentary. Most of the goods and other cereals, are transformed pre-cooked and sold as street foods. The list of transformed products included "marina", cookies, and sweets made out of sugar and coconuts. The level of investment is small, but the net revenues are positive for almost all products, with the exception of sorghum and maize which had negative profits. Figure 7 shows the capital turnover ratios for processed products sold in Northwest Haiti. The processed products generated capital turnover ratios, ranging from .54 to 5.13, with the exception of transformed coconut products which yielded a capital turnover ratio of .91 negative profit. This means that one *gourde* invested in the transformation of the selected processed goods generated .54 to 5.13 *gourdes*. Estimates of revenue earned per hour per processed product varied substantially by product and by market. The capital turnover ratios which measure the gross returns per dollar spent in processing are impressive and varied from a low of 0.7 for sweets from sorghum to 5.13 for douce made of coconut sold at the secondary markets. It is negative for coconut tablet, corn and sorghum. In Figures 8 and 9 are seen the capital turnover ratios for products sold at primary and secondary markets. The transformation of coconuts into coconut candy yielded the highest capital turnover ratio in all regions and for both primary and secondary markets. It seems that an individual with limited means can survive financially by processing local foods at home. The problem is the limited quantities sold in one day may not be sufficient to cover a daily wage. Product standardization and hence product quality may be a concern. A high capital turnover ratio does not necessarily mean high profit. Coconut tablet which has a high capital turnover ratio yielded a negative profit. This may signal too much operating expense used in processing.

**Table 4. Products Processed In the Northwest, Cost of Processing, Total Revenue, Net Profit, Revenue Per Hour, and Capital Turnover Ratio.**

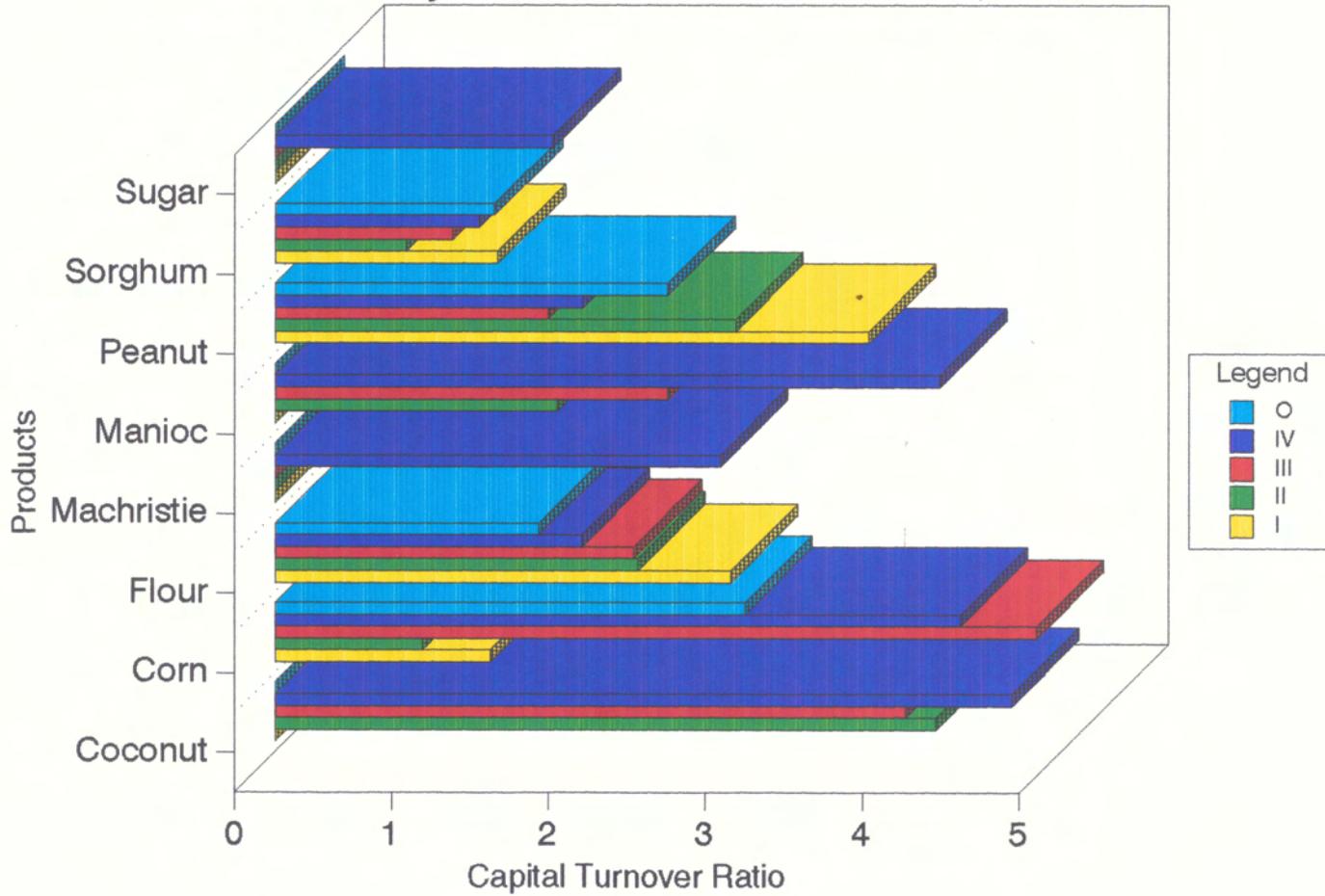
PRODUCT	TOTAL COST (GOURDE)	UNIT	TOTAL REVENUE (GOURDE)	NET PROFIT (GOURDE)	RATE/HOUR (GOURDE)	CAPITAL TURNOVER RATIO
COCONUT	5.89	DOUCE	30.20	24.31	55.91	5.13
COCONUT	7.00	KG	10.58	3.58	0.89	1.51
COCONUT	23.90	TABLET	21.95	-1.95	-2.32	.91
CORN	181.57	KG	131.98	-49.59	-9366.87	.72
FLOUR	23.97	MARINA	66.00	42.03	42.03	2.75
FLOUR	23.70	COOKIE	51.17	27.47	725.96	2.16
FLOUR	44.82	KG	96.72	51.90	311.07	2.16
FLOUR	14.86	MARINA	30.88	16.02	8477.91	2.08
MACHRISTIE	44.43	KG	91.00	46.57	3766.71	2.05
MANIOC	37.22	CASSAVA	92.83	55.61	220.77	2.49
PEANUT	6.00	TABLET	16.00	10.00	10.00	2.67
PEANUT	39.99	CASSAVA	50.00	10.01	120.11	1.25
PEANUT	17.30	KG	33.93	16.63	10.35	1.96
PEANUT	27.69	TABLET	32.97	5.28	2284.77	1.19
SORGHUM	81.08	DOUCE	43.38	-37.70	-46.44	0.54
SORGHUM	101.33	KG	131.55	30.22	179.54	1.30
CANDY	615.60	KG	1067.09	451.49	29.05	1.73

Source: Survey Conducted in the Northwest, Haiti, 1991

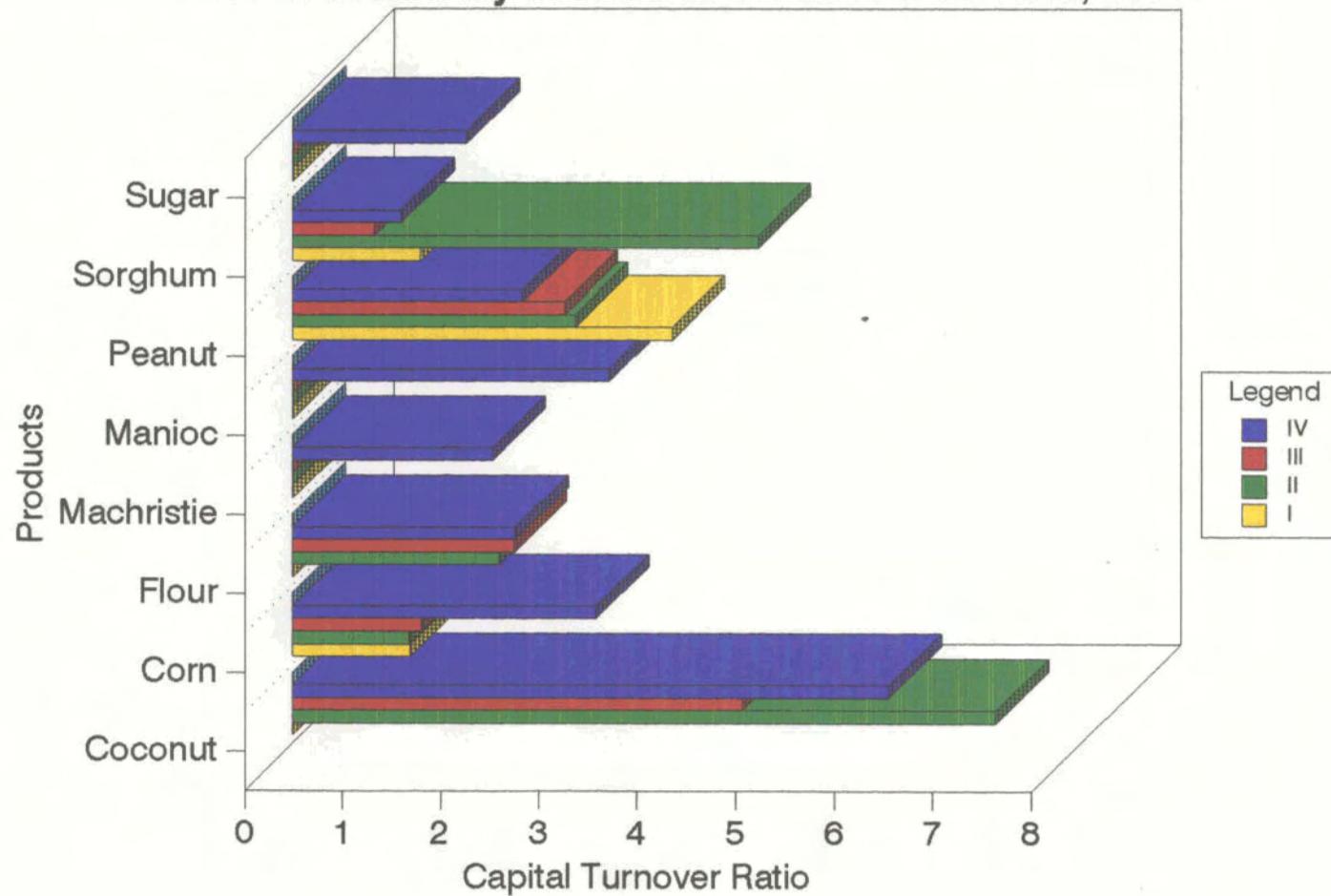
Figure 7. Capital Turnover Ratio for Processed Products in Northwest Haiti, 1991.



**Figure 8. Capital Turnover Ratio for Processing Selected Products Sold at Primary Markets in the Northwest Haiti, 1991.**



**Figure 9. Capital Turnover Ratio for Processing Selected Products Sold at Secondary Markets in the Northwest Haiti, 1991.**



The feasibility of processing large quantities of produce at the local level was *given scant attention*. At present large quantities of wet sugar, molasses, cassava, flour, bread and starches are produced locally. Preliminary information obtained from processors revealed that these enterprises were very profitable and could be improved and expanded to the degree where they could provide a major source of income to the people of the region. Flour mill owners operate small milling ventures in the region. Clients were charged 1 to 2 *gourdes* per kg to transform corn and sorghum into flour. The demand and net revenues for these operations need further study.

### **Product Selection and Standardization**

Product selection and classification began on the farm. Farmers usually cleaned their products and classified them into marketable and non-marketable lots. The products which farmers selected before storage and marketing were corn, sorghum, beans, peas, and peanut (Table 5). About 90 percent of the farmers cleaned their corn, while 100 percent of those interviewed selected other grains. About 30 percent of farmers classified products according to sizes. The products which were frequently graded according to sizes were cassava, sweet potatoes, and plantains. Farmers selected and classified their products in order to obtain a higher price and to increase their net revenues from sales.

About 34 percent of the intermediaries also selected and graded their products. A higher grade product should mean higher returns on sale. Only 30 percent of the sellers stated that they received a higher price for their graded products. In cases in which products have deteriorated, the consumers would add them to quantities offered for sale as an encouragement to consumers to buy more. The market vendors either charged a lower price for an inferior product, or increased the quantity offered for a given price (Jolly, 1989).

### **Risk bearing**

Risks were borne by producers and market participants since there were no formal insurance companies to insure agricultural producers. The Agricultural Credit Bank has been closed since 1989, and even if it was functional, only a small amount of credit would have been made available to agricultural producers. Farmers and food processors had to rely on their own resources and the adoption of a number of strategies common to peasants in many developing economies, for mitigating risk and uncertainties. These included a mixed-cropping farming system, sub-optimal levels of inputs, and risk avoidance techniques, or the safety principle approach (Ellis, 1990). Farmers tend to produce crops to satisfy their family food requirements even if it means resource misallocation. The cost of satisfying family food requirements first results in a cost which is associated to a risk premium in studies of subsistence agriculture. For a poor family existing at a bare subsistence level of production, a loss means starvation. Therefore, subsistence farmers try to avoid disaster by employing a

**Table 5. Percent of Selected Farmers Grading and Selecting Crops after Harvest and Before Sale, 1992.**

ZONE	CROPS							
	Corn	Sorghum	Pigeon Peas	Pois Congo	Peanut	Cassava	Sweet Potatoes	Plantain
Jean Rabel	100	10	-	-	30	20	70	-
Bochan	90	90	20	-	10	100	100	-
Mobin	71	71	29	71	-	86	43	29
Bassin Bleu	70	50	50	10	-	50	30	70
Port de Paix	63	0	12	-	-	25	25	50
Pender	100	80	38	75	-	-	63	63
Van Kan	100	100	70	90	-	-	-	-
Grand Mare	100	57	43	100	29	14	14	-
Nan Tante	78	-	-	57	-	-	43	-
Port Metier	100	10	40	-	-	-	30	20
Pass Catabois	80	30	20	-	-	10	10	-
Baze	90	60	10	-	-	20	10	-
Sample	87	48	28	33	6	27	37	18
Primary Market	80	44	22	13	9	56	56	29
Secondary Market	93	50	31	42	3	6	23	11

safety principle approach that is providing for their basic food requirements before attempting other production or sales activity. Surveys conducted in Haiti showed that less than 10 percent or more of farmers used fertilizers, and even a smaller amount purchased pesticides for their crops. Farmers also engaged in contract farming as a measure of risk avoidance. About 20 percent of farmers in the zones studied said they received advanced payments to produce given quantities of crops.

Market intermediaries used similar risk avoidance strategies. These included the sale of a wide variety of products per participant, the discounting of goods of lower quality, and the variation of prices at different times when quantity demanded varied. Sellers sold a combination of products to spread the risk over a large number of products. Of the intermediaries surveyed, 98 percent were selling two or more products. In most cases the products were related goods. Low levels of investments in the marketing process were a means of risk avoidance. The level of investment in food marketing was low, and the quantities of goods sold were also small. The vendors of processed foods were selling fewer items at any one time. The levels of investments ranged from a minimum of 3.23 *gourdes* to a maximum of 722 *gourdes*.

### **Financing**

The financing of production and sales at the markets were undertaken by the producers and intermediaries themselves. There is one institution for allocating loans or credit to farmers and market vendors. This is the Bureau de Credit Agricole, but this institution is virtually non-operational. Farmers and vendors had to borrow money from their friends and family, while a number of vendors were engaged in informal saving mechanisms which helped them finance their marketing activities. Farmers also depended on outsiders buying their crops before harvest to finance production.

### **Market Intelligence**

Market intelligence was undertaken through information gathered at the market during market days. Only a few participants received information on prices and quality from other sources. Table 2 shows that most farmers received information from market visits and from their neighbors. The market intermediaries received information from being present at the market place. The seasoned professional vendors also developed long term relationships with producers from whom they were assured a continuous supply of goods. The marketing practices were basic, and the farmers only sold surpluses on market days. There were, however, a few large market intermediaries who were involved in the collection of information on product location and prices. This was done by asking neighbors and friends encountered at the marketplaces.

## V. MARKET STRUCTURE, CONDUCT AND PERFORMANCE

### Structure and Performance

The structure of the market is determined by the degree of competition existing, and the performance by the efficiency of the marketing system. As can be seen from Table 3 in Appendix A, the large number of products and buyers and sellers characterize product markets facing perfect competition. The products are also fairly homogeneous in each product market.

### Market Efficiency

Two types of efficiencies were observed in this study, physical and economic efficiency. Physical efficiency was measured using the time required to move the product from the farm to the retail outlet. Since most consumers purchased goods at the marketplace, and vendors usually carried sufficient goods which were sold in one day, only the time of travel by wholesalers and retailers was considered. The losses incurred during transportation and transaction were also used as measures of physical market efficiency.

Economic efficiency was measured by the cost of transporting the goods from producer to the retail outlet, the percentage mark-up and the percentage of the consumer dollar which went to the producer.

### Physical Efficiency

The distances the goods travelled to and from the market were not so long, but the roads were rugged and treacherous. The longest distance was about one hundred miles, but the road conditions lengthened the journey from producer to marketplace. A distance of 10 miles could take two to three hours. One cannot think of the distance alone in measuring efficiency in developing countries, but also the amount of time needed to transfer goods in areas in which the roads are almost non-trafficable. The time consumed during the journey and product condition at the end of the trip must also be considered. In the Northwest of Haiti the time required to transport crops to and from a market was enormous and depended on the type of market to which the goods were transported. Roads to secondary marketplaces were usually in worse conditions than those to and from primary marketplaces.

### Transportation

Transportation to and from the farm to primary markets was undertaken by a number of means, but animal and human power were the most frequent. Sometimes small buses were used. The most common means of transporting farm produce from one farm to the other was by rural truck. The usual means of transporting produce to

and from the primary markets were buses or trucks. Animal and human power were seldom used to transport produce to primary markets, as only in five, and three out of 29 cases were animal and human power used to transport produce to primary markets in sub-region II. Buses were the primary means of transport (17 out of 25 cases). Trucks were used only in four of the cases.

In Region I only buses were used, in Region IV all modes of transportation were frequently employed. These buses or trucks were usually overloaded with the produce tossed way up to the upper decks of the vehicles. The vehicles were seldom regulated and the quantities carried not checked.

### Transportation Time

Trucks travelled an average of 20 miles from the rural areas to the secondary markets and an average of 45 miles to the primary markets. The distances can best be expressed in terms of hours since it takes on the average 20 minutes to travel one mile.

Transportation remains a major cost in the marketing of products in the area. To a primary market transportation cost could represent 25 percent of the selling price and 45 percent of the net margin. About 35 percent of the individuals interviewed said they used human power to transport their produce to the secondary markets while 20 percent used animal power and 35 percent used human power. The cost of transporting goods to the market is relatively cheap when we consider the quality of the roads.

Most of the producers and market participants felt that transportation was the major constraint hampering the marketing of produce in the Northwest. The majority believed it was the inaccessibility rather than high costs. They felt that if the roads were improved they could increase their sales and produce quality. Of the farmers interviewed, 50 percent said they experienced problems in marketing their crops. The major problem seemed to be that of transport availability since 45 percent revealed they have no form of transportation to move their produce to the market, and 7.0 percent said the bad conditions of the roads affected the marketing of their crops. The areas with the most acute transportation problems were Baze, Passe Catabois, and NanTante. In these areas, 90 to a 100 percent of the farmers cited road conditions as the major marketing problem. The areas in close proximity to the marketplaces such as Pendu, Port de Paix, Bassin Bleu, and Jean Rabel suffered less from transportation problems. The problem is heightened at two critical periods when the products were harvested, from March to April and October to November. Farmers in the Northwest can improve the quantity and quality of farm products placed on the market if accessibility to markets improved.

## Product Spoilage

The quantity of food spoilt on the farm was relatively low. Five percent of the farmers interviewed said that storage was a major concern and another 2.0 percent *stated that the reduction of produce quality in storage was a problem.* The crops most affected were corn, sorghum and beans. While the percentages seemed small, when the total quantity of produce and the number of farmers in the Northwest are considered, this could be very striking. The spoilage during the process of sale was limited to sub-region I only. Few sellers indicated that 2 percent of their beans and 10 percent of their flour were spoilt and thrown away. The sellers usually lowered the prices of products at the beginning of spoilage to facilitate sale, thus minimizing their losses. Based on the quantity of spoilage at the farm level one would conclude that there is a certain degree of inefficiency existing at the farm and market level.

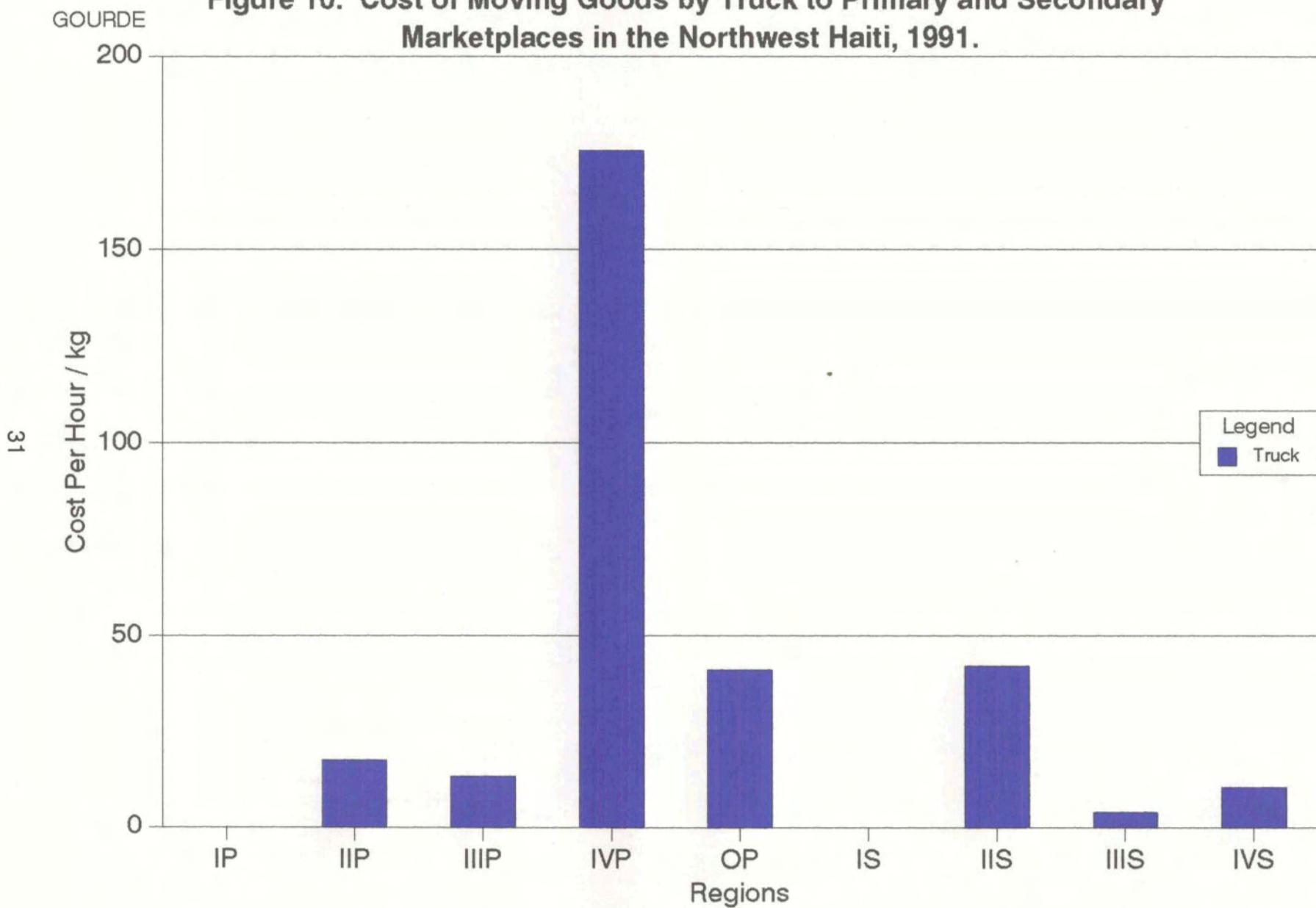
## **Economic Efficiency**

Economic efficiency will be measured by the cost of moving the goods from producer to consumer, the percent mark-up and the percentage of the consumer dollar the farmer receives and the transport cost involved in moving the goods from producer to the marketplace. It is assumed that most goods and services produced locally were traded at the marketplace.

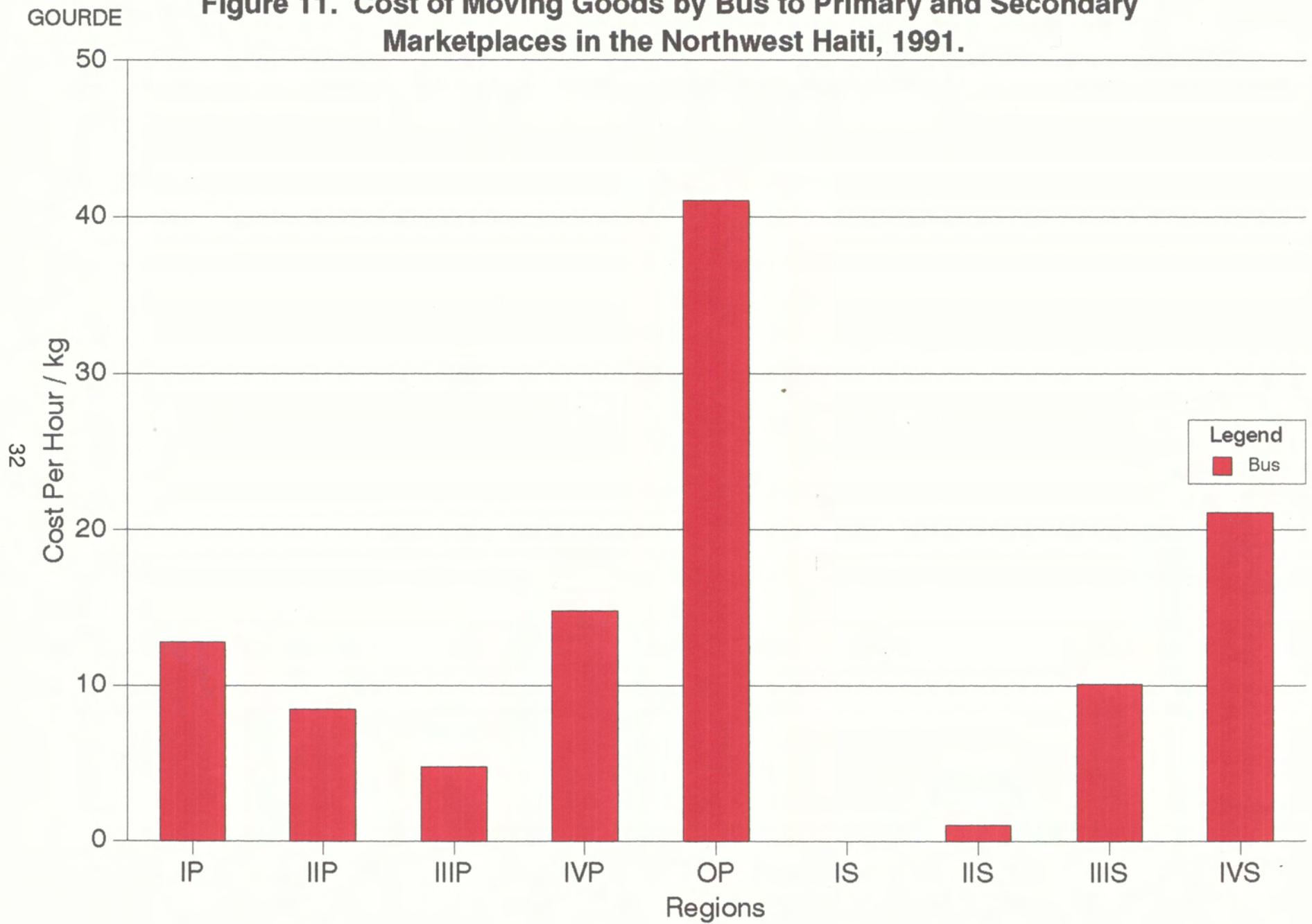
## Transport Costs

The cost of moving goods based on a kg basis may not seem exorbitant at first glance, given the average costs of 0.2 to .25 *gourde* to transport a kg per mile of most products to the marketplace. However, when time is factored in the costs, the transportation system appears very inefficient. In some cases the cost rises to as much as 300 *gourdes* per hour per kg. per mile. This, of course, is related to the road conditions and the time required to make the trip from farm to market. The Figures 10, 11, 12, and 13 showed that it is very costly to transport produce in one region compared to another. This information does not mean that the individual actually paid this amount since only a fixed rate is charged to transport goods irrespective of the distance through which the goods are hauled. It means if time was factored in the equation, this is what the costs would actually have been. It reflects road conditions in the various regions. The cost varied by region and by means of transportation. Transportation by bus was the most costly at primary markets, but animal power was most expensive for secondary markets in Region II. Horse power as a source of transportation seems the most expensive at other primary markets and in Region IV, whereas truck transportation seemed most expensive at primary markets in Region IV. Relative to road conditions, it would seem that producers in Region IV pay a higher cost of transportation than in Regions I, II and III.

**Figure 10. Cost of Moving Goods by Truck to Primary and Secondary Marketplaces in the Northwest Haiti, 1991.**

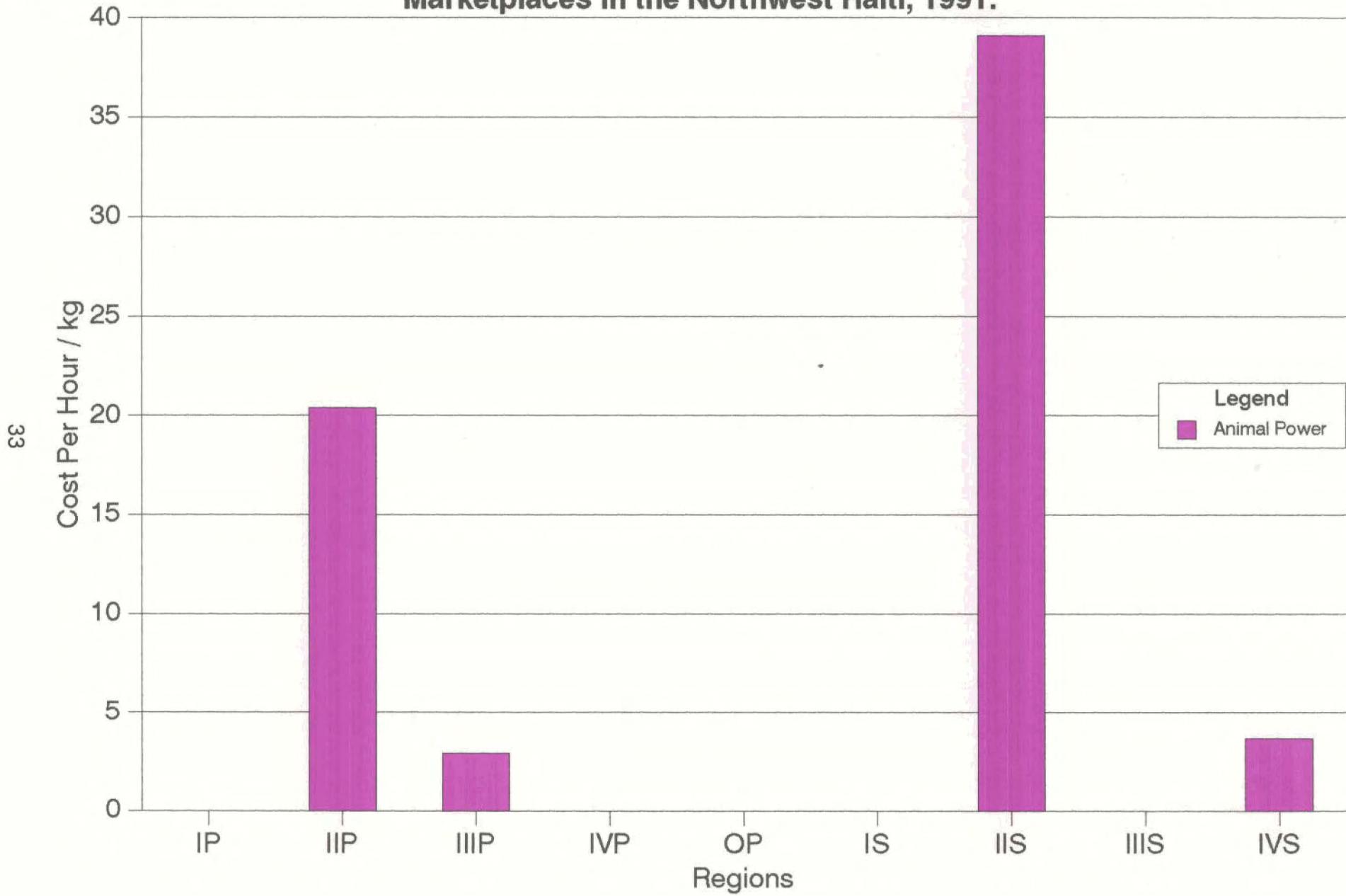


**Figure 11. Cost of Moving Goods by Bus to Primary and Secondary Marketplaces in the Northwest Haiti, 1991.**



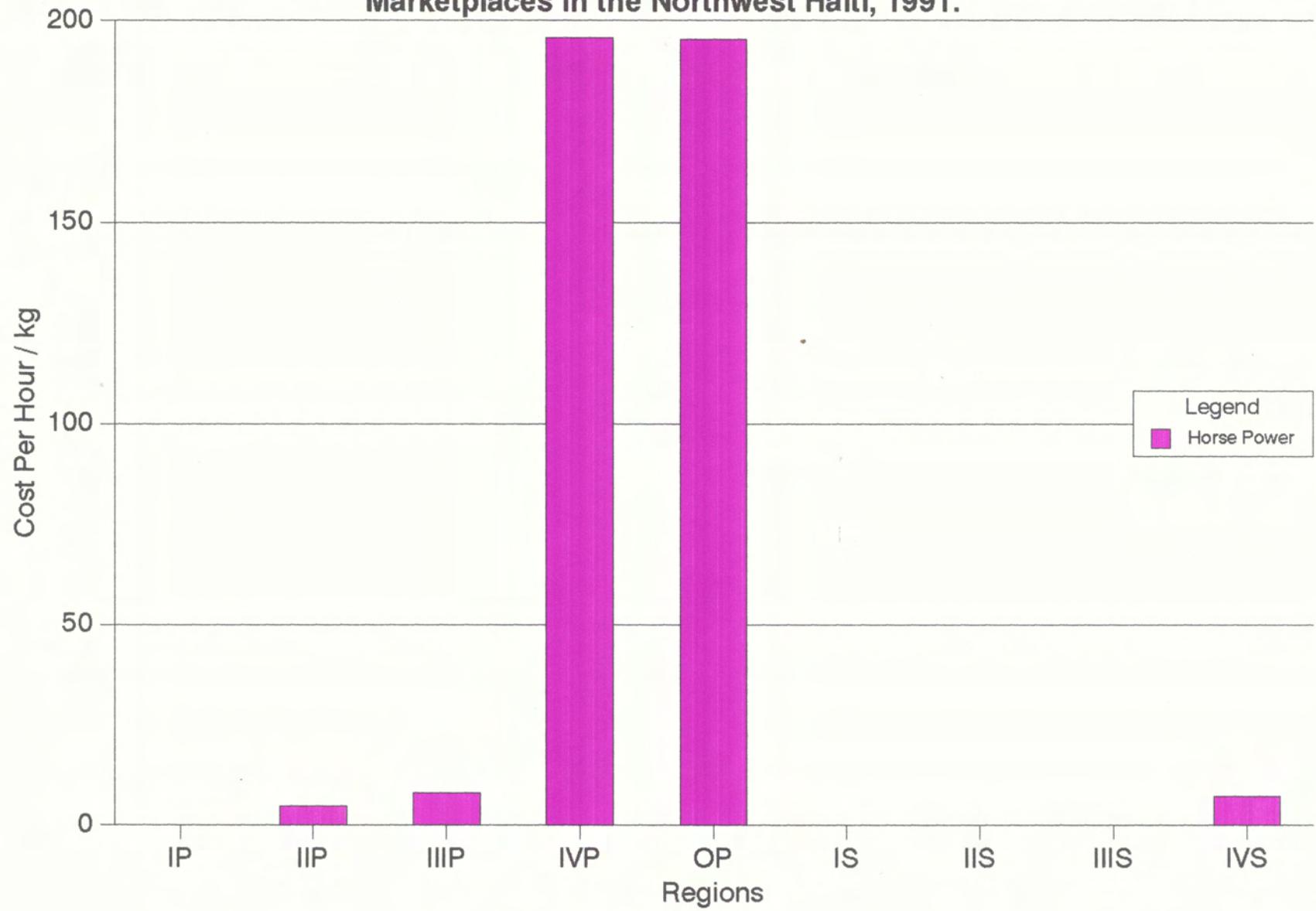
**Figure 12. Cost of Moving Goods by Animal Power to Primary and Secondary Marketplaces in the Northwest Haiti, 1991.**

GOURDE



33

GOURDE **Figure 13. Cost of Moving Goods by Horse Power to Primary and Secondary Marketplaces in the Northwest Haiti, 1991.**



Tables 5, 6, 7, 8, and 9 in Appendix A give the average prices in *gourdes* per hour per mile for transporting goods to the various markets in the Northwest. In most primary markets the cost of human power is very expensive. At secondary markets buses seem to be the most expensive form of transportation.

### Marketing Margin

The difference between price received by producers and that paid by consumers is a marketing margin (Tomek and Robinson, 1990). The margin on the various goods sold at the marketplaces is relatively low when one considers that transportation costs are a major consideration. Table 6 shows the various percentages farmers received from the sale of various crops. Calculations from Table 11 in Appendix A showed that the percentage margin varied by type of seller and sub-region. The margins varied from a low of -17.65 for beans sold by retailers, to a high of 50.8 percent in sub-region I for corn vended by retailers. The percentage farmers received of the consumers dollar was relatively high. For rice beans and sorghum the farmer received over 80 percent of the consumers' dollar in all regions. The farmers in the U. S. received from 31 to 55 percent of the consumers dollar, but these are not comparable since there is less direct selling. In Indonesia and the Philippines, farmers received 82 to 84 percent of the market price. In countries such as Kenya and Tanzania, the farmers receive 41 and 42 percent respectively (Abbot, 1993). The margin difference received by the intermediary was just adequate to cover transportation and marketing costs. The marketing margins for selected crops seen in Table 6, varied for rice from 7.9 percent to 39.1 percent at the retail level. The percentages were similar for wholesalers, and varied from 7.6 to 45.9 percent.

### **Market Conduct**

Marketing conduct will be evaluated by the pricing mechanisms existing at some of these markets. Regression analyses were conducted with the selling prices as the dependent variable and the buying price as the independent variable. This was to determine how much of the variation of the selling price explained by the buying price. The results in Table 7 indicate that the buying price explained 42 percent of the variation in the selling price of rice at the retail level, and that if the buying price increased by 1.0 percent, the selling price would increase by 0.8 percent. The regression coefficient was 0.85 and significant at the 5.0 percent level.

The equations show that there was a percentage mark-up for beans, and the buying price explained 53 percent of the variation in bean retail prices. The regression coefficient was significant at the five percent level. The results showed that if the purchase price of beans increase by 1.0 percent the retail price would increase by 1.3 percent. This means that an increase in price would not benefit the farmer as much as the retailers.

**Table 6. Marketing Margin for Selected Crops in the Northwest Region of Haiti, 1991.**

<u>Crops</u>	<u>Selling Price</u>	<u>Buying Price</u>	<u>Gross Margin</u>	<u>Percent Margin</u>
	Gourde/Kg	Gourde/Kg	Gourde	
<u>Retailer</u>				
Rice	5.28	4.85	.42	7.9
Beans	6.52	5.51	1.01	15.5
Flour	3.70	3.31	.38	10.3
Sorghum	1.95	1.49	.46	30.8
Corn	1.78	1.28	.50	39.1
<u>Wholesaler</u>				
Rice	5.69	5.26	.43	7.6
Beans	5.78	4.81	.97	16.8
Flour	3.36	3.01	.35	10.4
Sorghum	2.48	1.70	.78	45.9
Corn	2.16	1.64	.52	31.7

**Table 7. Selling Price Regressed on Buying Price for Rice, Beans, and Flour at the Retail and Wholesale Levels, 1992.**

	<u>Estimated Coefficient</u>	<u>T-Ratio</u>	<u>Elasticity</u>	<u><math>\bar{R}^2</math></u>
<u>Retail Level</u>				
1. Rice - Dependent - Selling Price				
B <sub>0</sub>	1.15	2.76	.21	.42
B <sub>1</sub>	0.85	0.77	0.78	
2. Beans - Dependent - Selling Price				
B <sub>0</sub>	-1.98	-0.78	-0.30	.53
B <sub>1</sub>	1.54	3.35	1.30	
3. Flour - Dependent - Selling Price				
B <sub>0</sub>	-0.56	-0.54	-0.15	.56
B <sub>1</sub>	1.28	4.05	1.15	
<u>Wholesale Level</u>				
1. Rice - Dependent - Selling Price				
B <sub>0</sub>	-0.50	-1.77	-0.09	.98
B <sub>1</sub>	1.17	22.69	1.09	
2. Beans - Dependent - Selling Price				
B <sub>0</sub>	-0.19	-0.22	-0.03	.87
B <sub>1</sub>	1.24	7.12	1.03	
3. Flour - Dependent - Selling Price				
B <sub>0</sub>	0.31	1.61	0.09	.96
B <sub>1</sub>	1.02	16.49	0.91	

The market situation at the wholesale level showed that the buying price explained 98 percent of the variation of the selling price of rice, and if the buying price of rice increased by 1.0 percent the selling price would increase by 1.09 percent. The regression coefficient was 1.17 and significant at five percent level. The regression coefficient showed almost the same magnitude for rice and beans at the wholesale level. The buying price of beans explained 87 percent of the variation in the retail price of beans and if the buying price of beans increased by 1.0 percent the retail price would increase by 1.03 percent. The regression coefficient was significant at the five percent level. The buying price of flour explained 96 percent of the retail price of flour and if the buying price of flour increased by 1.0 percent the retail price would increase by .91 percent.

While the regression estimates and coefficient of correlation provided some information, it could not totally explain market structure, conduct and performance. There are many questions about their validity as a final test. The single market does not stand alone as a determinant of either price or quantity. The actions of buyers and sellers in a particular market are always influenced to some degree by price signals and substitutional possibilities in other related markets (Cochrane, 1957). There may also be costs associated to marketing such as inventory and storage which may have been omitted. Temporal and spatial differences in prices may also be a problem. Seasonal variation in prices and storage costs were not taken into account. The market for most of the food crops tended towards inefficiency when one considers the transport costs and the level of spoilage revealed by market participants, especially by farmers, but the various criteria mentioned by Harris (1982), the number of sellers and buyers, the percentage margins and the regression estimate, all point to markets approaching (though not completely attaining) the text book example of perfect competition. The use of the marketing margins in examining market, structure conduct, and performance is heavily criticized, but has not been replaced as measure of examining market distortions. The method has been modified to include price elasticities of demand at the wholesale and retail levels, but this can only be done when data are available. In lieu of this, the effects of wholesale price on retail price can still provide some insight into the market situation as it relates to structure and performance.

## VI. PRICE ANALYSIS

There is no pricing policy in force for marketing local goods. The government has tried to fix prices on imported goods, but this has not been effective. The prices charged at the markets are based on prices existing at the marketplace. Farmers usually haggle with buyers for the prices they want for their produce. Most vendors revealed that they charged the existing market price for their products.

### Farm level prices

In general, farmers revealed that prices were reasonable, and there were large variations within and between zones. These variations were also temporal, depending on the period in which the sale was realized. Average farm prices varied strongly between zones. The variation could be as high as 150 percent. Prices of plantain, cassava and sweet potatoes (the tubers) varied the most. The variation was from 125 to 180 percent for most tubers and 50 percent for corn.

The variations within zones were equally great: corn and sorghum had the highest overall price variations of about 160 percent; pigeon peas and plantain had the minimum rate, 60 to 95 percent, respectively. Data collected at various farm locations showed the following:

- at Bassin Bleu, price variations reached up to 300 percent for corn, but at Nankan the variation was 200 percent;
- for sorghum the average variation rate was 140 percent; and
- the average variation for cassava and sweet potatoes was 90 and 130 percent, respectively.

Farmers were generally disappointed with the prices received, with plantain farmers being the exception. Sixty percent of pigeon pea producers thought that the prices they received for their product were too low. The way farmers perceived market prices depended on the type of market with which they were associated. For example, only 21 percent of the sampled farmers thought that sweet potato prices at secondary markets were encouraging, while 53 percent in the area associated with a primary market thought them adequate. The degree of variation experienced at the farm level can be associated to several factors, including the roads and product quality. Farm level price variation could also arise due to partial exploitation of farmers who need quick money at the end of the harvest.

### Market level prices

Market prices varied by commodity, region and market. Table 8 shows average prices over a 10-month season for various products by region and product. The table shows that prices varied for product by regions and in time. The price variation by

**Table 8. Average Seasonal Market Prices and Coefficient of Variation of Products Sold in Northwest Haiti, 1990 - 1991.<sup>1</sup>**

Crops	Average Prices and Coefficient of Variation							
	Region I		Region II		Region III		Region IV	
	Price Gourde/Kg	C V %	Price Gourde/Kg	C V %	Price Gourde/Kg	C V %	Price Gourde/Kg	C V %
Orange			4.0	28.8	4.3	8.6	4.0	20.9
White Beans	6.0	12.4	6.8	16.0	7.1	13.3	6.9	14.1
Pigeon Peas	3.3	14.6	3.6	9.3	3.4	11.1	3.3	16.9
Peanuts	5.8	19.8	5.7	9.7	5.8	9.4	5.9	11.3
Red Beans	9.6	16.0	8.2	17.0	8.0	12.2	8.1	13.9
Bananas	1.4	6.9	1.4	14.7	1.6	14.8	1.4	19.8
Sweet Potatoes	0.5	35.3	0.6	22.2	0.6	27.7	0.6	12.2
Corn	2.6	24.9	2.4	21.8	2.6	31.2	2.5	16.2
Millet/Sorghum	2.9	17.6	2.6	18.7	2.3	22.4	2.4	23.1
Rice	4.7	12.5	4.8	12.3	4.4	11.6	4.5	12.2
Cassava	0.5	12.3	0.4	13.8	0.5	11.0	0.4	16.8
Lima Beans	3.8	20.9	4.0	28.8	4.4	8.6	4.0	20.9

<sup>1</sup>Average prices were calculated over a 10-month season for most products, based on availability.

region was related to transport cost and the shortages arising at various periods. The variation for each crop and for each time period is different. Prices varied for all crops according to the season when they were planted and harvested. The coefficient of variation (C.V.) is used as the measure of variation in prices. The prices in Region I varied from 6.9 percent for bananas to 35.3 percent for sweet potatoes and from 9.3 percent for pigeon peas to 28.8 percent for both oranges and lima beans in Region II. In Region III the least variation was 8.6 percent for oranges and lima beans compared to 31.2 percent for corn. Peanuts showed the least variation (11.3 percent) in the Region IV, while millet showed the most (23.1 percent). Although there is no definite pattern of variation the crops which were harvested year round such as bananas and cassava tended to show the least average price variation.

Table 9 presents various F-Statistics for various crops by region and cycle. A cycle is a period of five weeks. The prices of some crops such as oranges, white beans, red beans, millet, and rice varied significantly by region. The F values were greater than the critical value at  $\alpha=.05$  and  $df=3/23$ . Temporal variation in prices was more significant. Most prices varied significantly by cycle ( $F >$  critical value,  $\alpha=.05$ ,  $df=3/23$ ). The only crops which did not show significant variation by cycle were those whose supply could be controlled to a certain degree, including bananas, cassava and sweet potatoes. Bananas can be harvested year round and the harvest period can be controlled to a certain degree by cultural practices such as pruning, fertilization, planting scheduling, and the size and quality of sucker used. The supply of cassava can be controlled by the quantity harvested at different periods. It is known that the cassava can be stored in the soil and harvested at different times. The sweet potato can also be stored underground for some time, but not as long as the cassava since potatoes can suffer from heavy infestation of the sweet potato beetle, if left in the soil for too long a time. The variation by region is related to transport cost and the absence of the goods in one region. The F-statistic tells whether there is any difference among the sample means. It does not mean that prices are different in all regions.

The buying price and the selling price of most goods are determined by market forces. The selling price is largely determined by the buying price and transportation costs. As seen in Table 7, approximately 87 to 98 percent of the variation of the retail prices of rice, beans and flour was determined by the variation in buying prices. The selling prices are also affected by the periods of harvest of various crops in the Northwest. The periods of harvest varied slightly by zones, but in general for most cereal crops there are two planting and two harvest seasons. Figure 21 in Appendix B shows the planting and harvest periods for selected crops in some production zones in the Northwest. The variation in prices for certain crops over time will be discussed.

**Table 9. Crops Produced in the Northwest of Haiti and F-Statistic for Region and Cycle and Statistical Differences.**

<u>Crops</u>	<u>Region F-Statistic<sup>a</sup></u>		<u>Differences in Region</u>	<u>Cycle F-Statistic<sup>b</sup></u>		<u>Differences in Cycles</u>
	(F)	(D F)		(F)	(D F)	
Orange	6.8*	3/23	<u>II, III, &amp; IV</u>	3.8*	3/23	<u>3 &amp; 5, 2 &amp; 3</u>
White Bean	4.2*	"	<u>I, II, III, &amp; IV</u>	7.3*	"	<u>2, 3 &amp; 4</u>
Pigeon Peas	2.7	"		20.7*	"	<u>3, 4, 2 &amp; 4</u>
Peanuts	0.2	"		11.4*	"	<u>1 &amp; 2 &amp; 3 &amp; 4</u>
Red Beans	4.6*	"	<u>II, III, &amp; IV</u>	5.7*	"	<u>3 &amp; 4, 2 &amp; 4</u>
Bananas	1.6	"		1.6	"	
Sweet Potatoes	0.5	"		1.1	"	
Corn	0.6	"		7.3*	"	<u>5, 2 &amp; 3</u>
Millet	5.0*	"	<u>I, II, III, &amp; IV</u>	10.1*	"	<u>2 &amp; 3, 3, 2 &amp; 5</u>
Rice	6.7*	"	<u>I, II, III, &amp; IV</u>	8.8*	"	<u>3 &amp; 4, 3 &amp; 5</u>
Cassava	1.4	"		2.3	"	
Lima Beans	1.0	"		4.6*	"	All

\* Indicates that there is a significant difference at ( $\alpha=.05$ ). Regions and cycles underlined are statistically different in prices.

<sup>a</sup> The F statistic is a variance ratio which tells whether the variation observed is due to chance or due to the variance of the sample means. D.F. is the degree of freedom.

<sup>b</sup> The cycle was the period of time it took to cover all the markets within the market research area. This was a period of 5 weeks. Therefore, from January 1991 to October 1991, the prices were collected at six intervals, called cycles.

## Possibilities for Inter-regional Trade

A number of crops and products are already traded inter and intra-regionally. Produce flow on a regular basis to and from the larger and smaller city centers. The price differences between regions can limit much inter-regional trade. Table 9 shows that the prices of such crops as oranges, white beans, red beans, and millet, significantly differed in the regions. It would, therefore, seem that there might be a possibility for inter-regional trade, if the difference in price is significantly greater than transport cost. The prices of oranges, white beans, pigeon peas, peanuts, red beans, corn, millet, rice and lima beans, differed significantly in time, and it might be possible to store some of these products in order to resell at periods when there are shortages. The crops which displayed neither spatial nor temporal differences in prices are bananas, sweet potatoes and cassava. Table 12 in Appendix A shows the average prices existing between and within regions. The price ranges can be compared to transport costs in order to evaluate the inter-regional trade possibilities.

## Market Price Trends for Individual Products

### Corn, Corn Meal and Corn Flour

The average price of corn as seen in Table 12 in Appendix A dropped suddenly during the second cycle and remained depressed for long while for all regions. The prices began increasing during the third cycle and peaked during the fifth cycle, while falling sharply during the 6th cycle. This means that if the cost of storage and marketing is less than the difference in prices from the second to fifth cycle, all things being equal; then there is a possibility for storing corn and reselling it during the months of July and August.

Figure 1 in Appendix B shows that prices were depressed in April and May and remained depressed up to June. This coincides with the harvesting period shown in the cropping calendar in Figure 21 in Appendix B. This means that the supply exceeded the demand during that period. The average price, 1.74 gourde per kg, is 1.15 gourde less than the average price in the fifth cycle and 1.87 gourde less than the highest price in the first cycle.

Figure 2 in Appendix B shows the variation of the price of corn meal by regions and in time. The prices of corn meal fell sharply during the third cycle and then increased suddenly. The price increased in Region I during the fourth cycle and then descended slowly during the 5th and 6th cycles. The prices in Regions II, III, and IV peaked during the 5th cycle and then fell. The price movement tended to follow the production cycle. The movement in prices are very irregular and this may be due to fluctuations in supply of the product itself or substitute products.

Corn flour prices seen in Figure 3 in Appendix B varied spatially and in time. The price varied by region. The price in Region III was generally lower than in other regions. All prices dropped during the third quarter then increased. The prices in

Regions III and IV peaked during the fourth cycle then fell. The prices in Region IV peaked during the 5th cycle then fell abruptly, while prices in Region IV kept increasing after the fall during the third quarter.

### Millet/Sorghum

Millet prices as portrayed in Figure 4 in Appendix B fell during the first and second cycles for regions three and four and remained low during the second and third cycles. The prices in region II fell sharply and bottomed out during the third cycle and then increased. The prices for region I bottomed out during the third and fourth cycles and then increased. All millet prices were high during the fifth and the sixth cycles. Millet is planted and harvested at the same time with sorghum. Therefore, the low prices synchronized with the periods of harvest can be seen in Figure 21 of Appendix B. Regional differences in prices exist. This is also influenced by supply of this grain in the neighboring regions.

### Cassava and Cassava Farine

The prices of cassava varied slightly throughout the whole period of study for all regions (Figure 5 in Appendix B). The prices were depressed during the first period for Region I and for Regions III and II during the third cycle. The price for Region I remained high during the third and fourth cycles then fell. There is no single pattern one could follow for the price movements since price fluctuation seemed erratic for cassava for regions and cycles. Though the price of cassava exhibited erratic behavior, the range of prices was low. The ranges for the regions varied from .13 gourde per kg to .20 gourde per kg. The range for cycles varied from .09 to .15 gourde per kg.

The price of cassava farine in Figure 6 in Appendix B remained relatively low throughout the Regions II, III, IV. The prices in Regions II, III, and IV dipped during the fifth cycle and then increased. The price movements exhibited almost a seasonal pattern throughout the six cycles. The prices in Region I increased during the third cycle, fell and then increased dramatically during the fourth, peaked during the fifth and then fell sharply. There seemed to be no apparent reason for these price movements in Region I. The price fluctuation during the fourth to sixth cycles may be considered irregular.

### Sweet Potato

The price of sweet potato flattened during the second to the fourth cycles for Regions I and III. The price in Region I, as seen in Figure 7 in the Appendix B, increased during the fourth cycle and peaked during the fifth cycle and then fell. The prices in regions three and four remained relatively low until the fifth cycle when prices began to increase. The variation in sweet potato prices was not significant during the cycles other than in the sixth cycle. This increase in prices, as observed in the

graphs, may be erratic and may not necessarily denote a seasonal pattern. Since sweet potatoes are harvested almost year round, there may be no incentive for storage.

### Rice

The price of rice oscillated in all regions throughout the study period (Figure 8 in Appendix B). The prices in all regions dipped during the third cycle and then increased, with the exception of the price in Region I which flattened during the third and fourth cycles and then picked during the fifth cycle. The movement of prices was different seasonally and spatially. No reasons can adequately explain the observed regional differences since most of the rice sold in the regions are imported.

### Bananas

Banana prices varied throughout the year. There is no distinct trend in prices during the year (figure 9 in Appendix B). Prices in Region II remained constant from cycle one to cycle four. The price fell sharply during the fifth cycle; then increased. The price in Region III showed up and down swings from cycle one through four, increased sharply, peaked during the fifth cycle; then fell abruptly. The prices in Regions II and IV swung and rapped around each other in a hallixoidal fashion, but both increasing during the third to fourth cycles, with that in Region IV continuing to increase at a more acute rate, during the fifth cycle, then falling. The price in Region II fell during the fifth cycle, then increased. There was no significant differences in banana prices by region and cycles. This is due to the constant harvest of bananas during the year. This means that the banana prices can be forecasted with a certain degree of accuracy and planning of production and sales can be used to prepare future income statements.

### Eggplant

The price of eggplant showed two main sinks for all regions, with the exception of Region I which continued to rise during the second cycle. All prices dipped during the fifth cycle; then rose sharply. The prices seemed to have peaked during the third and fourth cycles indicating a lack of eggplants at the market at these periods. The price fluctuations are seen in Figure 10 in Appendix B.

### Avocado

Prices in all regions fluctuated slightly during cycles one to four. The price in Region I increased from cycle one to cycle two, remained constant, then increased suddenly during cycle four, peaked for cycle five and dropped. Prices in all other regions fluctuated slightly. The price movements are seen in Figure 11 in Appendix B. Avocado is rather seasonal, even with the few out of season varieties. The peak

season is during the months of July and August when prices are usually depressed because of an oversupply. The planting of off-season varieties can help stabilize prices and farm income.

### Peanuts

The prices in all regions tended to display an upward moving trend, with minor oscillations throughout Figure 12 in Appendix B. The price in Region I increased drastically from cycle one to cycle two then declined slightly and then increased. The price in Region III showed similar trend as that of Regions II, and IV, but fell sharply after cycle five. There were no significant differences in prices by region, but prices varied by cycle. The prices dropped during the harvest period, but prices followed an increasing trend throughout the year.

### White Beans

Prices in Regions II, III, and IV fell during the second and fourth quarter, with the exception of Region I where prices increased then peaked in the fourth cycle. The prices in Regions II, III, and IV peaked during the fourth and fifth quarter then fell. The price fluctuation in Figure 13 in Appendix B seemed to coincide with the harvest period for other beans as seen in Figure 21 in Appendix B. The prices of white beans varied by region and cycles. The difference in prices indicate that there is a possibility of storing white beans from the harvest period to be sold in the fall when there is an absence of beans on the market.

### Pigeon Peas

The prices in all regions exhibited similar patterns. Prices in all regions dipped during the third cycle then increased. The rates of increase in all regions seemed to have slowed down during the fifth cycle. Figure 14 shows that the prices in all regions dipped at the same time. This did not coincide with the harvest period which is from November to December. The fall in the price during this period could have resulted from competition from other bean substitutes which are plentiful on the market during this period.

### Red Beans

Prices in Regions II, III, and IV seemed to have exhibited similar patterns during the cycles, falling during the second and increasing slightly during the third, peaking during the fourth and then falling gradually. Prices in Region I increased at a slow rate, during the first and second cycle, peaked during the third and then falling slowly. The fall in prices in April - May, as seen in Figure 15 in Appendix B, coincides with the harvest period seen in Figure 21 in Appendix B. The prices were significantly different by region and cycle. The price range was from 2.38 to 4.77 gourdes for cycles and

from .52 to 3.02 gourdes per cycle. The differences are large enough to warrant the storage of grains during the harvest period to be sold at periods when there are market shortages.

### Lima Beans

The price of lima beans fluctuated erratically temporally and spatially. There did not seem to be any pattern of variation by region. Prices in all regions seemed to have peaked during the third to the fifth cycles. Figure 16 in Appendix B shows that price varied for all regions and cycles, but the low prices in most cases coincided with the harvest period seen in Figure 21 in Appendix B. Lima beans exhibited the same behavior patterns as the other beans.

### Mango

Mangoes are seasonal and tend to flower almost at the same time and harvested at the same time, with some exceptions for out of season varieties and variations in microclimate within regions. All regions seemed to have displayed their own pattern of price movements, they seemed to have remained close during cycles one to three (Figure 17 in Appendix B). The price in Region II fell dramatically during the fourth cycle then increased. In Region III price increased at a slow rate, turned downwards during the fourth cycle; increased at an alarming rate, peaked during the fifth cycle; then experienced a sharp fall. The price in Region IV fluctuated during the first to the fourth cycles; then dropped during the fifth cycle; then experienced an upturn. Mangoes are fairly seasonal and the prices fall sharply during the harvest period. The introduction of off-season varieties could help stabilize prices and boost farm income. There are a number of late season varieties which have been introduced already to meet export needs.

### Orange

Orange is also a seasonal crop with minor variation in fruiting season due to varietal and microclimatic differences. These differences could have caused immense swings in prices (Figure 18 in Appendix B). The prices in the regions did not exhibit any major swings as would have been dictated due to harvest periods, with the exception of the price in Region I which showed slow growth during the first four cycles and then increased at a tremendous rate during the fourth cycle, peaked and fell abruptly during the sixth. Prices in Regions III and IV plateaued out during the third cycles; then fell abruptly during the sixth.

### Coconuts

Coconuts are produced and harvested all year round. This should minimize the variation in prices experienced during the various cycles. The Figure 19 in Appendix

B, however, shows that there is some fluctuation exhibited over time. Price variation could be due to the availability on the market during certain periods when there are competing uses for farm labor, and coconut supply becomes constraining.

### Paw Paw

Paw paw prices oscillated vastly within regions and cycles (Figure 20 in Appendix B). Prices increased sharply for Regions I, II, and IV; then seemed to have fluctuated around a mean. Price in Region III increased during cycle I and II, fell and then increased at a constant rate. Paw paw can be seasonal as well as they can be harvested year round. New paw paw varieties should be examined for the possibility of meeting local and export demand. This would help reduce price variation within and among seasons.

## VII. INSTITUTIONAL AND TECHNICAL SUPPORT TO FOOD DISTRIBUTION

A number of institutional factors affect the quantity of foods produced and sold in the Northwest Region of Haiti. Land tenure systems, credit availability, transportation and infrastructure, political and market organization, and the legal system all help shape the marketing system of food products in the Northwest and in Haiti. Each of these factors will be examined individually.

### Land Tenure System

The State is Haiti's largest single landowner (World Bank, 1991). About 616,710 farmers own or lease the 838,372 ha of cultivated land. The average farm size in Haiti is 1.8 ha and farm size is fairly standard throughout Haiti. The Northwest is no different as the average farm size for the 106,400 farmers is 1.9 ha. Most lands are owner operated, with only a small quantity of communal lands used for grazing. Individual, land rights exist, although lands are seldom sold. Formal titles are supplied by the state and enforced by the judicial system. The land tenure system affects land use and resource allocation and the quantity of crops produced and marketed.

The demand for land affects farm expansion. Most farmers hold dearly to their small farms and are unwilling to allow others to have or use their lands. Therefore, large scale production of crops for export or domestic marketing is limited by farm size. With a few exceptions, most producers are small-scale and produce predominantly for home consumption and sell the surplus. Therefore, it is difficult to organize large-scale production and marketing of foods. Produce marketing in the Northwest will continue as most food marketing systems in developing countries, as farmers marketing small quantities of produce on a weekly basis at specific market locations.

### Credit Availability

Credit has been made available to farmers in the past either by the Bank du Credit Agricole or other private institutions. Land collateral was generally a prerequisite for accessing the formal credit system. Land titling procedures, however, limit small farmers' use of such credit. Market participants and vendors were considered high risk and thus not considered for credit. These individuals had to seek private sources of credit, which were from family source or businessmen. Interest rates were variable and sometimes so high that the small businesses lost money. Of the market participants studied, 100 percent revealed that money for food marketing came from family sources. Transport owners had the same levels of difficulties in receiving credit as other market intermediaries. Individuals engaged in food processing also used family funds to begin their businesses.

## **Transportation and Infrastructure**

The infrastructure for marketing food products in Haiti is limiting. The movement of goods within regions is a costly venture since the development of the food marketing system has been retarded. The cost of moving a kg of produce is a major component of cost within the marketing system. Fortunately for most producers, goods are generally transported from one area to the next at a fixed rate. There is no move at present to improve the present road system or to develop the marketing system.

## **Market Organization**

The food marketing system in the northwest is organized by a number of small traders, who seem to understand the rules by which trading is conducted. While there may not be blue prints of a market organization, there seem to be some regulation in place as to how intermediaries conduct business. The marketplaces were once organized and developed for the smooth sale of farm and other products. Taxes were paid by marketers and these taxes were used for the upkeep of these facilities. All marketers and leaders in the community said that the taxes for the use of the market place and sale of produce are no longer in force. They also stated that the buildings and facilities were in disrepair and badly needed repairs, but only a minute portion showed any willingness to pay taxes to pay for the improvement of the facilities.

## **Legal System**

The legal system did not directly interfere with the marketing system. Product quality, transportation and processing were unlegislated. Most of the market participants thought that produce quality ranged from good to fair. Market participants would have preferred that the justice system remain out of their business. However, improvement to the market system cannot be done without public support and investment.

## **Marketing Problems**

Most of the problems associated to marketing are institutional in nature. Farmers and market participants thought that with minimal public assistance increased quantities of food could be marketed within and outside the research area. Hence, marketing problems are discussed under institutional support. Transportation problems persist throughout the year, but the problems are more serious during the months of March to April, and October to November. All farmers and intermediaries faced the same problems, but the farmers in Baze, Passe Catabois, and Nantante thought that their problems were worst. Table 10 shows that transport availability posed a more serious problem than road conditions. Although 100 percent of farmers

**Table 10. Problems Faced by Farmers in Marketing Produce and Times These Problems Most Commonly Occurred, 1992 (Proportion of Percentage Reporting).**

Zone	Problem					Percentage <sup>a</sup> Reporting	Time Problem Occurred
	Transport %	Road %	Sale %	Product Deterioration in Storage %	Product Quality %		
Jean Rabel	-	-	-	-	-	-	-
Bochan	50	10	-	-	-	60	Aug-Nov* Mar-Apr
Mobin	30	-	-	-	-	30	Aug-Nov Mar-Apr
Bassin Bleu	10	-	-	10	-	20	Jul-Aug Jan-Feb
Port de Paix	-	-	-	-	-	-	
Pendu	15	-	-	-	-	15	Dec-Feb Sep-Nov
Nan Kan	40	40	-	15	-	80	Sept-Nov Mar-May*
Grd. Mare	55	15	-	15	-	85	Aug-Dec* Mar-Apr
Nan Tante	90	-	-	20	-	90	Aug-Dec* Mar-Apr
Port Metier	40	-	-	-	-	40	Sep-Nov Mar-Apr*
Passe Catabois	90	10	-	20	10	90	Sept-Nov Mar-Apr
Baze	100	10	-	-	10	100	Aug-Nov Apr-Jun

\* Most Severe Occurrence

<sup>a</sup> Percentage of sample reporting having problems.

cited transport availability as a serious problem, only 10 to 40 percent of farmers stated that road condition limited produce marketing. The two problems are interconnected since transporters will not avail themselves if the roads are dangerous.

A number of farmers sold their crops immediately after the harvest and accepted a low price in order to minimize the losses from storage damage. Others use chemicals which were banned in more developed countries to preserve their foods. DDT and an organophosphate such as smythion are used by farmers to preserve their stock. Farmers should be warned about the toxicity of these substances and provided other non costly methods of preserving their produce.

Year	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022						
Production (kg)	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115	120	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230	235	240	245	250
Storage (%)	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115	120	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230	235	240	245	250
Transport (%)	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115	120	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230	235	240	245	250
Chemicals (%)	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115	120	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230	235	240	245	250
Price (USD)	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115	120	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230	235	240	245	250

## VIII. SUMMARY AND RECOMMENDATIONS

The food marketing system in the Northwest has similar characteristics to many other food marketing systems in other developing countries. A number of small producers, selling small quantities of marketable surpluses after harvest at primary and secondary marketplaces dominate the food marketing system. The sellers are numerous and each one is vending at least five different products. The market participants usually specialize in the sale of one product category or may be engaged in selling unrelated products. The vendors are also spatially organized in the market place. All cereal traders are located in one area, and compete fiercely with each other in selling their products, without offending the other seller. It is not unusual to observe at the market places that one vendor selling the product of another competitor while he/she is temporarily absent.

The primary and secondary markets are located around heavily populated areas. There is a linkage between primary and secondary markets. The flow of produce is in both ways. Large traders visit the secondary markets to purchase products from farmers which are transported to the primary markets. Manufactured goods are transferred from primary to secondary markets for resale. Disturbances at a primary market can affect the performance in a secondary market. The linkage between the markets depends on the agricultural produce coming from the area. For example, the Poste Metier market depends on the Port-de-Paix market for manufactured goods. The Port-de-Paix market relies on the Beauchamps market for beans, grains, and small livestock, as chicken. The distances produce travel may be very long. Vegetables come as far as Port-au-Prince to be sold at Port-de-Paix.

The marketing channels are simple and straight forward. Produce are either sold on the farm or at the marketplace. Only a few products are sold on the farm. Contractual arrangements are rare and are purely verbal agreements. The intermediaries can be wholesalers who invest substantial amounts of money buying a vehicle and erecting storage houses, or a retailer selling small quantities of commodities to earn a daily wage. Sometimes these intermediaries experience losses as do many other small businesses. When one considers the function performed by the intermediaries in moving the goods from farm to market, one can conclude that these individuals are performing a worthwhile service.

Market information is obtained by visits to the marketplaces. Most market participants said that they obtained their information on produce and prices from the other participants. There was no price or product information coming from the public service.

While the differences between market and retail prices seemed enormous, there were no signs of intermediaries preying on farmers or consumers. The cost of moving goods from producer to consumer constituted a major component of marketing cost. When the time spent in marketing products is factored in sales cost, it is observed that marketers just made enough money to cover their daily wage.

Prices are set at the marketplace. Most market participants were aware of the existing market prices, and usually charged the on-going market price. Only a few intermediaries said they charged a price based on the type of consumers. Both buyers and sellers used a form of auctioneering in determining prices. The amount of haggling depended on the value of the product, and its perishability. Prices for perishable products were usually close to the average market prices. Price variation within and between regions and temporal variation were observed for almost all crops. The degree of variation depended on how long the crop lasted in storage. Price fluctuation was less for the crops such as bananas, cassava and sweet potatoes. The supply of these crops can be controlled through cultural practices, and hence their price stabilized.

The processing of food products generated a substantial amount of revenue to processors. The processing system of foods were basic and was done at the home in most cases. There was no control over product quality and standards. Mill owners for the processing of cereals were found in the vicinity of the large markets such as Gonaive and Port-de-Paix, but were inaccessible to vendors and producers at secondary markets.

The markets in the Northwest play a vital role in the movement of agricultural produce. There are potentials for increasing the role of the market in pulling the agricultural sector forward. There are suggested areas where small farmers can increase farm revenue through the production and sale of agricultural products.

### **Market Opportunities**

1. The increased production of specialty crops such as pigeon peas, sweet potatoes and plantains, for local consumption and export, seems to be an avenue for increasing farm revenue. These crops are consumed all over the country, and are becoming part of the basic diet of new immigrants to the United States. If these crops are grown on a commercial basis they can be exported. The use of fertilizers could help increase yields so that production can exceed domestic needs. These products are fairly hardy and can withstand being transported long distances without major losses. The pigeon peas produced are the long cycle varieties, and all flower and fruit at the same time. This causes a glut on the domestic market at periods of harvest. However, if shorter bearing varieties are introduced, production can be staggered and revenues from sales increased. Pigeon peas can become an income earner if exported to the United States, and neighboring countries, such as Jamaica and the Bahamas, where demand for pigeon peas is increasing.
2. The increased production of fruits, such as mango and papaw can enhance income generation from agriculture. These crops are already grown in the region, and sold throughout the country, but the distribution of varieties with high export potentials can be included in the national agricultural program.

Haitian mangoes are already sold in a number of U.S cities, such as Atlanta, Baltimore and Washington, and are well appreciated.

3. Haitians consume large quantities of cereals, and in many forms. However, the yield of cereals has been at a decline. The improvement in the production of cereals will depend on increased yields, and not on the expansion of surface area planted; therefore, cultural practices which will improve yields should be a priority research area. Any improvement in yields which require minimum inputs from outside the farms should be given due consideration. Applied research conducted on farms should take into consideration the limited availability of good lands in the northwest.
4. Food processors realize profits from the sale of agricultural products; therefore, the improvement of processing techniques should help increase revenues from agriculture. Home food-based processing industries should be studied in order to determine whether they will provide an alternative for farm family income increases.
5. The increase in para-agricultural activities such as the production of hats, bags and art from straws seem to be common in Haiti and the Northwest, but these were not included in the original design of the study. These have potentials for increasing farm revenue, either from local sales or from exports. Attention should be paid to the propagation of crops for the production of straw products. The present stock of such materials is dwindling and, therefore, efforts should be made to produce more of the primary product.
6. Production and sale of small stock did not form part of this study, but through observations made at the marketplace, there is a tremendous opportunity for farm income generation through the increase in production of small stock such as rabbits, goats and chicken, which do not require substantial amounts of investments and techniques.

Opportunities for increasing farm income exist and can be tapped if the infrastructure are in place and the factors which impede the flow of market goods and services are eliminated. Research and development efforts should be directed at exploiting present, existing opportunities before searching for new initiatives.

### **Marketing Constraints**

The most pressing constraints which impede the marketing of agricultural products in the Northwest are:

1. The road conditions, especially to secondary markets seemed to be one of the major constraining factors impeding the marketing of produce in the Northwest. This problem is foremost in the minds of producers and intermediaries. The poor roads limit the quantity and quality of goods carried to markets. Road

conditions and market accessibility were mentioned as the most constraining factors to increasing farm product sales.

2. Food storage at the farm and market levels seem to be a concern to farmers. Farmers could take advantage of price upswings if the storage of crops were to improve.
3. The placement of processing facilities, such as small mills, should be made more accessible to farmers and intermediaries. The value added from farm products are captured by owners of processing plants in large cities, and very little is returned to the farm. The location of mills close to small towns and markets could generate added income for rural communities.
4. The absence of a market information system limits the market opportunities for small producers. Most farmers and intermediaries depend on visits to the marketplace for information on prices. This limits the farmers' planning horizon. Farmers revealed that they were aware of prices existing at nearby markets close to their farms, but were not informed of prices at other markets.
5. The present level of product quality will reduce the quantities of produce shipped, if export opportunities develop. A large number of products, for example plantains, deteriorate before they arrive at the marketplaces. The conditions under which farm products are transported to the market are manifested in the reduction of fruit quality at the marketplaces.

The market can have a pull effect on the agricultural sector if some of these recommendations are accepted and acted upon.

### **Recommendations**

1. The public service needs to be made aware of the importance of road improvements to the agricultural sector. Roads which link major production areas must be given immediate attention. It has been shown that the returns to feeder road construction in developing economies can more than cover the construction cost. The responses received from the interviews revealed that the roads to secondary markets were worse than those to primary markets. Emphasis should be placed on upgrading the roads to secondary markets.
2. The improvement of the marketplaces and their accessibility should be given due consideration. The lack of public amenities for traders were noted throughout the survey. Facilities which enhance the marketing of products should be of top priority to decision makers. If vendors can travel to and from markets, the demand for products will increase and so would prices and farm income. An increase in farm income will help reduce poverty in the region.

3. The development of a market information system is not expensive and this should be one of the priority considerations. Most farmers said they received their information on prices and products from the marketplace. There is no area designated for information diffusion to farmers. A weekly emission on the radio can inform market participants of prices and quantity and quality of goods supplied and demanded at various markets. This should be an important improvement measure without substantial costs to farmers and government.
4. Product quality demonstration and the effects of increased product quality on farm revenues should be planned by the extension service. The improvement of product quality could be translated into higher prices. If Haitian farmers are to expand the production and sale of crops designed for export markets, the quality must improve.
5. New techniques for food preservation at the farm level should be demonstrated. A feasibility study on cereal processing mill location in close proximity to farming areas with high potentials should be conducted. Farm income can be enhanced if greater value of farm products are attained. The processing of foods at the farm level can substantially increase farmers' returns.
6. Farmers should be advised on the use of new methods of reducing storage losses. Some of the present methods in use by farmers for storing their products, such as the use of toxic chemicals as DDT and organophosphate compounds should be discouraged and improved methods demonstrated to farmers by the extension agents. Farmers own techniques should be studied for their scientific merit, and if proven effective should be extended to other farmers.
7. Farmers should be encouraged to produce new crops with export potentials. Crops such as mangoes, paw paw, sweet potatoes, pigeon peas, cashew and cassava should be evaluated as export revenue generators for northwest farmers. Some of these crops are already being exported overseas.
8. An advertisement program, which encourages Haitians to buy local, especially local preserves, would help boost the sales of processed products. Such advertisements could become part of a farm information system. A farm information system should be considered a priority area for increasing rural development.

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# APPENDIX

## A

Table 1. List of Markets Studied in the Northwest Region, 1991.

Region	P/S	Market	Primary Market Days
I	P	Bombardopolis	Thursday
I	P	Desforges	Tuesday
I	S	Klenet	Wednesday
II	P	Jean Rabel	Wednesday/Saturday
II	P	Mare Rouge	Tuesday
II	P	Lacoma	Tuesday
II	S	Bazen	Wednesday
II	S	Bab Panyol	Tuesday
II	S	Nan Gumbo	Sunday
III	P	Beauchamp	Friday
III	P	Mombin	Wednesday
III	P	Port-de-Paix	Monday to Sunday
III	S	Poste Metye	Thursday
III	S	Passe Catabois	Monday
III	S	Grand Mare	Sunday
IV	P	Bassin Bleu	Saturday/Wednesday
IV	P	Chansol	Tuesday
IV	P	Gros Morne	Monday
IV	S	La Plat	Thursday
IV	S	Dugas	Friday
IV	S	Fondue	Monday
IV	S	Nan Kan	Monday
IV	S	Nan Tante	Tuesday
IV	S	Grivo	Friday
Other	P	Anse Rouge	Monday/Tuesday
Other	P	Gonaives	Monday to Sunday

Table 2. List of Crops Selected for Study, 1991.

Local Names	English Names
Mais	Corn
Pitimi	Millet/Sorghum
Maniok	Cassava
Patat	Sweet Potatoes
Banan	Bananas
Pwa Rouj	Red Beans
Pwa Blanc	White Beans
Pwa Chous	Lima Beans
Pwa Congo	Pigeon Peas
Pistache	Peanuts
Zoranj	Orange
Mango	Mangoes
Zaboca	Avocado
Papaye	Paw Paw
Kokoye	Coconut
Beregen	Egg Plant

**Table 3: The Number and Percentages of Sellers by Region Selling Selected Crops in Study Markets in the Northwest, 1991. <sup>a</sup>**

REGION	CEREALS	TUBERS	VEGETABLES	PULSES	FRUITS	PARSED GOODS	BANANAS	CHICKEN	SMALL LIVESTOCK	EGGS	TOTAL
I 2P	201.00 (22.89)	26.00 (2.96)	21.00 (2.39)	215.00 (24.49)	196.00 (22.32)	42.00 (4.78)	105.00 (4.78)	14.00 (1.59)	48.00 (5.47)	10.00 (1.14)	878
I 1S	18.00 (43.90)	0.00 (0.00)	0.00 (0.00)	5.00 (12.20)	7.00 (17.07)	5.00 (12.20)	6.00 (14.63)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	41
II 3P	357.00 (12.62)	93.00 (3.29)	111.00 (3.92)	519.00 (18.35)	390.00 (13.79)	240.00 (8.48)	282.00 (9.97)	142.00 (5.02)	650.00 (22.98)	45.00 (1.59)	2829
II 3S	79.00 (18.76)	12.00 (2.85)	15.00 (3.56)	124.00 (29.45)	93.00 (22.09)	40.00 (9.50)	47.00 (11.16)	7.00 (1.66)	0.00 (0.00)	4.00 (.95)	421
III 3P	438.00 (15.47)	225.00 (7.94)	172.00 (6.07)	616.00 (21.75)	387.00 (13.67)	180.00 (6.36)	382.00 (13.49)	77.00 (2.72)	339.00 (11.97)	16.00 (.56)	2832
III 3S	68.00 (10.95)	25.00 (4.03)	21.00 (3.38)	148.00 (23.83)	165.00 (26.57)	64.00 (10.31)	103.00 (16.59)	10.00 (1.61)	11.00 (1.77)	6.00 (.97)	621
IV 3P	501.00 (16.06)	336.00 (10.77)	286.00 (9.17)	490.00 (15.71)	442.00 (14.17)	264.00 (8.46)	447.00 (14.33)	160.00 (5.13)	155.00 (4.97)	38.00 (1.22)	3119
IV 6S	472.00 (17.61)	156.00 (5.82)	180.00 (6.72)	497.00 (18.54)	495.00 (18.47)	289.00 (10.78)	304.00 (11.34)	118.00 (4.40)	144.00 (5.37)	25.00 (.93)	2680
O 2P	329.00 (19.08)	146.00 (8.47)	190.00 (11.02)	334.00 (19.37)	312.00 (18.10)	103.00 (5.97)	223.00 (12.94)	20.00 (1.16)	48.00 (2.78)	19.00 (1.10)	1724

<sup>a</sup> The number and letter following the region number in column one indicate number of primary and secondary markets studied.

Table 4. Description of the Marketplaces Studied in the Northwest Region of Haiti, 1991.

REGION	MARKET	LOCATION	BUILDINGS	MARKET ACCESSIBILITY	MARKET DAY
I	2P	Cross Roads Major Roads	Hangars Occupied Houses Church Storage	Non-Paved Road Tracks River	Monday Tuesday
I	1S	Cross Roads Major Roads	---	Non-Paved Road Tracks	Monday Tuesday
II	3P	Cross Roads Major Roads River Plateau	Hangars Occupied Houses Church Storage Public Services Shed	Non-Paved Road Tracks River Mountain	Monday Tuesday Wednesday Thursday
II	3S	Cross Roads Major Roads River	Occupied Houses Church Shed Coq-Fight Ring	Non-Paved Road Tracks Mountain	Monday Tuesday Wednesday
III	3P	Cross Roads Major Roads River Sea	Market Building Hangars Occupied Houses Shed Health Center Storage Mill Store Coq-Fight Ring	Non-Paved Road Tracks Rivers Mountain Sea	Monday Tuesday Wednesday Friday
III	3S	Cross Roads Major Roads	Occupied Houses Church Shed Coq-Fight Ring	Non-Paved Road Tracks Mountain	Monday Tuesday
IV	3P	Cross Roads Major Roads Plateau	Hangars Occupied Houses Church Shed Public Service Store Mill	Non-Paved Road Tracks River	Monday Tuesday Wednesday
IV	6S	Cross Roads Major Roads	Occupied Houses Shed Public Service Church Coq-Fight Ring Health Center School	Non-Paved Road Tracks River	Monday Tuesday Wednesday
O	2P	Cross Roads Major Roads	Market Building Occupied Houses Shed Storage Public Service Mill Store	Non-Paved Road Paved Road Tracks Sea	Monday Tuesday

**Table 5. Cost of Transporting Selected Crops to Primary and Secondary Markets in Northwest Haiti by Four Transport Modes, 1991.**

Product	Primary Market (gourde/kg/hr)	Secondary Market (gourde/kg/hr)
<u>Bus</u>		
Akamil	3.03	0.00
Beans	4.26	6.80
Corn	5.26	0.00
Farine	17.16	11.10
Peanut	4.73	0.00
Plantain	25.66	59.40
Rice	6.70	5.23
Wheat	2.73	10.00
<u>Horse Power</u>		
Beans	45.60	.34
Corn	2.06	1.85
Farine	14.39	.91
Peanut	300.00	0.00
Plantain	101.86	11.88
Rice	4.55	2.73
Oat	6.36	0.00
<u>Animal Power</u>		
Akamil	1.11	0.00
Beans	0.00	11.16
Corn	29.92	11.63
Farine	1.67	3.62
Manioc	60.00	0.00
Peanut	0.00	181.29
Plantain	5.45	2.30
Rice	4.19	3.33
Sirop	0.00	20.25
Sorghum/Millet	0.00	5.86
Wheat	0.00	4.57

Table 5 continued.

Product	Primary Market	Secondary Market
<u>Truck</u>		
Akamil	20.45	0.00
Beans	0.00	42.49
Corn	3.85	21.14
Farine	12.48	4.55
Oat	7.96	0.00
Plantain	286.00	9.90
Rice	12.00	15.11
Sirop	14.18	2.97
Millet/Sorghum	0.00	6.67
Wheat	9.50	0.00
Yam	7.83	0.00

**Table 6. Cost of Transporting Produce to Primary Markets in Four Different Regions in Northwest Haiti, 1991.**

REGION	TRANSPORTATION	COST PER HOUR/KG (Gourde)
IP	Bus	12.78
IIP	Bus	8.49
IIIP	Bus	4.79
IVP	Bus	14.80
OTHER P	Bus	41.05
IIP	Truck	17.54
IIIP	Truck	13.24
IVP	Truck	175.57
OTHER P	Truck	6.40
IIP	Horse Power	4.84
IIIP	Horse Power	8.12
IVP	Horse Power	195.80
OTHER P	Horse Power	195.36
IIP	Animal Power	20.38
IIIP	Animal Power	2.93

**Table 7. Cost of Transporting Selected Crops by Truck to Primary Markets in Four Regions of Northwest Haiti, 1991.**

REGION	TRANSPORTATION	PRODUCT	Gourde/kg
IIP	Truck	Akamil	20.45
IIP	Truck	Beans	32.66
IIP	Truck	Farine	6.82
IIP	Truck	Rice	10.23
IIIP	Truck	Beans	9.32
IIIP	Truck	Farine	15.00
IIIP	Truck	Oat	7.94
IIIP	Truck	Plant	24.75
IIIP	Truck	Rice	21.25
IIIP	Truck	Wheat	9.59
IIIP	Truck	Yam	7.83
IVP	Truck	Beans	18.14
IVP	Truck	Farine	20.20
IVP	Truck	Plant	815.10
IVP	Truck	Rice	10.99
IVP	Truck	Sirop	14.18
IVP	Truck	Wheat	10.61
OTHER P	Truck	Corn	3.84
OTHER P	Truck	Farine	7.90
OTHER P	Truck	Rice	5.53
OTHER P	Truck	Wheat	8.30

**Table 8. Cost of Transporting Produce to Secondary Markets in Four Regions in Northwest Haiti, 1991.**

REGION	TRANSPORTATION	COST PER HOUR/KG (Gourde)
IIS	Truck	42.09
IIIS	Truck	4.08
IVS	Truck	10.54
IIS	Bus	1.03
IIIS	Bus	10.12
IVS	Bus	21.09
IIS	Animal Power	39.11
IIIS	Animal Power	2.93
IVS	Animal Power	3.70
IVS	Horse Power	7.30

**Table 9. Cost of Transporting Selected Crops to Secondary Markets in Four Regions of Northwest Haiti, 1991.**

REGION	TRANSPORTATION	PRODUCT	GOURDE/kg
II S	Truck	Beans	113.40
II S	Truck	Plant	9.90
II S	Truck	Sirop	2.98
III S	Truck	Beans	4.08
IV S	Truck	Beans	9.98
IV S	Truck	Corn	21.14
IV S	Truck	Farine	4.55
IV S	Truck	Rice	10.45
IV S	Truck	Sorghum	6.67

**Table 10. Processed Products, Costs of Processing, Total Revenue, Net Profit, Rate Per Hour and Capital Turnover Ratio of Selected Products Sold in Northwest Haiti, 1991.**

REGION	PRODUCT	COST OF PROCESS	UNIT	TOTAL REVENUE	NET PROFIT	RATE PER HOUR	CAPITAL TURNOVER RATIO
I P	CORN	1.29	KG	57.13	17.04	69.17	1.36
I P	FLOUR	3.40	COOKIE	69.38	43.57	125.26	2.89
I P	PEANUT	6.25	TABLET	43.66	31.16	268.22	3.37
I P	SORGHUM	1.74	KG	74.00	22.06	88.25	1.42
I S	CORN	1.44	KG	28.76	4.82	57.90	1.20
I S	PEANUT	5.00	KG	34.00	25.20	25.20	3.86
I S	SORGHUM	1.74	KG	41.70	9.74	58.42	1.30
II P	COCONUT	0.98	DOUCE	28.76	22.27	158.18	4.83
II P	COCONUT	0.94	TABLET	30.80	-39.42	-39.42	0.44
II P	CORN	1.58	KG	57.72	-6.12	-40523.32	0.93
II P	FLOUR	3.49	MARINA	30.00	19.30	42.15	2.70
II P	FLOUR	3.20	COOKIE	34.47	50.92	18.63	1.33
II P	MANIOC	1.51	CASSAVA	41.66	10.46	1.93	1.79
II P	PEANUT	4.86	KG	38.86	21.26	12.52	2.77
II P	PEANUT	4.17	TABLET	17.00	12.00	27028.99	3.40
II P	SORGHUM	1.74	KG	72.60	-3.30	-116.05	0.83
II S	COCONUT	0.90	DOUCE	25.00	21.43	8.33	7.15
II S	CORN	1.05	KG	152.94	25.78	63.84	1.18
II S	FLOUR	3.60	MARINA	20.00	10.94	5.47	2.21
II S	FLOUR	3.53	COOKIE	39.00	19.63	6012.81	2.06

Table 10 continued.

II S	PEANUT	5.00	TABLET	14.28	8.28	4968.00	2.38
II S	PEANUT	5.41	KG	20.46	13.71	4.87	3.04
II S	SORGHUM	1.45	KG	235.46	124.06	1075.14	4.73
III P	COCONUT	2.92	KG	10.58	3.58	0.89	1.51
III P	COCONUT	1.41	DOUCE	57.00	48.26	24.13	6.52
III P	CORN	1.44	KG	346.82	263.05	1541.46	4.85
III P	FLOUR	3.40	MARINA	37.20	19.62	14.20	2.15
III P	FLOUR	3.40	COOKIE	70.00	46.03	92.06	2.92
III P	MANIOC	1.42	CASSAVA	50.00	29.98	359.74	2.50
III P	PEANUT	5.83	TABLET	40.00	21.44	13.25	2.11
III P	PEANUT	5.66	KG	13.72	-16.86	-2.62	1.36
III P	SORGHUM	1074.00	KG	226.64	26.89	17.93	1.13
III S	COCONUT	1.09	DOUCE	43.06	32.84	16.63	4.58
III S	CORN	1.33	KG	115.86	25.68	131.59	1.30
III S	FLOUR	3.34	COOKIE	52.60	28.72	19.27	2.26
III S	FLOUR	3.40	MARINA	35.00	19.02	67579.67	2.24
III S	PEANUT	4.91	TABLET	31.80	19.91	12.13	2.77
III S	SORGHUM	1.74	KG	140.06	15.21	22.82	1.12
III S	SORGHUM	1.83	DOUCE	43.37	-37.69	-46.44	0.70
IV P	COCONUT	1.04	DOUCE	23.43	18.13	20.66	4.69
IV P	CORN	1.35	KG	183.44	61.03	134.47	4.36
IV P	FLOUR	3.34	COOKIE	59.5	35.77	33.81	2.52
IV P	FLOUR	3.24	MARINA	27.47	10.27	12.87	1.62
IV P	MACHRESTIE	2.91	KG	39.06	25.07	9.43	2.83

Table 10 continued.

IV P	MANIOC	1.26	CASSAVA	156.10	92.84	46.42	4.22
IV P	PEANUT	6.04	TABLET	36.25	18.06	16.48	2.02
IV P	PEANUT	6.67	KG	94.64	38.61	15.44	1.69
IV P	SORGHUM	1.74	KG	130.16	30.25	30.25	1.30
IV P	SUGAR	0.70	KG	1067.09	451.49	29.05	1.76
IV S	COCONUT	0.69	TABLET	19.00	15.73	10.04	6.06
IV S	CORN	1.32	KG	138.98	70.84	752.11	3.08
IV S	FLOUR	3.34	CASSAVA	43.21	21.87	13.81	2.00
IV S	FLOUR	1.62	KG	96.71	51.84	311.07	2.06
IV S	FLOUR	3.29	MARINA	33.10	18.25	62.04	2.49
IV S	MACHISTIE	3.00	KG	111.77	55.16	5269.62	2.03
IV S	MANIOC	1.48	CASSAVA	110.27	77.26	437.33	3.22
IV S	PEANUT	2.03	CASSAVA	50.00	10.01	120.11	1.25
IV S	PEANUT	4.30	KG	30.73	22.41	13.45	3.71
IV S	PEANUT	3.19	MARINA	25.00	10.01	60.04	1.67
IV S	PEANUT	5.18	TABLET	29.44	-24.65	-69.29	2.07
IV S	SORGHUM	1.72	KG	114.09	10.49	37.73	1.11
OP	CORN	1.73	KG	430.50	286.74	573.47	2.99
OP	FLOUR	3.40	MARINA	35.00	18.42	18.42	2.11
OP	FLOUR	3.40	COOKIE	30.00	6.03	3.02	1.25
OP	PEANUT	5.00	TABLET	45.00	27.00	54.00	2.50
OP	SORGHUM	1.74	KG	140.06	40.18	40.18	1.40

Table 11.

Cost and Returns in Gourde for Retailers and Wholesalers Selling Rice, Beans, and Corn in Northwest Haiti, 1991.

ITEM	RETAILER				WHOLESALER			
	Region I	Region II	Region III	Region IV	Region I	Region II	Region III	Region IV
<b>RICE</b>								
Quantity Sold	151.50	136.35	113.62	45.68	409.05	1113.52	372.77	454.50
Selling Price	5.13	5.28	5.20	5.64	5.50	4.76	5.36	5.64
Sales Value	777.20	719.93	590.82	257.64	2249.78	5300.36	1998.05	2563.38
Quantity Bought	151.50	136.35	113.62	45.68	409.05	1113.52	372.77	454.50
Buying Price	4.84	4.95	4.83	4.88	5.06	4.56	4.81	5.50
Purchasing Value	733.26	674.93	548.78	222.92	2069.79	5077.65	1804.21	2499.75
Stock Value	0.00	0.00	13.86	0.00	0.00	130.87	146.65	0.00
Total Cost	733.26	674.93	562.65	222.92	2069.79	5208.52	1950.86	2499.75
Gross Margin/kg	0.29	0.33	0.25	0.76	0.44	0.08	0.13	0.14
Margin Percentage	5.99	6.67	5.13	15.57	8.70	1.81	2.62	2.55
Quantity Spoiled								
Quantity Thrown Away								
Quantity Remaining			2.87			28.70	30.30	
<b>BEAN</b>								
Quantity Sold	173.64	36.38	59.71	102.24	1909.00	1312.37	181.80	284.61
Selling Price	6.22	6.10	6.75	5.75	6.71	4.85	8.03	5.46
Sales Value	1080.04	221.92	403.04	587.88	12809.39	6364.99	1459.85	1553.97
Quantity Bought	173.64	36.38	59.71	102.24	1909.00	1312.37	181.80	284.61
Buying Price	5.66	5.40	5.74	5.31	5.46	3.99	7.70	4.79
Purchasing Value	982.80	196.45	342.74	542.89	10423.14	5236.36	1399.86	1363.28
Stock Value	270.72	0.00	0.00	3.82	0.00	0.00	0.00	412.42
Total Cost	1253.52	196.45	342.74	546.72	10423.14	5236.36	1399.86	1775.70
Gross Margin/kg	-1.00	0.70	1.01	0.40	1.25	0.86	0.33	-0.78
Margin Percentage	-17.65	12.96	17.60	7.58	22.89	21.55	4.29	-16.26
Quantity Spoiled	3.83							
Quantity Thrown Away	3.83							
Gross Margin/kg	-0.36	0.34	0.23	0.32	0.44	0.24	0.24	0.44
Margin Percentage	-10.60	10.49	6.92	9.70	13.33	9.30	7.54	13.33
Quantity Spoiled	30.30							
Quantity Thrown Away	30.30							
Quantity Remaining	75.75		2.16				15.15	
<b>CORN</b>								
Quantity Sold	346.25	332.40	41.55	145.90	671.95	2181.38	221.60	290.85
Selling Price	1.98	2.08	1.81	1.69	2.76	1.85	2.17	1.99
Sales Value	685.58	691.39	75.21	246.75	1854.58	4035.55	480.87	578.79
Quantity Bought	346.25	332.40	41.55	145.90	671.85	2181.38	221.60	290.85
Buying Price		1.44	1.53	1.12	1.99	1.41		1.44
Purchasing Value	0.00	478.66	63.57	163.41	1337.18	3075.75	0.00	418.82
Stock Value	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Cost	0.00	478.66	63.57	163.41	1337.18	3075.75	0.00	418.82
Gross Margin/kg	1.98	0.64	0.28	0.57	0.77	0.44	2.17	0.55
Margin Percentage	ERR	44.44	18.30	50.89	38.69	31.21	ERR	38.19
Quantity Spoiled								
Quantity Thrown Away								
Quantity Remaining	13.85							

**Table 12. Average Market Prices in Gourdes and Ranges for Selected Crops Sold in Markets in the Four Study Regions During the Six Cycles.**

Crop	Cycle	Region 1	Region 2	Region 3	Region 4	Range
<u>Com</u>	1	3.61	3.04	2.82	2.61	0.79
	2	1.74	1.99	2.19	2.27	0.53
	3	2.11	1.80	2.06	2.30	0.31
	4	2.53	2.21	2.81	2.74	0.60
	5	2.89	2.93	4.06	3.09	1.17
	6	2.71	2.14	1.78	1.95	0.93
	Range		1.87	1.24	2.24	1.14
<u>Sorghum</u>	1	3.25	3.18	3.08	2.94	0.31
	2	3.25	2.56	1.78	1.92	1.47
	3	2.37	1.72	1.72	1.57	0.80
	4	2.15	2.71	2.31	2.35	0.56
	5	3.31	2.88	2.44	2.76	0.87
	6	3.14	2.75	2.66	2.84	0.48
	Range		1.16	1.46	1.36	1.37
<u>Rice</u>	1	---	---	---	---	---
	2	5.46	4.60	3.88	4.39	1.58
	3	4.67	4.01	3.83	3.60	1.07
	4	4.73	5.40	4.85	4.92	0.67
	5	6.27	5.44	4.88	4.94	1.39
	6	5.11	4.79	4.43	4.65	0.68
	Range		1.6	1.43	1.05	1.34
<u>Cassava</u>	1	0.51	0.51	0.51	0.60	0.09
	2	0.42	0.46	0.51	0.45	0.09
	3	0.51	0.36	0.46	0.41	0.15
	4	0.51	0.44	0.51	0.40	0.09
	5	0.51	0.38	0.38	0.40	0.13
	6	0.38	0.38	0.51	0.46	0.13
	Range		0.13	0.15	0.13	0.20
<u>Sweet Potatoes</u>	1	0.45	0.60	0.95	0.65	0.50
	2	0.46	0.57	0.57	0.61	0.15
	3	0.46	0.46	0.56	0.50	0.10
	4	0.46	0.46	0.56	0.57	0.11
	5	0.92	0.69	0.46	0.50	0.46
	6	0.46	0.80	0.75	0.66	0.34
	Range		0.47	0.34	0.49	0.16

Table 12 continued.

Crop	Cycle	Region 1	Region 2	Region 3	Region 4	Range
<u>Red Beans</u>	1	9.18	8.74	8.66	8.99	0.52
	2	9.99	7.32	6.97	7.56	3.02
	3	11.85	7.84	8.01	7.67	4.18
	4	10.10	9.98	9.12	10.00	0.98
	5	9.65	9.23	8.71	7.49	2.16
	6	7.08	6.13	6.74	7.02	0.95
	Range		4.77	3.85	2.38	2.98
<u>White Beans</u>	1	5.06	6.77	7.22	7.87	2.81
	2	5.69	5.69	5.82	6.55	0.96
	3	6.04	6.74	6.91	6.74	0.87
	4	7.08	8.28	7.69	8.40	1.24
	5	6.62	7.90	8.36	6.35	2.01
	6	5.52	5.63	6.40	5.81	0.88
	Range		2.02	2.59	2.54	2.59
<u>Lima Beans</u>	1	2.87	3.48	4.18	3.25	1.31
	2	4.01	3.14	4.01	3.91	0.87
	3	3.72	2.86	4.76	2.96	1.90
	4	3.48	4.79	4.70	5.18	1.70
	5	5.23	5.92	4.70	4.67	1.22
	6	3.48	3.84	3.95	4.00	0.52
	Range		2.36	3.06	0.81	1.93
<u>Pigeon Peas</u>	1	3.48	3.69	3.63	3.76	0.28
	2	3.08	3.25	3.12	3.25	0.17
	3	2.74	3.06	2.76	2.30	0.76
	4	2.95	3.67	3.28	3.04	0.72
	5	3.83	3.92	3.59	3.66	0.33
	6	3.93	3.77	3.74	3.66	0.27
	Range		1.19	0.86	0.98	1.46
<u>Peanuts</u>	1	3.75	5.00	5.18	5.00	1.43
	2	5.97	5.42	5.50	5.47	0.55
	3	5.69	5.42	5.36	5.60	0.27
	4	5.83	5.94	6.01	6.25	0.42
	5	6.67	6.25	6.67	6.65	0.42
	6	7.08	6.46	5.83	6.58	1.25
	Range		3.33	1.46	1.49	1.58

# APPENDIX

## B

Figure 1. Average Price (in gds) for Corn by Region, 1990 - 1991.

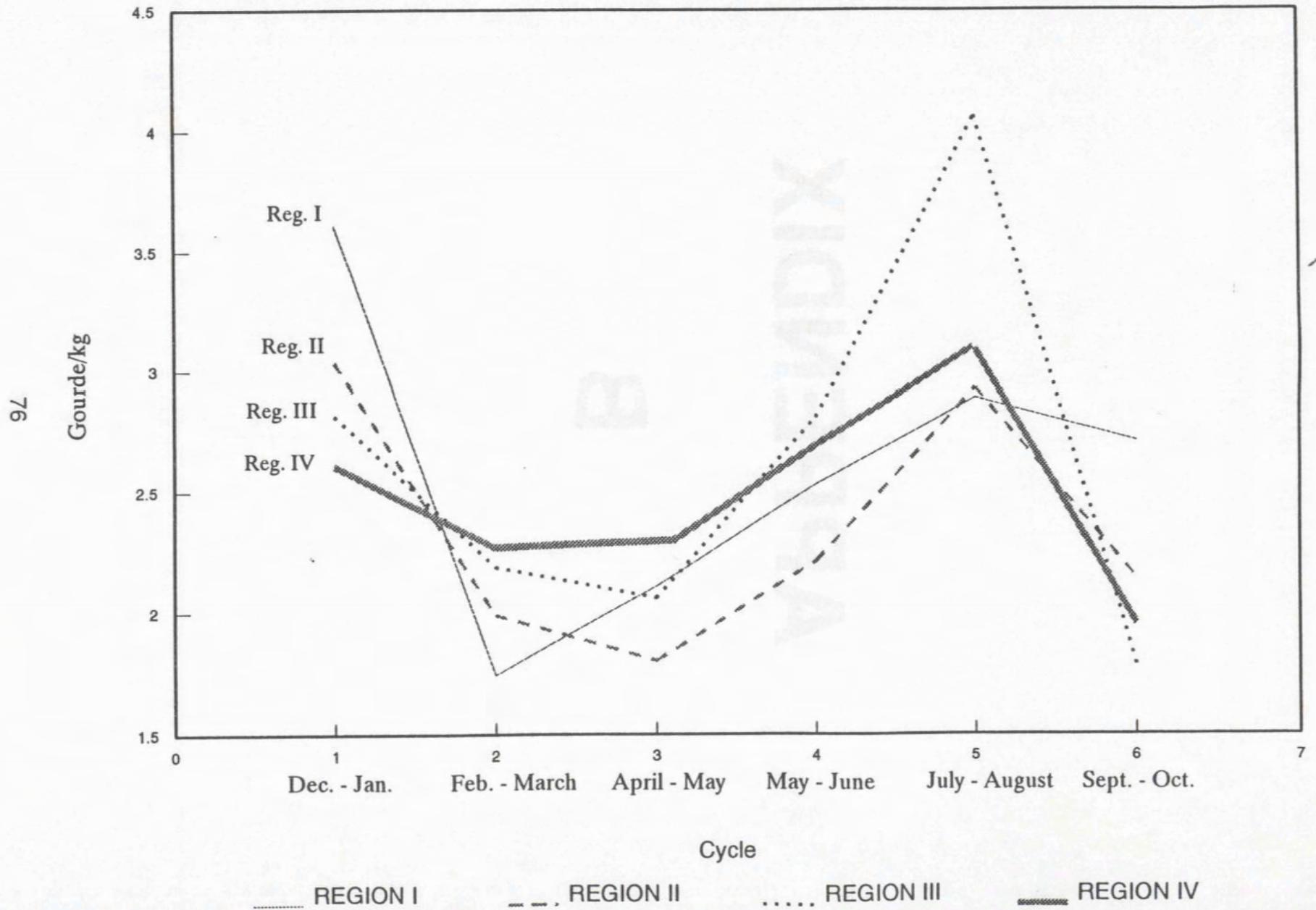


Figure 2. Average Price (in gds) for Corn Meal by Region, 1990 - 1991.

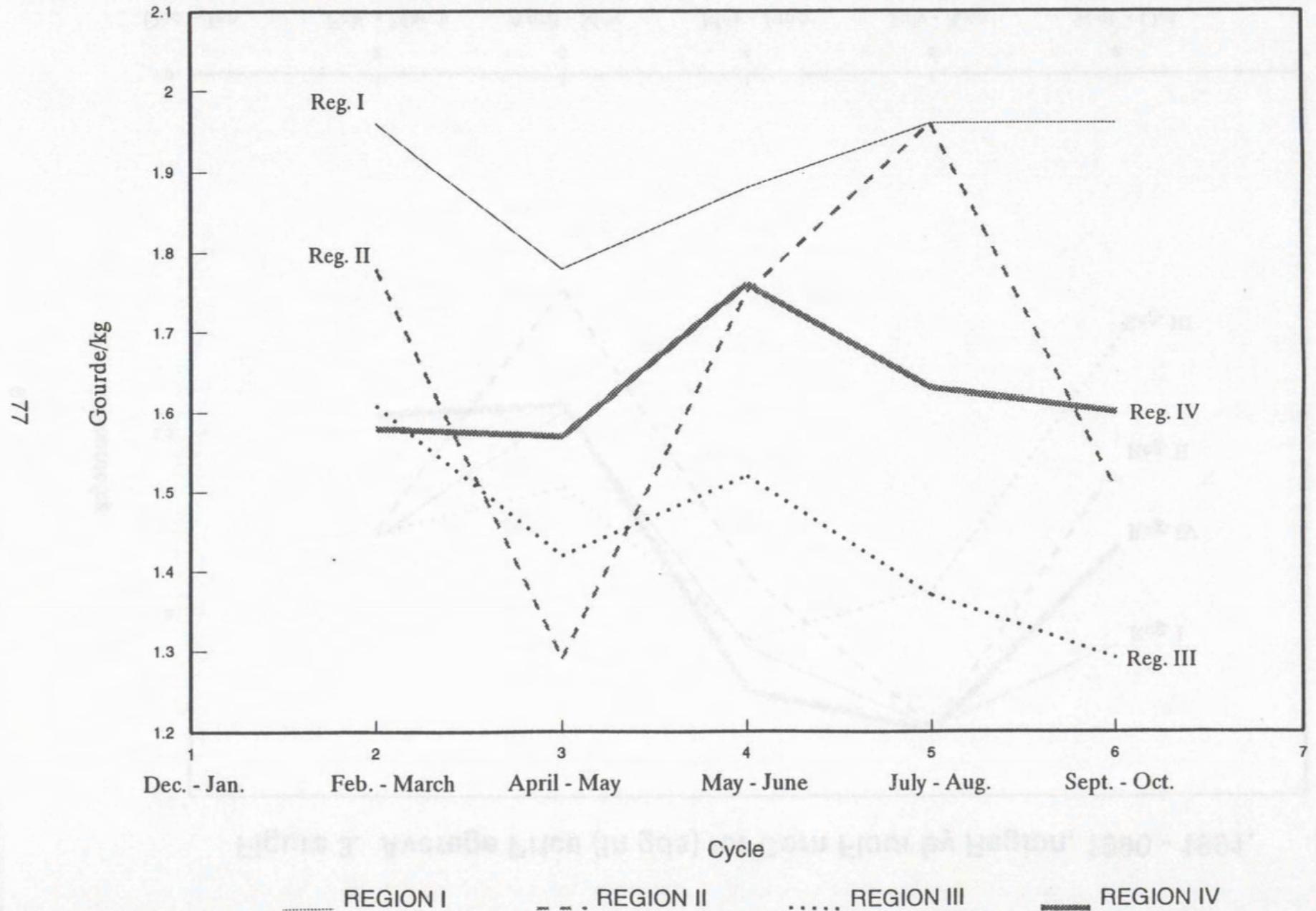


Figure 3. Average Price (in gds) for Corn Flour by Region, 1990 - 1991.

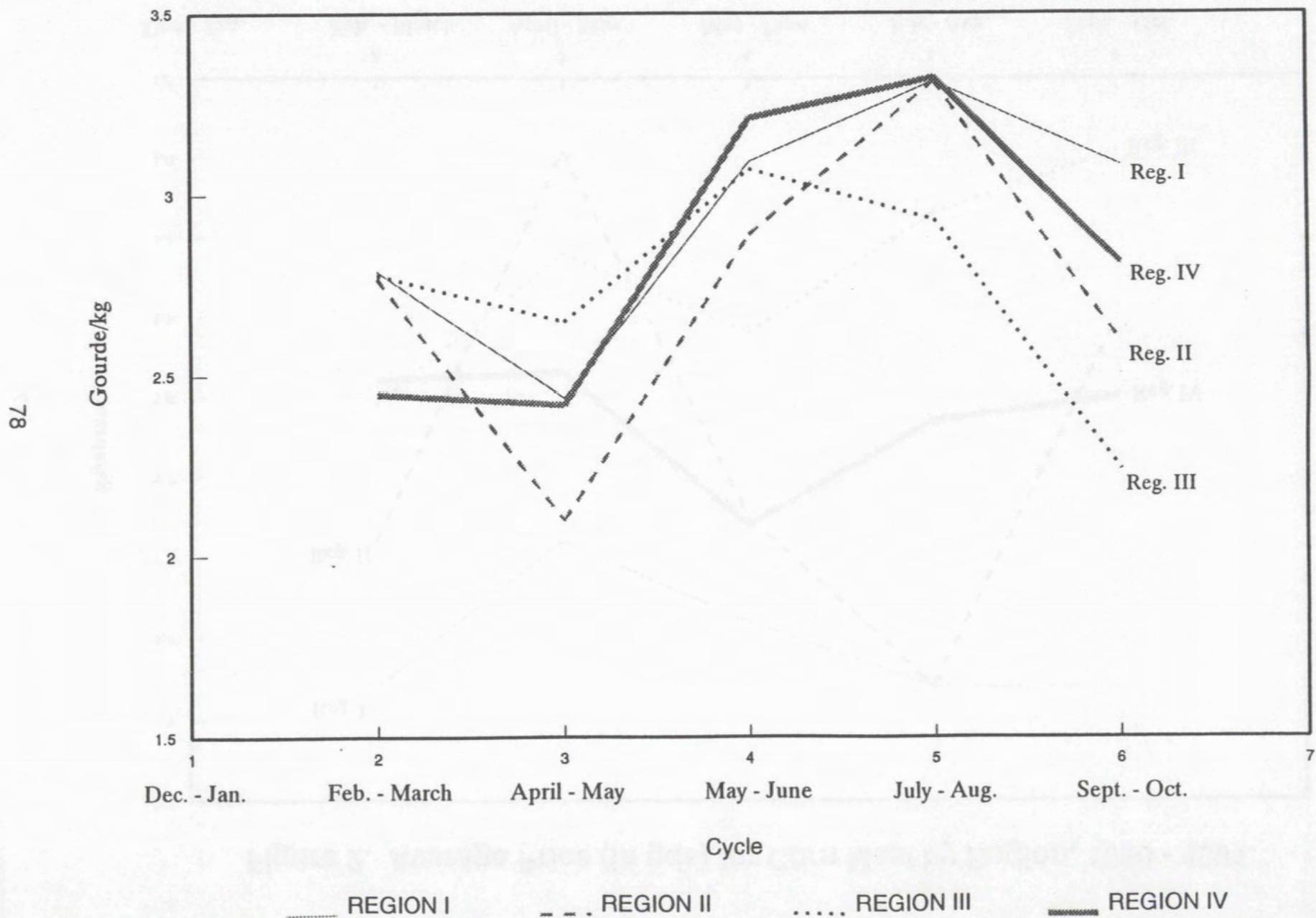


Figure 4. Average Price (in gds) for Millet by Region, 1990 - 1991.

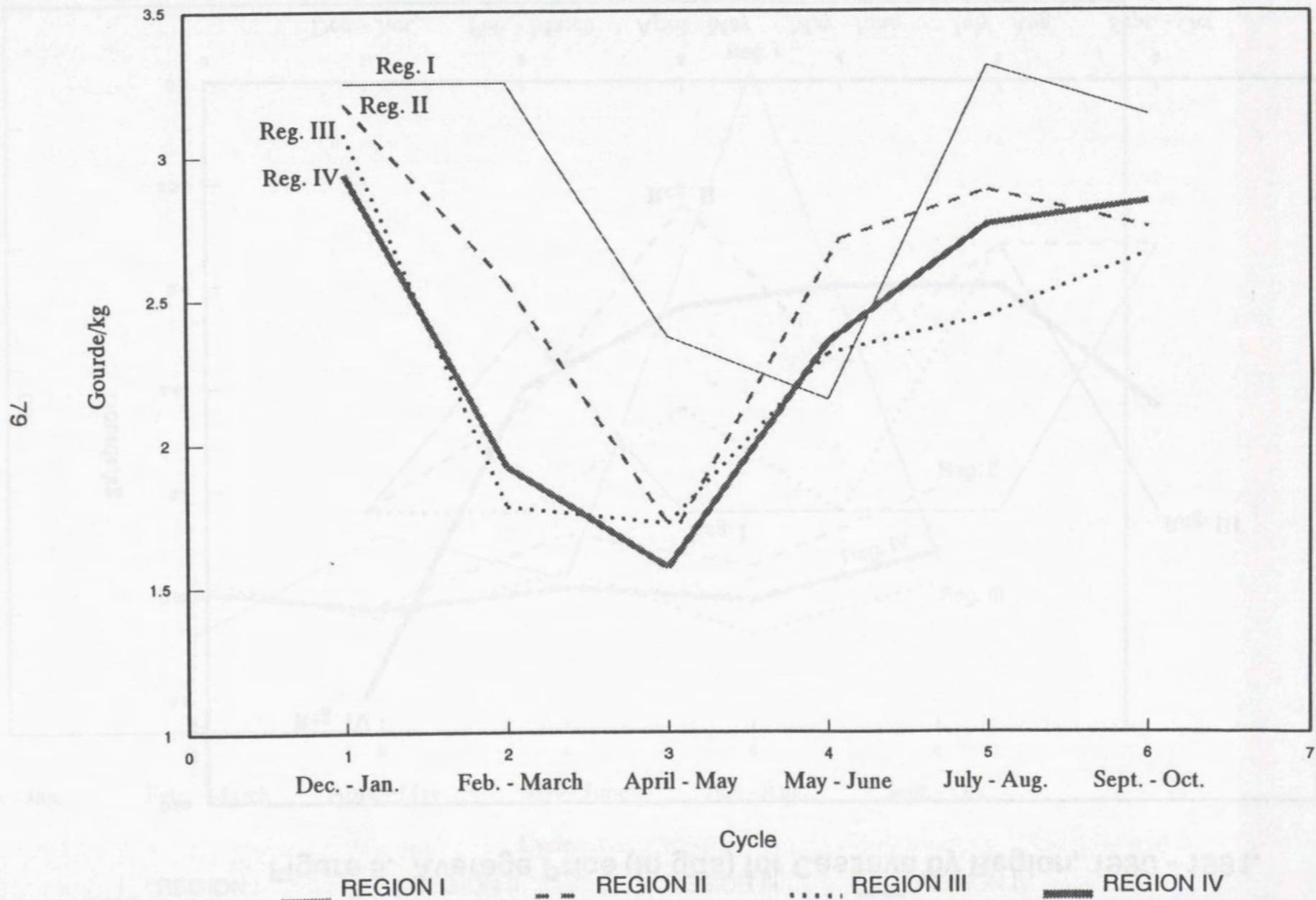


Figure 5. Average Price (in gds) for Cassava by Region, 1990 - 1991.

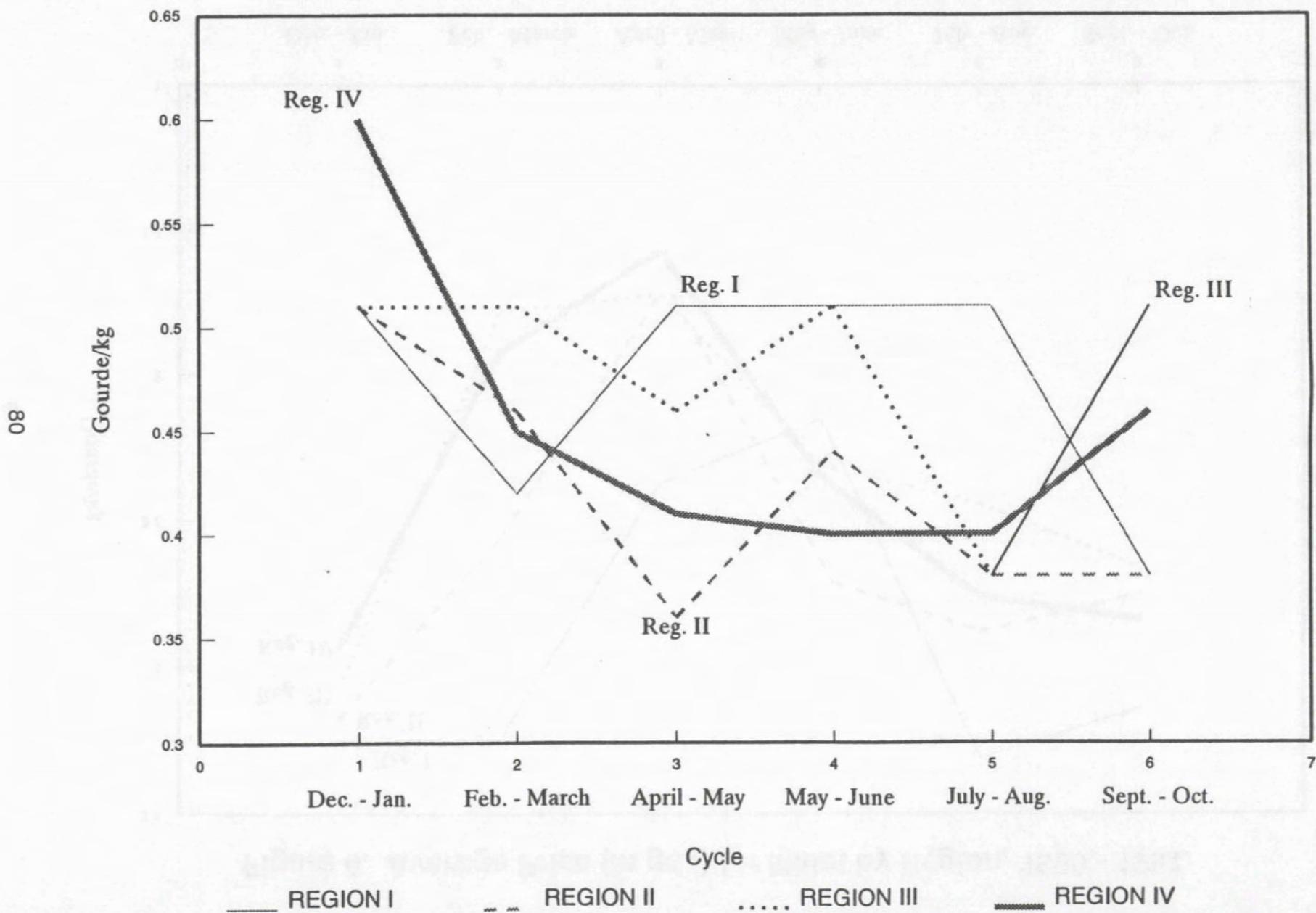


Figure 6. Average Price (in gds) for Cassava Farine by Region, 1990 - 1991.

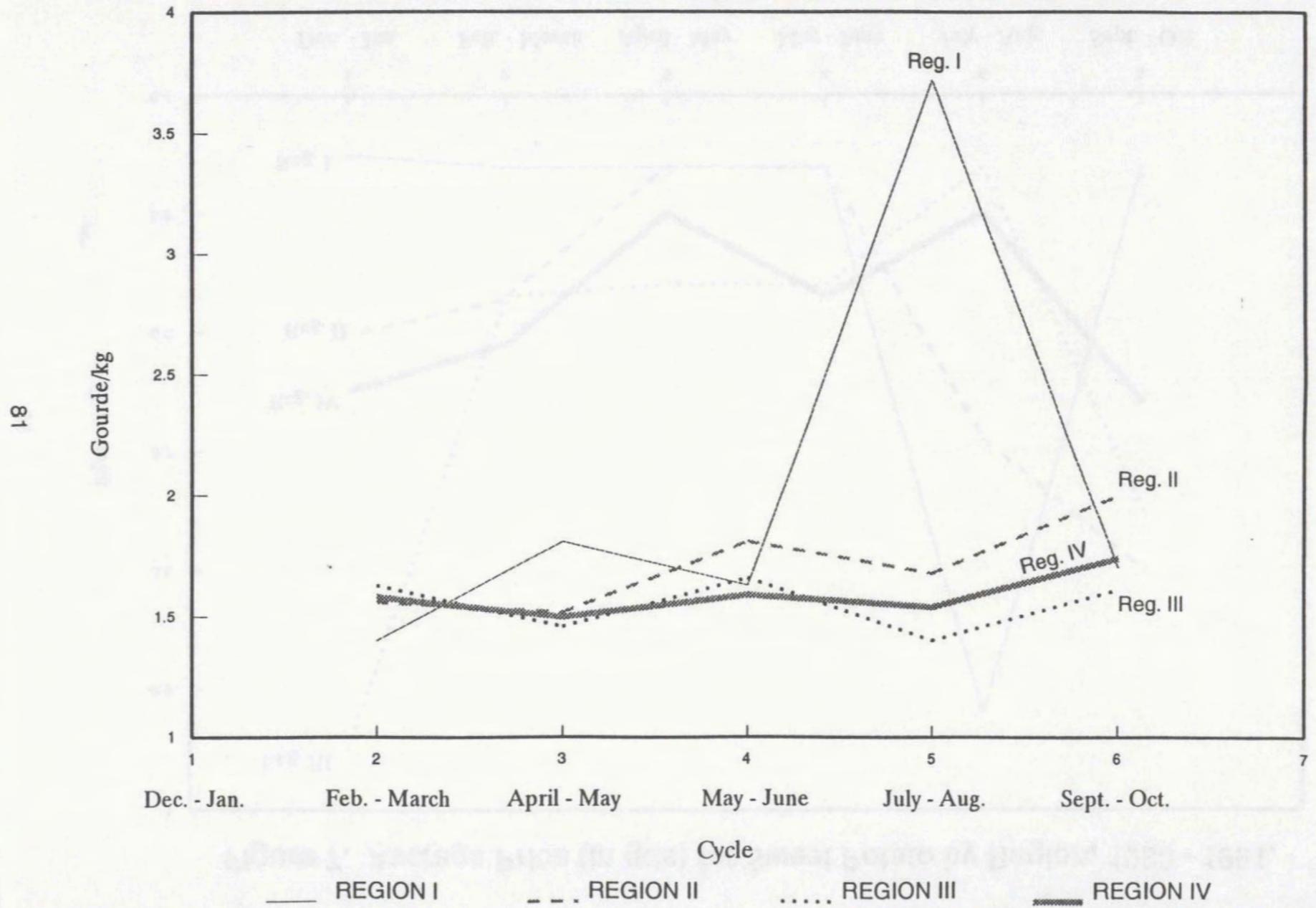


Figure 7. Average Price (in gds) for Sweet Potato by Region, 1990 - 1991.

82

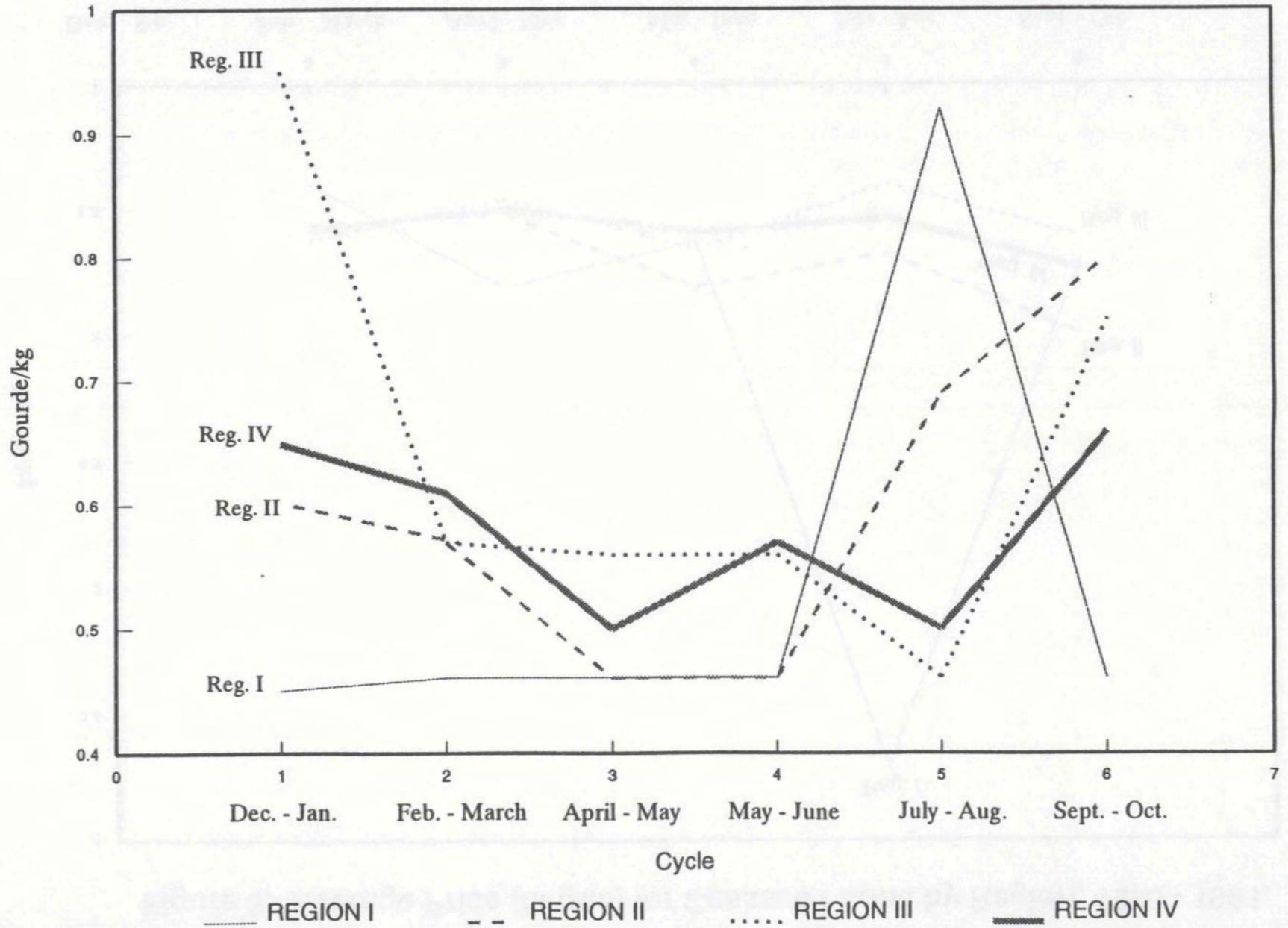


Figure 8. Average Price (in gds) for Rice by Region, 1990 - 1991.

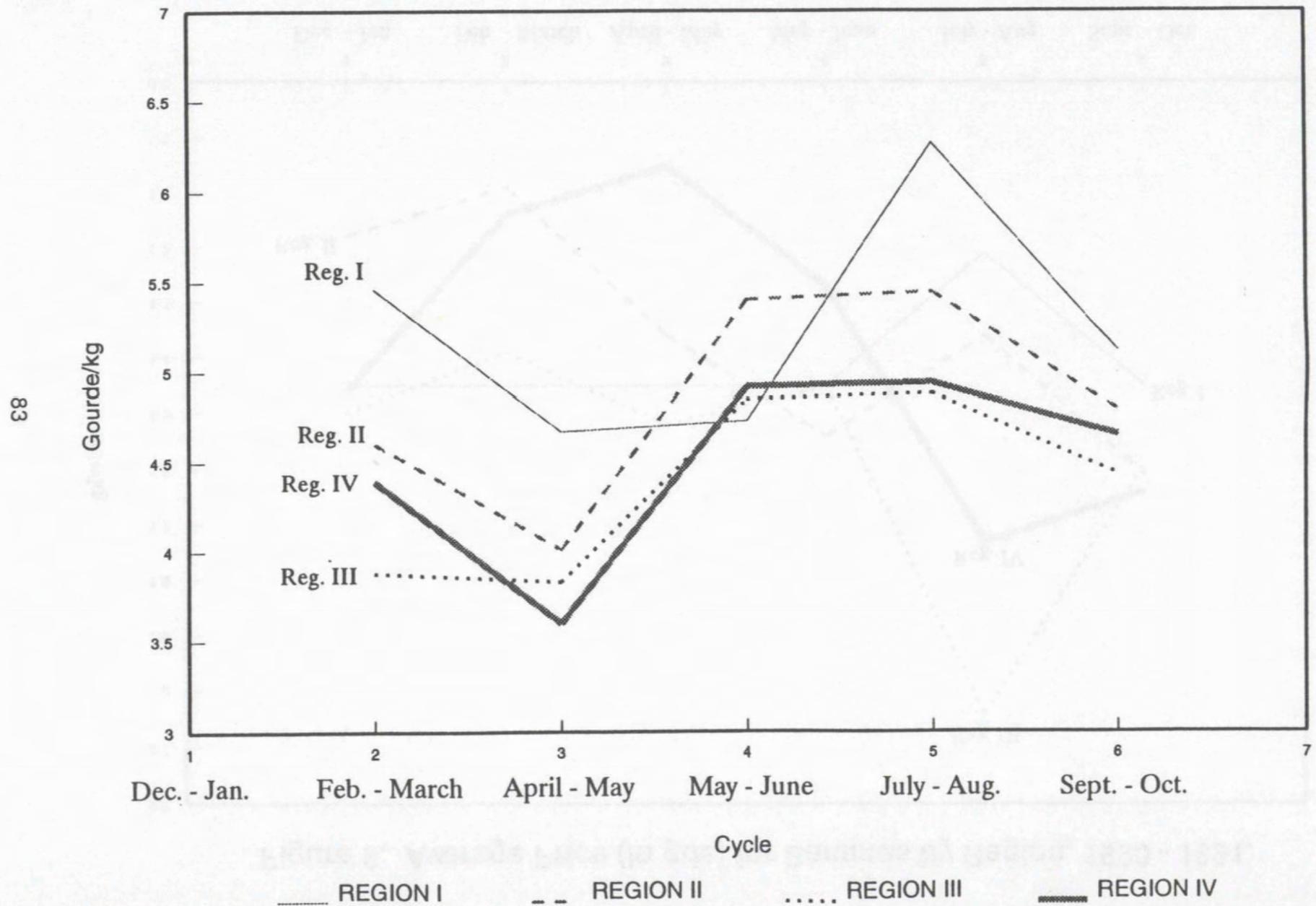


Figure 9. Average Price (in gds) for Bananas by Region, 1990 - 1991.

84

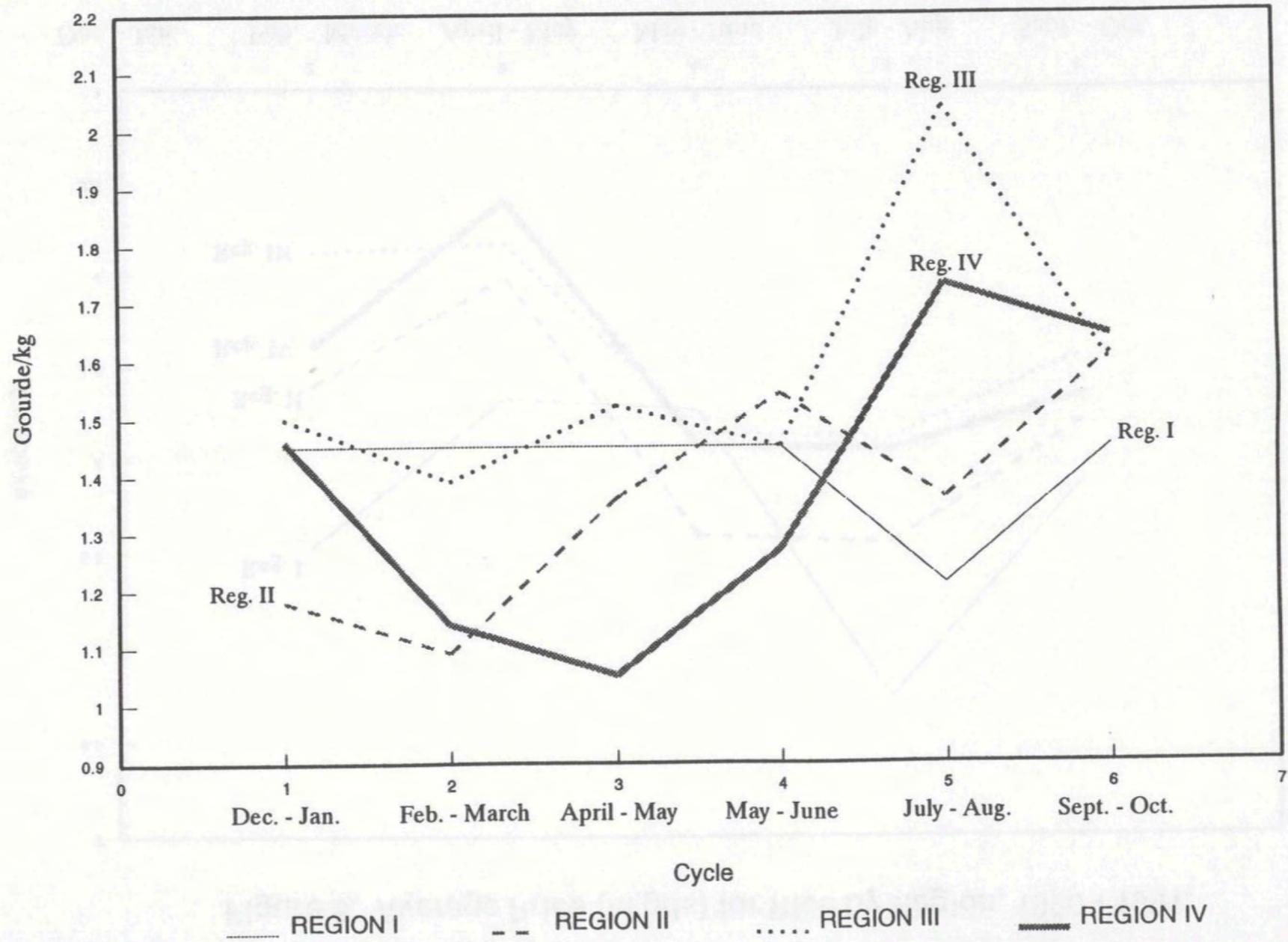


Figure 10. Average Price (in gds) for Eggplant by Region, 1990 - 1991.

85

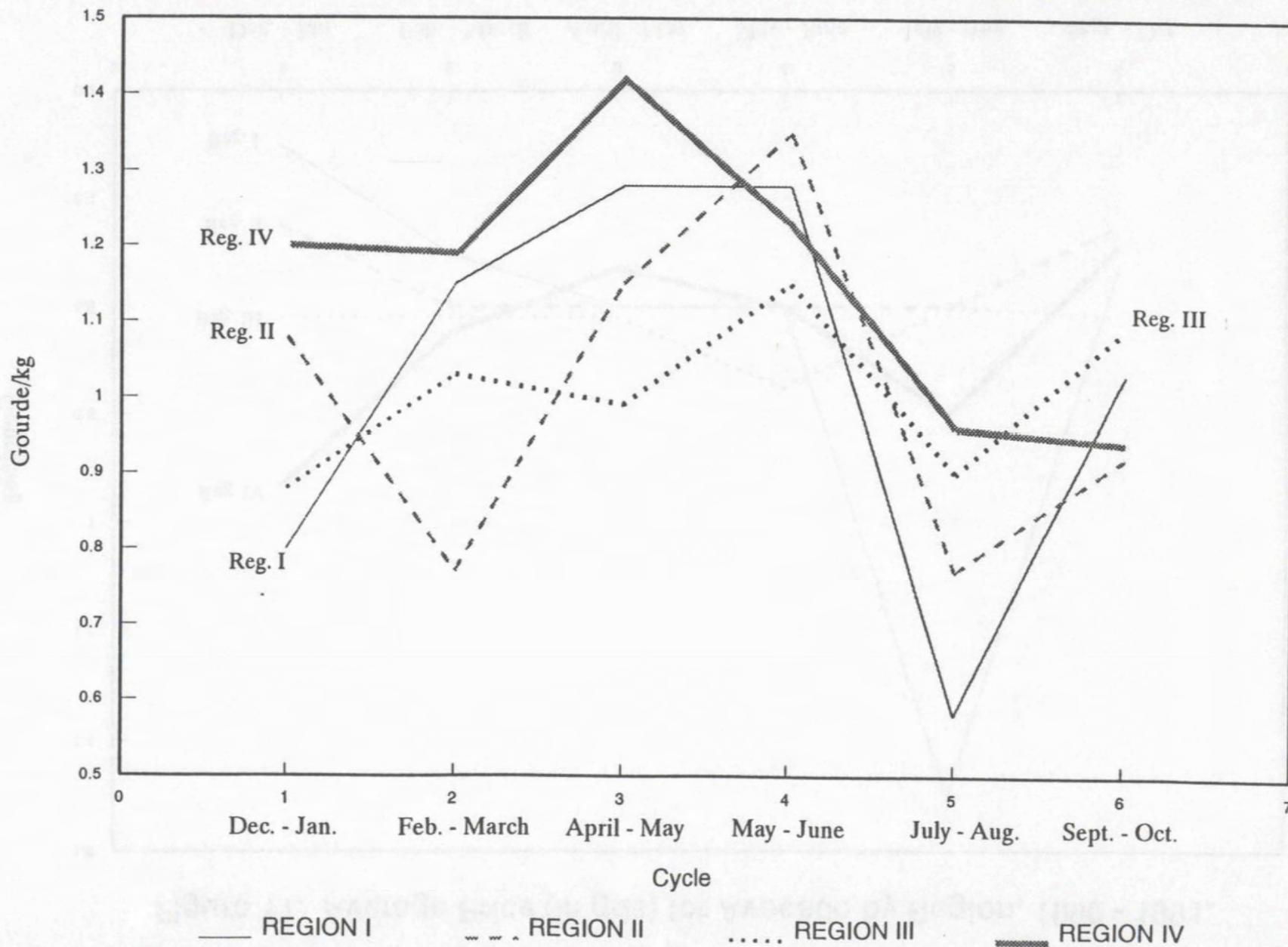


Figure 11. Average Price (in gds) for Avocado by Region, 1990 - 1991.

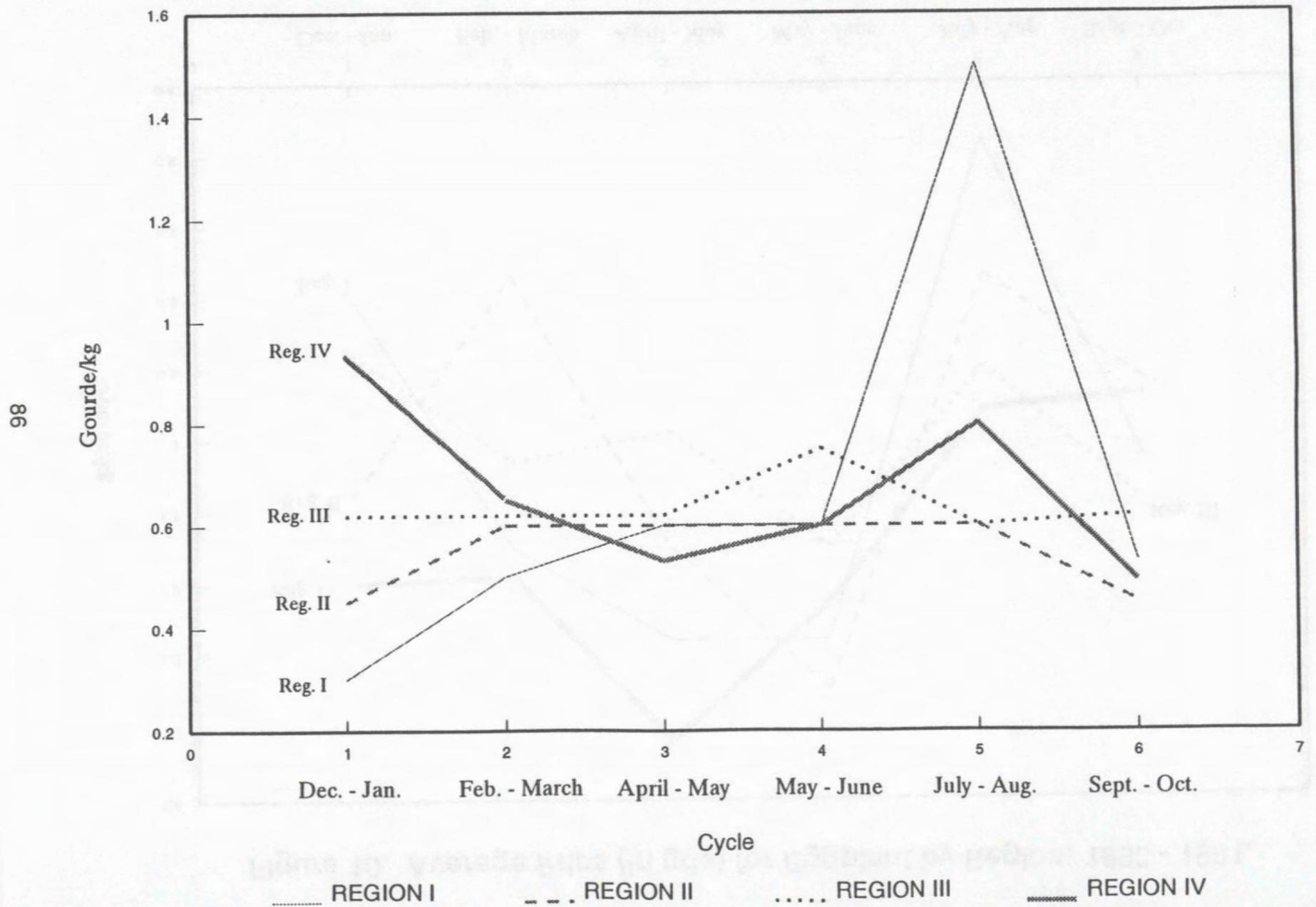


Figure 12. Average Price (in gds) for Peanuts by Region, 1990 - 1991.

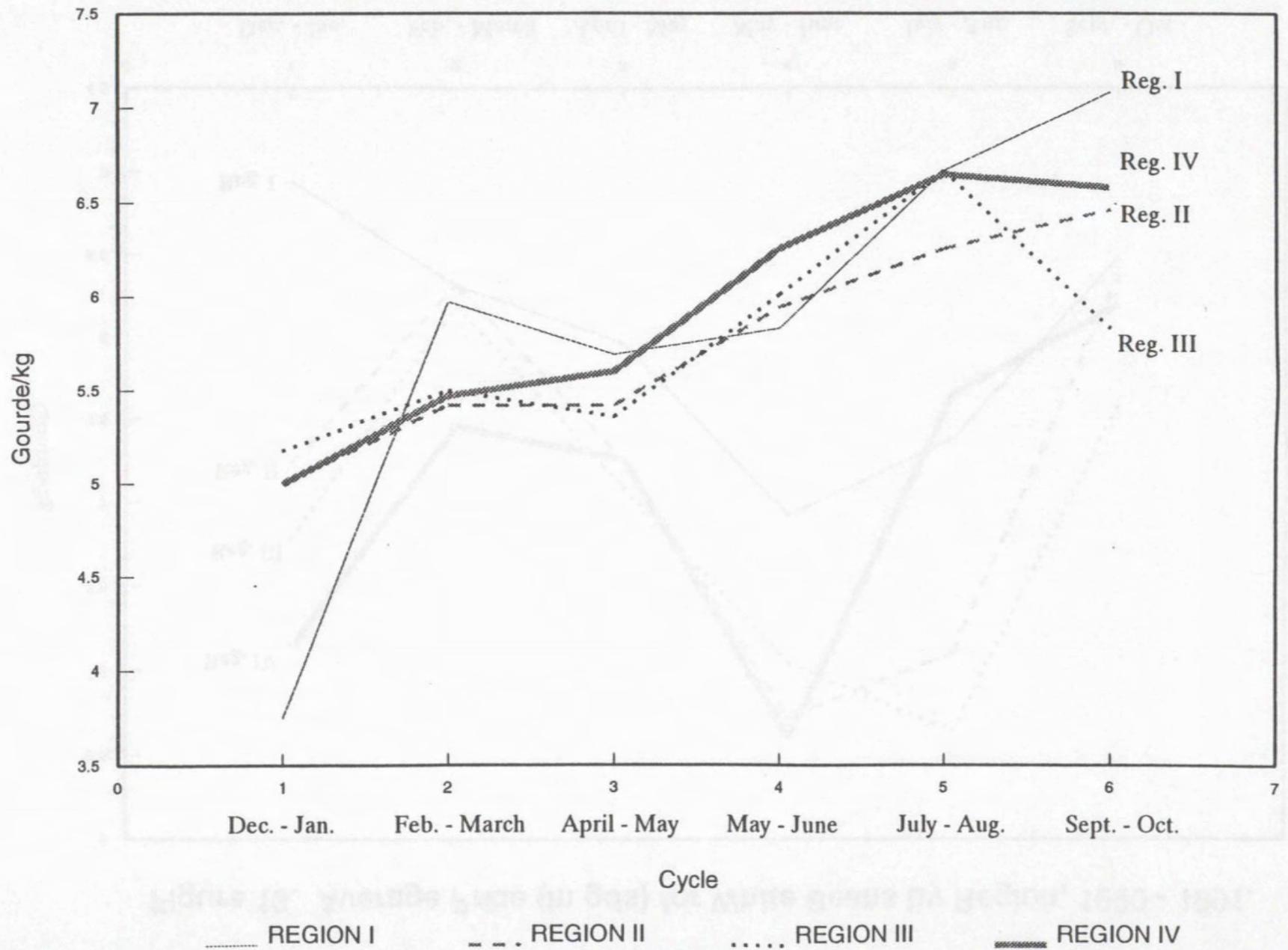


Figure 13. Average Price (in gds) for White Beans by Region, 1990 - 1991.

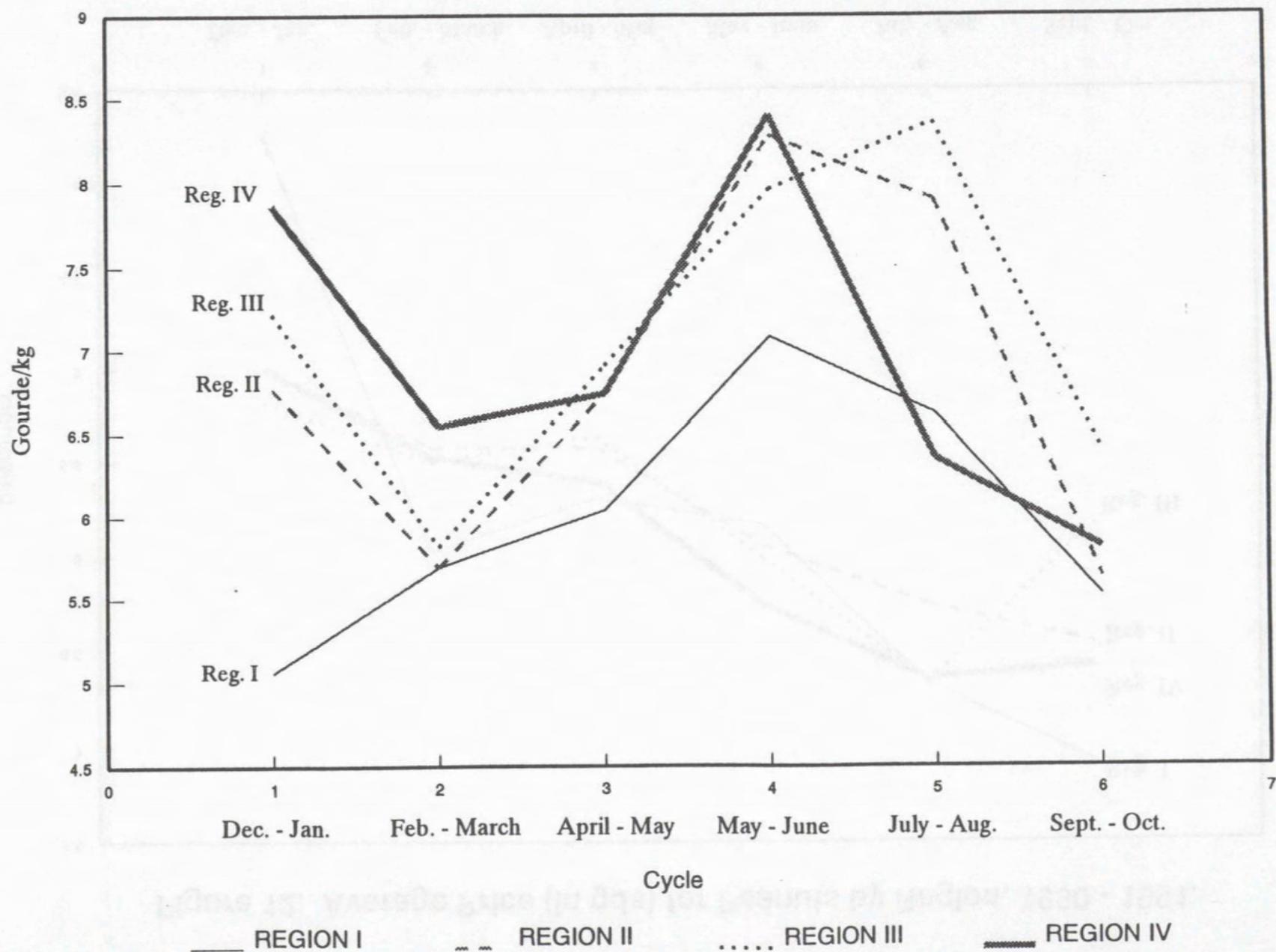


Figure 14. Average Price (in gds) for Pigeon Peas by Region, 1990 - 1991.

68

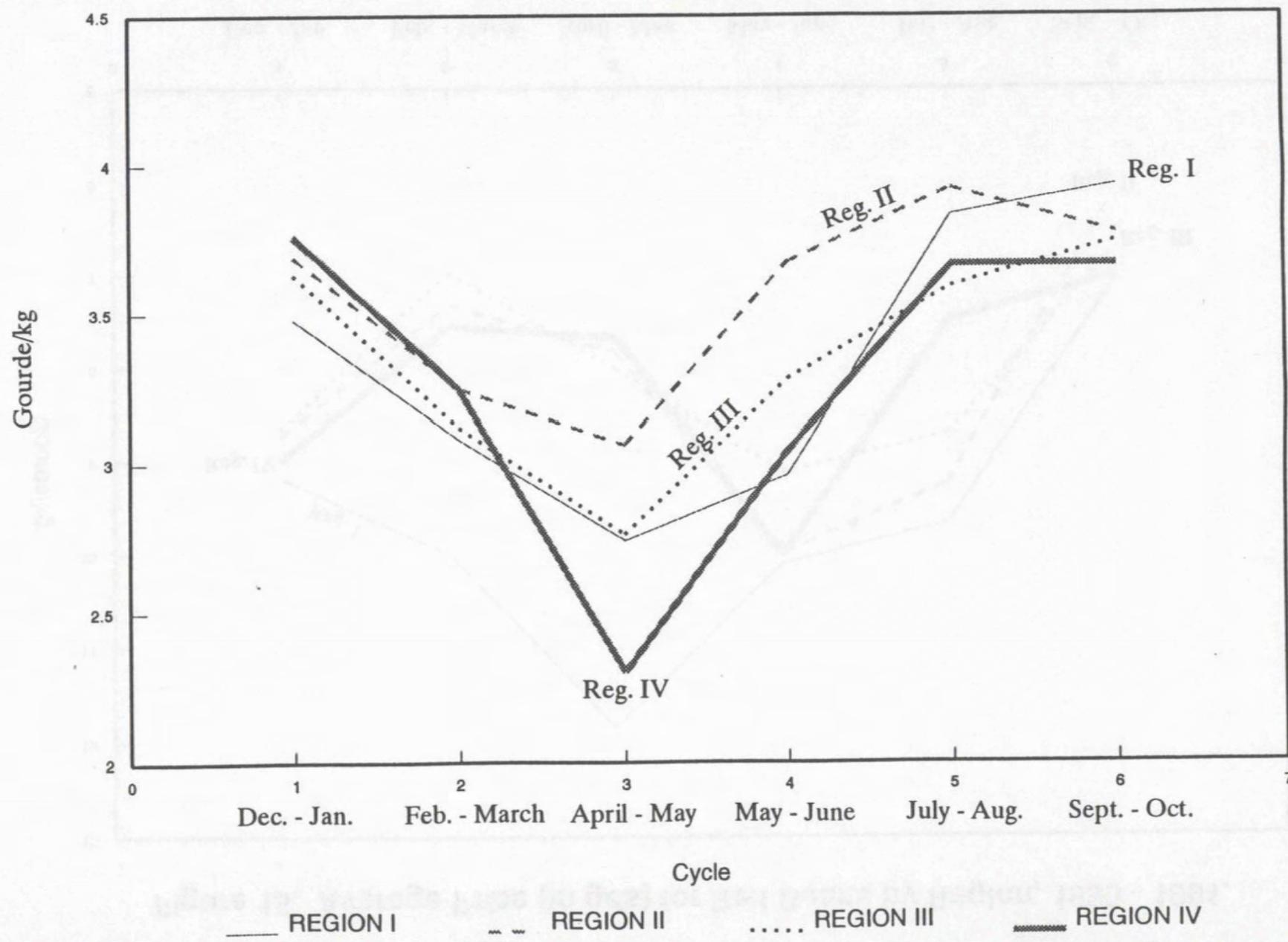


Figure 15. Average Price (in gds) for Red Beans by Region, 1990 - 1991.

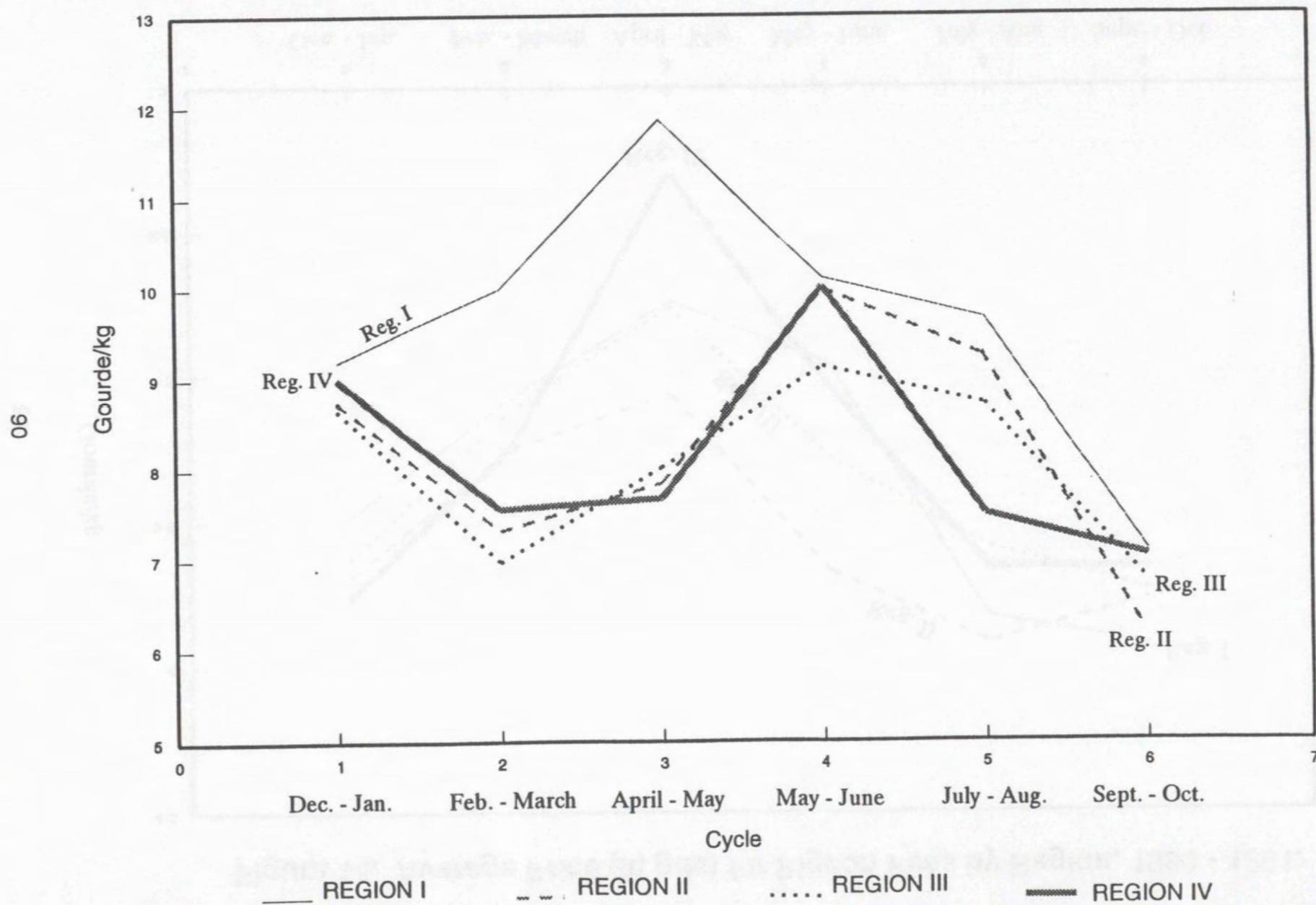


Figure 16. Average Price (in gds) for Lima Beans by Region, 1990 - 1991.

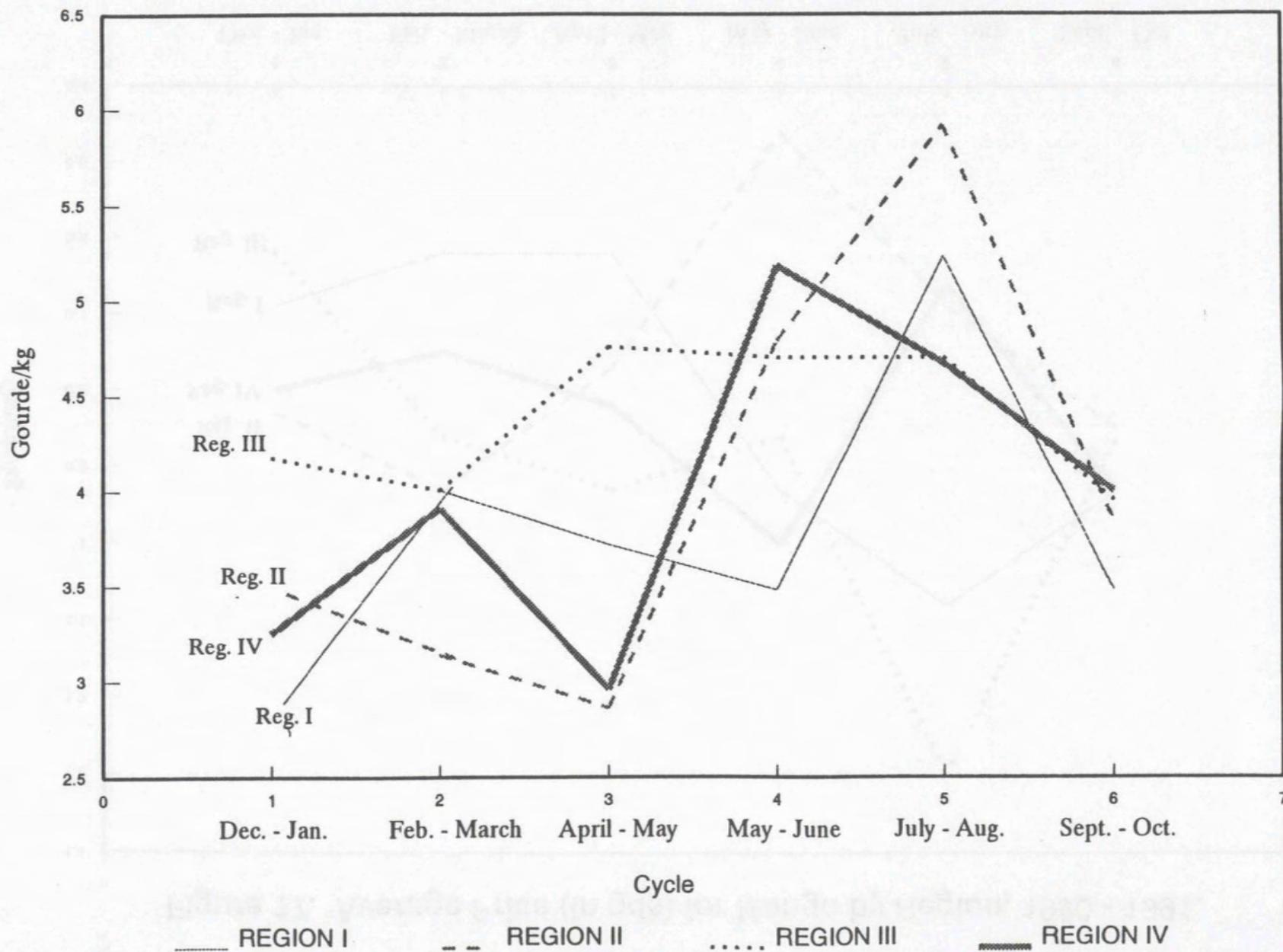


Figure 17. Average Price (in gds) for Mango by Region, 1990 - 1991.

92

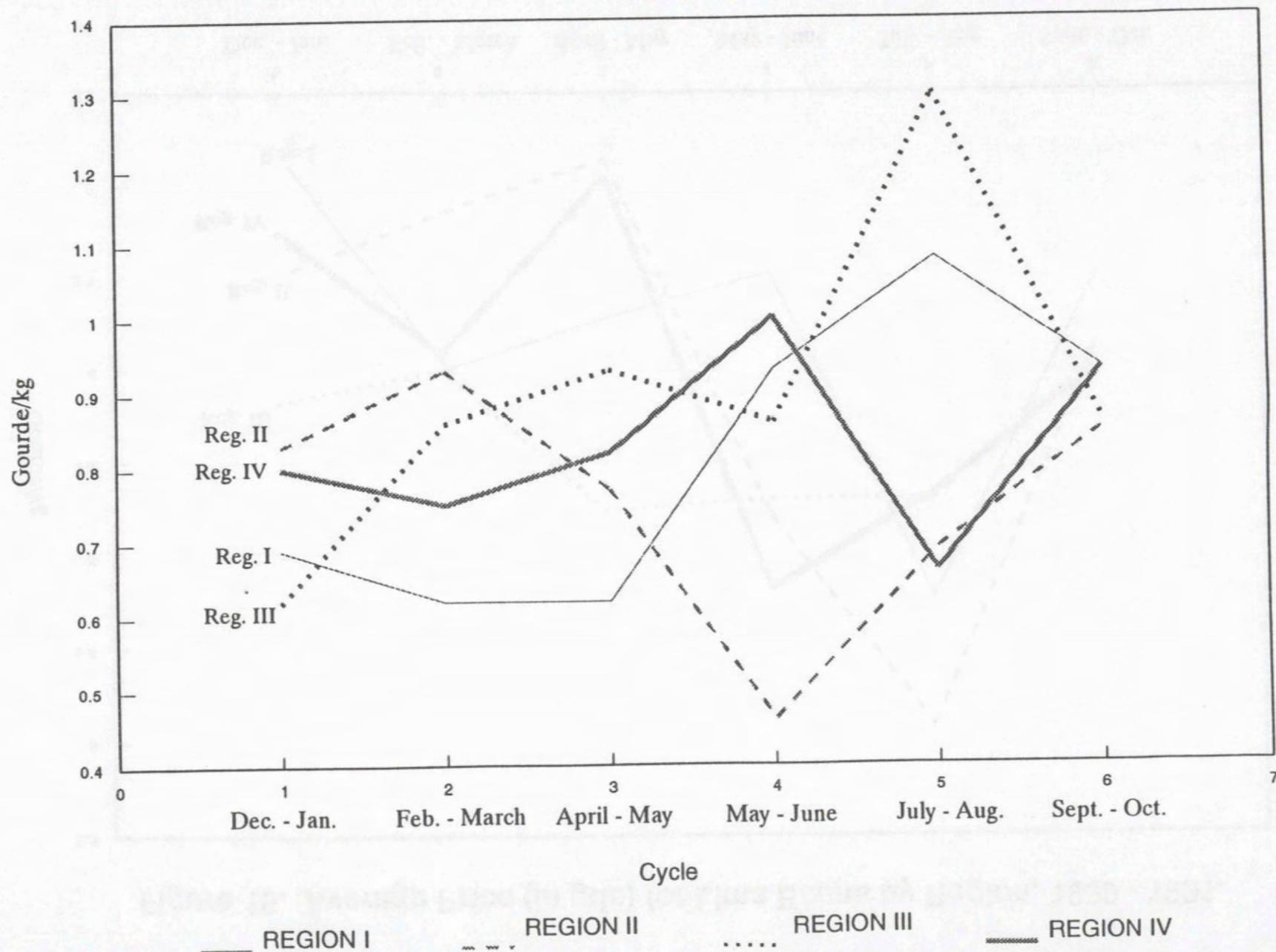


Figure 18. Average Price (in gds) for Orange by Region, 1990 - 1991.

93

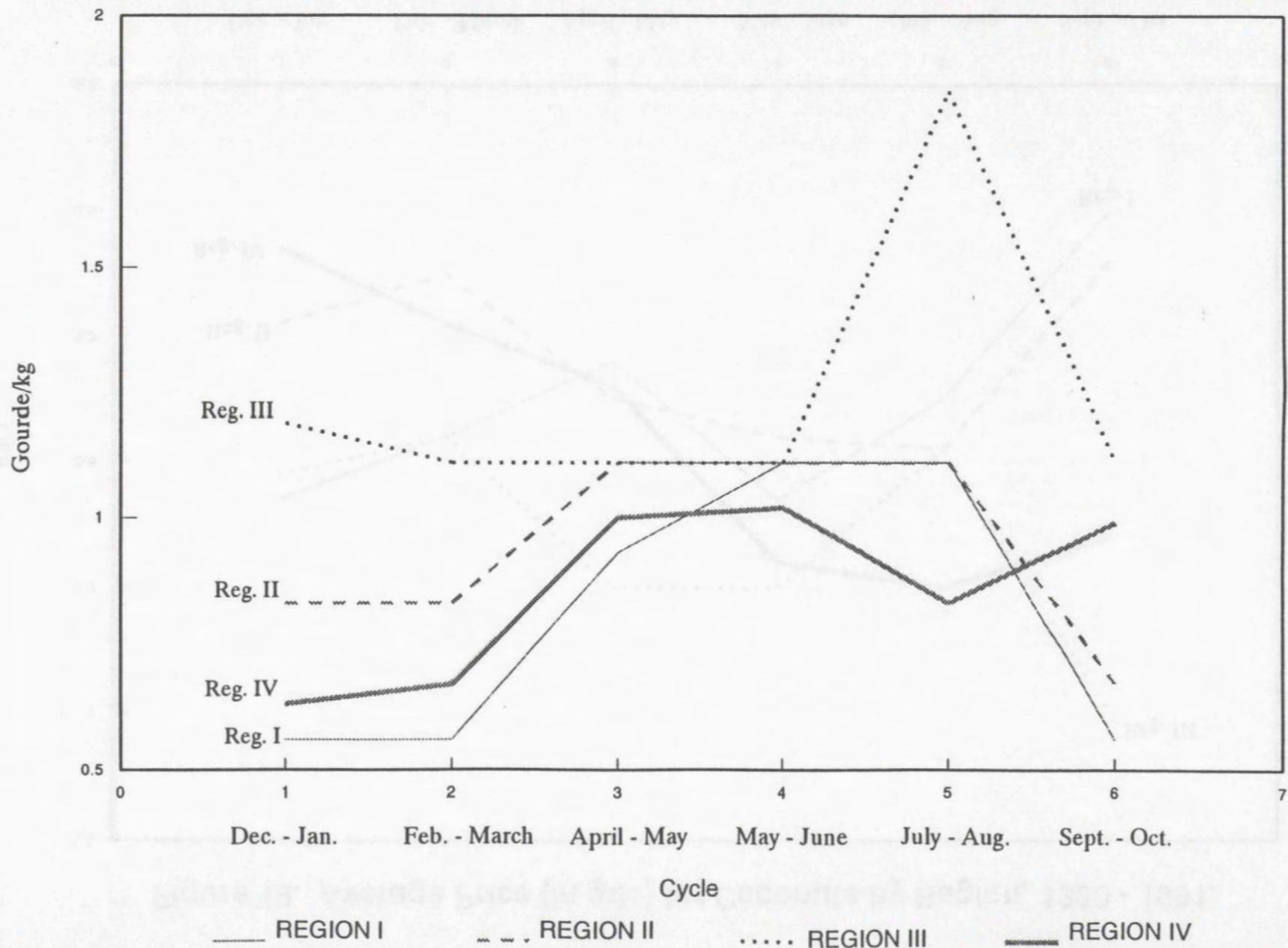


Figure 19. Average Price (in gds) for Coconuts by Region, 1990 - 1991.

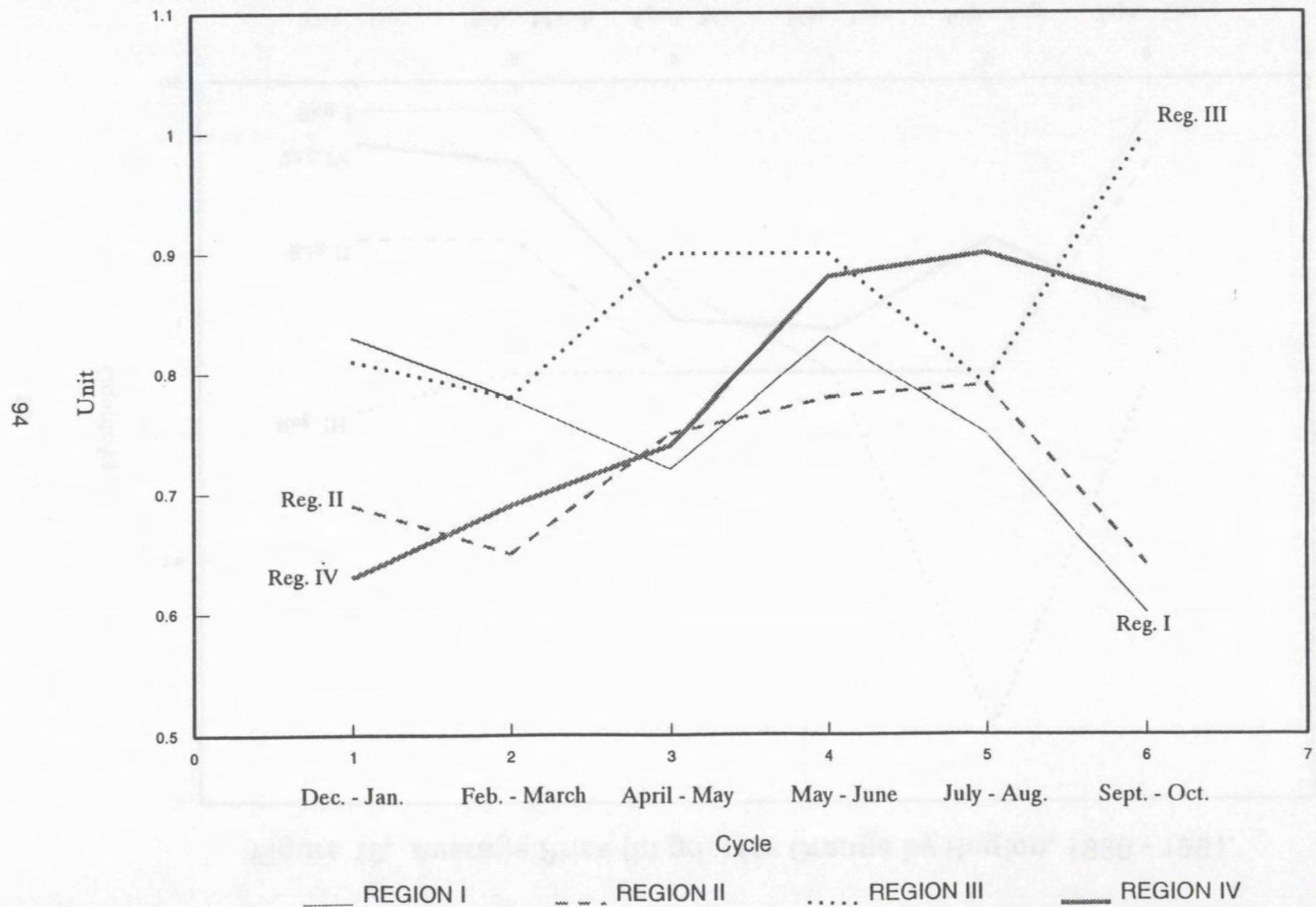


Figure 20. Average Price (in gds) for Paw Paw by Region, 1990 - 1991.

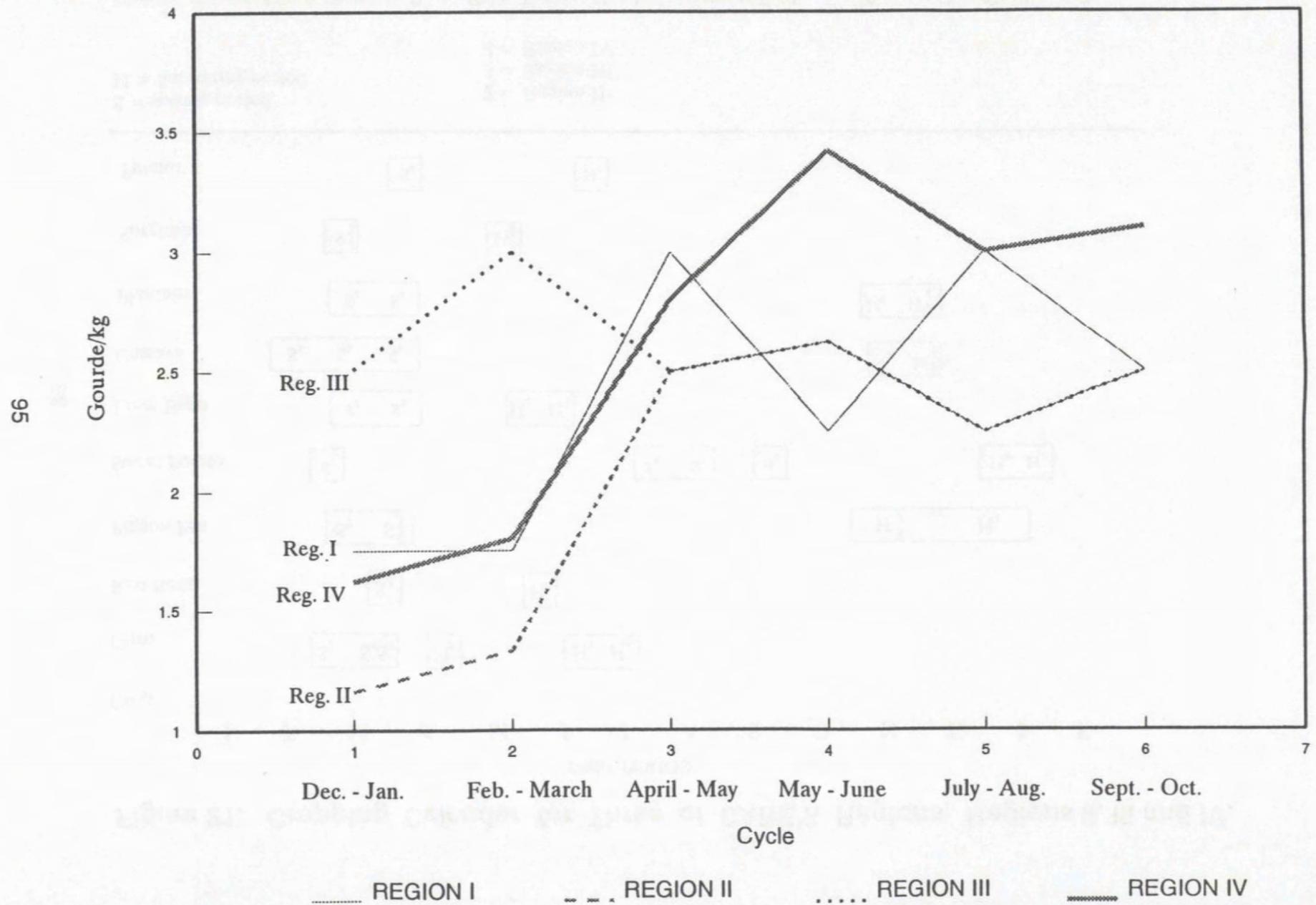
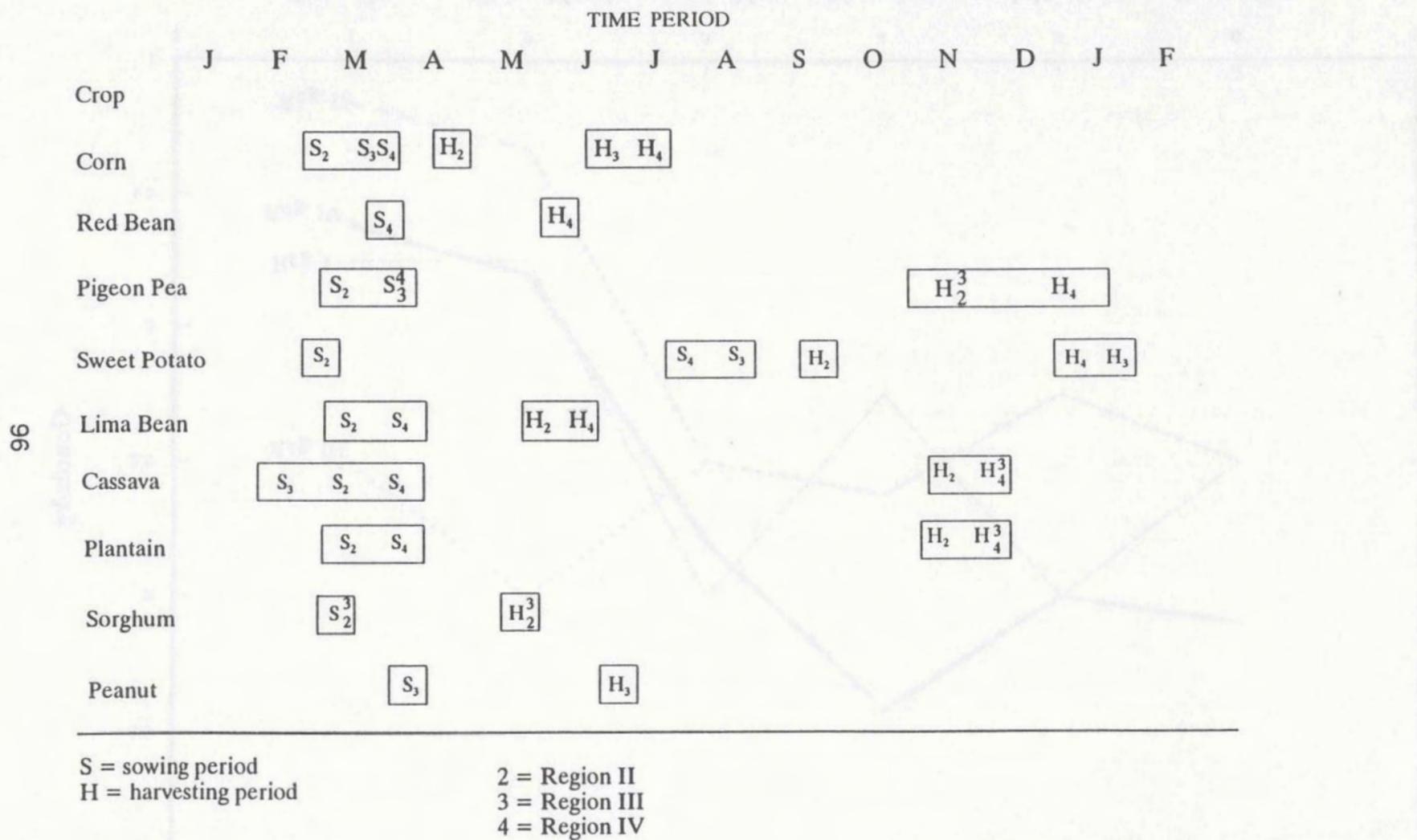


Figure 21. Cropping Calendar for Three of CARE'S Regions, Regions II, III and IV.



Source: Extracted from Swanson, R. A. 1993. Farmer Needs Assessment Exploratory Surveys Care Northwest Region.

# APPENDIX

## C

**Table 1. Coefficient of Measurement Used to Convert Local Units in Standard Units for Price Analysis.**

Crop	Local Units	Standard Units (kg)
Corn	mamite	2.77
Millet/Sorghum	mamite	2.87
Rice	mamite	2.87
Cassava	lot	3.94
Sweet Potato	lot	4.37
Banana	regime	11.00
Red Beans	mamite	2.87
White Beans	mamite	2.87
Lima Beans	mamite	2.87
Pigeon Peas	mamite	2.87
Peanuts	mamite	1.20

MARKET PLACE DESCRIPTION/NORTHWEST

Date: \_\_\_\_\_ 199\_\_

I. SITE DESCRIPTION

1. Region: \_\_\_\_\_ Village: \_\_\_\_\_

Market Population: \_\_\_\_\_

2. Market's name: \_\_\_\_\_ Type: \_\_\_\_\_

3. Indicate buildings: \_\_\_\_\_ Conditions \_\_\_\_\_

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

5. \_\_\_\_\_

4. Market location: \_\_\_\_\_

Cross\_ roads \_\_\_\_\_ Major roads \_\_\_\_\_

River \_\_\_\_\_ Other \_\_\_\_\_

Comments: \_\_\_\_\_

\_\_\_\_\_

5. Nearest distance to major town \_\_\_\_\_

Second nearest town \_\_\_\_\_

Other towns and villages served by the market

\_\_\_\_\_

\_\_\_\_\_

6. Nearest distance to major producing area \_\_\_\_\_

Second nearest producing area \_\_\_\_\_

Other producing areas:

\_\_\_\_\_

\_\_\_\_\_

II GENERAL MARKET INFORMATION:

1. Tax paid for entrance \_\_\_\_\_  
 Amount paid for stall \_\_\_\_\_  
 Other taxes (specify) \_\_\_\_\_  
 Market Controllers \_\_\_\_\_  
 Market Manager (s) \_\_\_\_\_  
 Market Regulation \_\_\_\_\_  
 Market Sanitation Condition \_\_\_\_\_  
 How often \_\_\_\_\_ By whom \_\_\_\_\_  
 Average cost for cleaning \_\_\_\_\_  
 Maintenance \_\_\_\_\_ By whom \_\_\_\_\_  
 How often \_\_\_\_\_ Average cost \_\_\_\_\_

2. Market Accessibility:

Access	Yes	No	Condition
Paved road:	_____	_____	_____
Non paved road:	_____	_____	_____
Tracks:	_____	_____	_____
River:	_____	_____	_____
Other (specify)	_____	_____	_____

3. Market Condition

Market Facilities:

Facility	Yes	No	Condition
Eating place	_____	_____	_____
Toilet	_____	_____	_____
Bath room	_____	_____	_____
Storage	_____	_____	_____
Sitting	_____	_____	_____
Other (specify)	_____	_____	_____

### III. COMMODITY INFORMATION

Commodity group	Origin	# of sellers	Level of sale	Condition
1. Cereals	_____	_____	_____	_____
2. Tubers	_____	_____	_____	_____
3. Flour	_____	_____	_____	_____
4. Vegetables	_____	_____	_____	_____
5. Pulse	_____	_____	_____	_____
6. Fruits	_____	_____	_____	_____
7. Processed goods	_____	_____	_____	_____
8. Bananas	_____	_____	_____	_____
9. Chickens	_____	_____	_____	_____
10. Small livestock	_____	_____	_____	_____
11. Eggs	_____	_____	_____	_____

Code for Level of sale

1. Producer
2. Wholesaler
3. Retailers

### IV. TRADERS' POINT OF VIEW

A. What do sellers think of the Market place and produce?

	Place	Produce
1. Condition	_____	_____
2. Location	_____	_____
3. Accessibility	_____	_____
4. Sanitation	_____	_____
5. Facilities	_____	_____
6. Produce quantity	_____	_____
7. Produce quality	_____	_____
8. Produce availability	_____	_____
9. Price	_____	_____
10. Taxes	_____	_____
11. Costs	_____	_____

B. What do buyers think about the market place and produce?

	Place	Produce
1. Condition	_____	_____
2. Location	_____	_____
3. Accessibility	_____	_____
4. Sanitation	_____	_____
5. Facilities	_____	_____
6. Produce quantity	_____	_____
7. Produce quality	_____	_____
8. Produce availability	_____	_____
9. Price	_____	_____
10. Taxes	_____	_____
11. Costs	_____	_____

C. Comments on goods from overseas: \_\_\_\_\_  
\_\_\_\_\_

D. General Comments: \_\_\_\_\_  
\_\_\_\_\_

V. HISTORY OF MARKET

Market information \_\_\_\_\_  
\_\_\_\_\_

Codes for questions A and B

- |                  |                      |
|------------------|----------------------|
| 1. Excellent     |                      |
| 2. Good          | 10. Affordable       |
| 3. Average       | 11. Expensive        |
| 4. Poor          | 12. Low              |
| 5. Clean         | 13. High             |
| 6. Unhealthy     | 14. Always available |
| 7. Not available | 15. Unavailable      |
| 8. Sufficient    | 16. Difficult        |
| 9. Inadequate    | 17. Other            |

## PRODUCER INFORMATION

### Purpose of the Survey

This survey is designed to obtain on-farm information on quantity of crops produced, production constraints and quantity sold at the farm gate, or at the market. Constraints which impede production and sale of product will be evaluated.

### Objectives:

The objectives of the survey are to:

1. Determine quantity produced and sold at the farm level;
2. Determine the constraints which impede production and sale increases; and
3. Obtain information on contractual arrangements used by the farmer for marketing his crops.

### Methodology:

CARE field assistants will conduct this one time survey while collecting their data on yields and area planted. The questionnaire is designed for farmers already collaborating with CARE. This survey should be completed during the harvesting of major crops.

### Time of Survey

The survey will be completed during the months of August and September, 1991.

PRODUCER INFORMATION

1. Questionnaire #: \_\_\_\_\_
2. Region: \_\_\_\_\_
3. Village: \_\_\_\_\_
4. Farmer's name: \_\_\_\_\_
5. Interviewer's name: \_\_\_\_\_

6. Production Information

	Crops produced	Quantity sold	Price sold	to whom	place of sale
a.	_____	_____	_____	_____	_____
b.	_____	_____	_____	_____	_____
c.	_____	_____	_____	_____	_____
d.	_____	_____	_____	_____	_____
e.	_____	_____	_____	_____	_____
f.	_____	_____	_____	_____	_____
g.	_____	_____	_____	_____	_____
h.	_____	_____	_____	_____	_____
i.	_____	_____	_____	_____	_____
j.	_____	_____	_____	_____	_____
k.	_____	_____	_____	_____	_____

Code

	To whom		Place of sale
1.	Wholesaler	3. Other farmer	1. Market 3. House
2.	Retailer	4. Other	2. Field 4. Other

7. Do you experience problems in marketing your products?

Yes: \_\_\_\_\_ No: \_\_\_\_\_

8. If yes list the crops, the type of problem and the time of the year:

	Crop	Problem	Time of the year
a.	_____	_____	_____
b.	_____	_____	_____
c.	_____	_____	_____
d.	_____	_____	_____
e.	_____	_____	_____
f.	_____	_____	_____
g.	_____	_____	_____
h.	_____	_____	_____
i.	_____	_____	_____
j.	_____	_____	_____
k.	_____	_____	_____

9. Do intermediaries come to the farm to buy your products?

Yes: \_\_\_\_\_ No: \_\_\_\_\_

10. If yes, list products, time of year and method of payment:

	Crops	Time of year	Method of payment
a.	_____	_____	_____
b.	_____	_____	_____
c.	_____	_____	_____
d.	_____	_____	_____
e.	_____	_____	_____
f.	_____	_____	_____
g.	_____	_____	_____
h.	_____	_____	_____

cont...

- i. \_\_\_\_\_
- j. \_\_\_\_\_
- k. \_\_\_\_\_

11. Do you have any contract for sale of product with intermediaries?

Yes: \_\_\_\_\_ No: \_\_\_\_\_

12. If yes, describe the type of contract and give the advantages and disadvantages of it.

a. Description: \_\_\_\_\_

b. Advantages: \_\_\_\_\_

c. Disadvantages: \_\_\_\_\_

13. What do you think of price you receive for your crops?

	Crop	Enough to cover cost	Low	Other(explain)
a.	_____	_____	_____	_____
b.	_____	_____	_____	_____
c.	_____	_____	_____	_____
d.	_____	_____	_____	_____
e.	_____	_____	_____	_____
f.	_____	_____	_____	_____
g.	_____	_____	_____	_____
h.	_____	_____	_____	_____
i.	_____	_____	_____	_____
j.	_____	_____	_____	_____
k.	_____	_____	_____	_____

14. Do you know about the market price of products existing in the nearest market to you?

Yes: \_\_\_\_\_ No: \_\_\_\_\_

15. Do you know about the market price existing in other markets?

Yes: \_\_\_\_\_ No: \_\_\_\_\_

16. Where do you get price information?

Market: \_\_\_\_\_ Neighbors: \_\_\_\_\_ Radio: \_\_\_\_\_

Family: \_\_\_\_\_ Other (specify): \_\_\_\_\_

17. Do you sell all your products at the same price?

	Product	Yes	No
1.	_____	_____	_____
2.	_____	_____	_____
3.	_____	_____	_____
4.	_____	_____	_____
5.	_____	_____	_____
6.	_____	_____	_____

18. If no, do you charge higher price for the better quality products?

	Products	Yes	No	Sometimes
1.	_____	_____	_____	_____
2.	_____	_____	_____	_____
3.	_____	_____	_____	_____
4.	_____	_____	_____	_____
5.	_____	_____	_____	_____
6.	_____	_____	_____	_____

19. Do you have problems in storing your crops?

Yes: \_\_\_\_\_ No: \_\_\_\_\_

20. If yes, list crops, problems and period:

	Crop	Problem	period(month)
a.	_____	_____	_____
b.	_____	_____	_____
c.	_____	_____	_____

cont...

- d. \_\_\_\_\_
- e. \_\_\_\_\_
- f. \_\_\_\_\_
- g. \_\_\_\_\_
- h. \_\_\_\_\_
- i. \_\_\_\_\_
- j. \_\_\_\_\_
- k. \_\_\_\_\_
- l. \_\_\_\_\_

## MARKET PARTICIPANT INFORMATION

### Purpose of the Survey

This survey is designed to obtain information from market intermediaries on commodities sold, origin of commodities, and quality of products sold. This study will provide information on the difficulties intermediaries encounter in selling their produce and the time at which these difficulties are most frequently encountered. This study will complement the market distributive margin study.

### Objectives:

1. Obtain information on the products sold from various locations in the Northwest; and
2. Obtain information on the pricing mechanism adopted by sellers and difficulties encountered by intermediaries in selling their product.

### Methodology

Toward the end of the market study about September 15th. to 30th, SECID Agricultural economist, CARE field assistant, two interviewers and Reynold will conduct the survey. The selected interviewers should have at least a high school diploma, and knowledge of the markets. A total of 10 participants from each of the region will be selected; 4 wholesalers, 4 retailers and 2 small retailers who can also be producers. These market participants will be representative of the market intermediaries operating in the food market.

### Time of the Study:

September 15th to September 30th, 1991.

MARKET PARTICIPANT INFORMATION

1. Questionnaire#: \_\_\_\_\_ Date: \_\_\_\_\_ 199\_\_
2. Market's name: \_\_\_\_\_ Town: \_\_\_\_\_
3. Interviewer's name: \_\_\_\_\_
5. Type of seller: \_\_\_\_\_ sex \_\_\_\_\_
6. Do you encounter problems in selling your products?  
Yes \_\_\_\_\_ No \_\_\_\_\_
7. If yes, list the commodity, the type of problem and the time (of months of the year) you encounter such problem.

	Commodity	Type of problem	Time of the year
a.	_____	_____	_____
b.	_____	_____	_____
c.	_____	_____	_____
d.	_____	_____	_____
e.	_____	_____	_____
f.	_____	_____	_____
g.	_____	_____	_____
h.	_____	_____	_____
i.	_____	_____	_____
j.	_____	_____	_____
k.	_____	_____	_____

8. How do you determine the price at which you sell your products?
  - a. According to the existing price \_\_\_\_\_
  - b. Based on the existing demand \_\_\_\_\_
  - c. Based on the type of client \_\_\_\_\_
  - d. Based on the amount on market \_\_\_\_\_
  - e. Based on the quality \_\_\_\_\_
  - f. Based on the cost \_\_\_\_\_
  - g. All of the above \_\_\_\_\_
  - h. Other (specify) \_\_\_\_\_

9. What do you think of the cost of products you buy for resale?

- 1. Expensive: \_\_\_\_\_
- 2. Affordable: \_\_\_\_\_
- 3. Fair: \_\_\_\_\_
- 4. Low: \_\_\_\_\_

10. What do you think of the cost of transport?

- 1. Expensive: \_\_\_\_\_
- 2. Affordable: \_\_\_\_\_
- 3. Fair: \_\_\_\_\_
- 4. Low: \_\_\_\_\_

11. Where do you get information on availability of products?  
\_\_\_\_\_

12. Where do you get information on price of products?  
\_\_\_\_\_

13. Do you grade your products before selling?  
\_\_\_\_\_

14. Do you think you could make more money by selling by different grades?  
\_\_\_\_\_

15. Do you know about the prices existing for the same products in nearby markets? Yes \_\_\_\_\_ No \_\_\_\_\_

Explain \_\_\_\_\_

16. Do you know about possibilities for selling products in other regions?

a. yes: \_\_\_\_\_ No: \_\_\_\_\_

b. Explain: \_\_\_\_\_

c. Advantages: \_\_\_\_\_

d. Disadvantages: \_\_\_\_\_

17. Would you like to sell your products in other regions?

a. Yes: \_\_\_\_\_ No: \_\_\_\_\_

b. Explain: \_\_\_\_\_

18. If yes where would you like to sell your products? \_\_\_\_\_

Explain \_\_\_\_\_

19. What is the primary constraint which prevents you from selling in other regions? \_\_\_\_\_

## MARKETING OF PROCESSED PRODUCTS

### Purpose of the Survey:

This survey will provide information on crops transformed locally. The cost and price of the transformed products will be obtained. The added value resulting from transformation will be estimated.

### Objectives:

The objectives of the survey will be to:

1. Estimate the cost and returns of processing specific crops in the Northwest; and
2. Determine the value added through processing.

### Methodology:

This survey will be conducted in all primary and secondary markets chosen for this study. Two sellers and two processors of each product will be selected for interview. This survey will be supervised by SECID agricultural economist who will use two interviewers for two weeks to conduct the survey.

Time of the survey August to September, 1991.

## MARKETING OF PROCESSED PRODUCTS

Date: \_\_\_\_\_ 199\_\_

Market's name: \_\_\_\_\_ Region: \_\_\_\_\_

Interviewer's name: \_\_\_\_\_

Product	Cost of prod/kg	Quantity transformed	Unit	Price of transformed prod.	Origin
a.	_____	_____	_____	_____	_____
b.	_____	_____	_____	_____	_____
c.	_____	_____	_____	_____	_____
d.	_____	_____	_____	_____	_____
e.	_____	_____	_____	_____	_____
f.	_____	_____	_____	_____	_____
g.	_____	_____	_____	_____	_____
h.	_____	_____	_____	_____	_____
i.	_____	_____	_____	_____	_____
j.	_____	_____	_____	_____	_____
k.	_____	_____	_____	_____	_____

Product	Cost of processing		Packaging costs	Labor utilize	Cost of ingredient	Cost of machine	Other
	Time used	Utensil					
1. _____	_____	_____	_____	_____	_____	_____	_____
2. _____	_____	_____	_____	_____	_____	_____	_____
3. _____	_____	_____	_____	_____	_____	_____	_____
4. _____	_____	_____	_____	_____	_____	_____	_____
5. _____	_____	_____	_____	_____	_____	_____	_____
6. _____	_____	_____	_____	_____	_____	_____	_____
7. _____	_____	_____	_____	_____	_____	_____	_____
8. _____	_____	_____	_____	_____	_____	_____	_____
9. _____	_____	_____	_____	_____	_____	_____	_____
10. _____	_____	_____	_____	_____	_____	_____	_____

cont.

- 11. \_\_\_\_\_
- 12. \_\_\_\_\_
- 13. \_\_\_\_\_
- 14. \_\_\_\_\_
- 15. \_\_\_\_\_

List of products

2. Do you encounter problem in selling your products?

Yes: \_\_\_\_\_ No: \_\_\_\_\_

3. If yes, list products, problems and time of the year:

	Product	Problem	Time of the year (month)
a.	_____	_____	_____
b.	_____	_____	_____
c.	_____	_____	_____
d.	_____	_____	_____
e.	_____	_____	_____
f.	_____	_____	_____
g.	_____	_____	_____
h.	_____	_____	_____
i.	_____	_____	_____
j.	_____	_____	_____
k.	_____	_____	_____

4. Do you think you can earn money by selling processed products?

Yes: \_\_\_\_\_ No: \_\_\_\_\_



## TRANSPORT COST

### Purpose of This Survey

This survey will provide information on cost of transportation and road conditions to and from markets. This survey will supplement the other surveys.

### Objective:

The objective of this survey will be to obtain information on the cost of transporting produce from the farm gate to the markets.

### Methodology:

This survey will be conducted by SECID agricultural economist, CARE field assistant and the interviewers in the particular area. This survey will be conducted when they are supervising the market Participant Information Study. A sample of about three transport units from each market will be selected for the survey. The survey will be conducted at the same time the processed products survey is being conducted.

Time of Study September 1st. to September 15th.



Observation.

9. What do you think of the road conditions?

a. Good: \_\_\_\_\_ b. Trafficable: \_\_\_\_\_ c. Destroys the vehicles: \_\_\_\_\_

d. Horrible: \_\_\_\_\_ e. Other: \_\_\_\_\_

10. Do you think transporters earn a living by transporting goods to market?

Yes: \_\_\_\_\_ No: \_\_\_\_\_ Maybe: \_\_\_\_\_

11. How much time it takes you to make the voyage? \_\_\_\_\_

12. General Comments: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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## DISTRIBUTIVE MARGIN

### Purpose of the Survey

The purpose of this study is to estimate the costs and returns for a given market intermediary selling agricultural commodity in primary and secondary markets in the Northwestern Region of Haiti. It will provide information on the percent of margin held at each level of marketing, and the marketing function performed at each level.

### OBJECTIVES:

1. To estimate costs and returns for a trader selling specific vegetables in the Northwestern Region of Haiti.
2. To measure average distributive margin for selling specific agricultural commodities at each level of marketing
3. To evaluate aspects of technical and economic efficiency at each market level.

### METHODOLOGY

SECID agricultural economist, Reynold, together with a care field assistant, in the particular area will visit each the market during two market days. The two market interviewers who will remain anonymous will actually go to the same market at the same day, but, individually. SECID Agricultural Economist, CARE Field Assistant Reynold and interviewers will survey at least two of each of the intermediaries in each market. The market intermediaries are:

1. Producer-Vendor
2. Wholesaler
3. Retailer

Livestock vendors will be included where possible. The interviewers (all of them) will visit the markets at the beginning of the market day to record information. At mid-day, the interviewers will meet with SECID/CARE Specialist for recording of information on the designed questionnaires. The interviewers will return in the afternoon to collect the rest of the information if all of the forms were not completed. The team will meet at the end of the market day to record all information and review their strategy. This should be done for all markets.

### SCHEDULE:

Timing of interview: July 15 to September 30th, 1991.

DISTRIBUTIVE MARGIN

1. Village \_\_\_\_\_ Date \_\_\_\_\_  
 2. Market \_\_\_\_\_ Visit # \_\_\_\_\_  
 3. Type of seller \_\_\_\_\_

4.

Investment	Average cost	Age	Condition
Vehicle	_____	_____	_____
Stall	_____	_____	_____
Shed	_____	_____	_____
Basket	_____	_____	_____
Scale	_____	_____	_____
Other (specify)	_____	_____	_____
_____	_____	_____	_____

5.

	Commodity sold	Purchased from whom	Origin of commodity	Selling price
a.	_____	_____	_____	_____
b.	_____	_____	_____	_____
c.	_____	_____	_____	_____
d.	_____	_____	_____	_____
e.	_____	_____	_____	_____
f.	_____	_____	_____	_____
g.	_____	_____	_____	_____

6.

	Commodity purchased	Quantity purchased/kg	Price paid Com./kg	Selling price
a.	_____	_____	_____	_____
b.	_____	_____	_____	_____
c.	_____	_____	_____	_____
d.	_____	_____	_____	_____
e.	_____	_____	_____	_____
f.	_____	_____	_____	_____
g.	_____	_____	_____	_____

7.

	Commodity produce/sold	Quantity produced	Average price of com. produced sold/kg
a.	_____	_____	_____
b.	_____	_____	_____
c.	_____	_____	_____
d.	_____	_____	_____
e.	_____	_____	_____
f.	_____	_____	_____
g.	_____	_____	_____

8.

	Commodity Qty. carried to mkt/kg last week	Qty. sold/ kg last week	Qty. spoiled /kg last week	Qty. consumed last week	Qty. thrown away last week	Qty. remaining last week
a.	_____	_____	_____	_____	_____	_____
b.	_____	_____	_____	_____	_____	_____
c.	_____	_____	_____	_____	_____	_____
d.	_____	_____	_____	_____	_____	_____
e.	_____	_____	_____	_____	_____	_____
f.	_____	_____	_____	_____	_____	_____
g.	_____	_____	_____	_____	_____	_____

9. COST

- a. Transportation/day \_\_\_\_\_
- b. Cost of shed/day \_\_\_\_\_
- c. Labor/day \_\_\_\_\_
- d. Market fee/day \_\_\_\_\_
- e. Tax/day \_\_\_\_\_
- f. Rent storage/day \_\_\_\_\_
- g. Other costs/day \_\_\_\_\_

- 10. Time it takes to prepare to go to market/Hrs. \_\_\_\_\_
- 11. Arrival time at the market place: \_\_\_\_\_
- 12. Departure time. \_\_\_\_\_
- 13. Time spent at the market selling. \_\_\_\_\_
- 14. Time it takes to return home \_\_\_\_\_
- 15. Method of transport. \_\_\_\_\_





MARKET PLACE DESCRIPTION/NORTHWEST

Date: \_\_\_\_\_ 199 \_\_\_\_\_

I. SITE DESCRIPTION

1. Region: \_\_\_\_\_ Village: \_\_\_\_\_

Market Population: \_\_\_\_\_

2. Market's name: \_\_\_\_\_ Type: \_\_\_\_\_

3. Indicate buildings: \_\_\_\_\_ Conditions \_\_\_\_\_

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

5. \_\_\_\_\_

4. Market location: \_\_\_\_\_

Cross\_ roads \_\_\_\_\_ Major roads \_\_\_\_\_

River \_\_\_\_\_ Other \_\_\_\_\_

Comments: \_\_\_\_\_

\_\_\_\_\_

5. Nearest distance to major town \_\_\_\_\_

Second nearest town \_\_\_\_\_

Other towns and villages served by the market

\_\_\_\_\_

\_\_\_\_\_

6. Nearest distance to major producing area \_\_\_\_\_

Second nearest producing area \_\_\_\_\_

Other producing areas:

\_\_\_\_\_

\_\_\_\_\_

II GENERAL MARKET INFORMATION:

1. Tax paid for entrance \_\_\_\_\_  
 Amount paid for stall \_\_\_\_\_  
 Other taxes (specify) \_\_\_\_\_  
 Market Controllers \_\_\_\_\_  
 Market Manager (s) \_\_\_\_\_  
 Market Regulation \_\_\_\_\_  
 Market Sanitation Condition \_\_\_\_\_  
 How often \_\_\_\_\_ By whom \_\_\_\_\_  
 Average cost for cleaning \_\_\_\_\_  
 Maintenance \_\_\_\_\_ By whom \_\_\_\_\_  
 How often \_\_\_\_\_ Average cost \_\_\_\_\_

2. Market Accessibility:

Access	Yes	No	Condition
Paved road:	_____	_____	_____
Non paved road:	_____	_____	_____
Tracks:	_____	_____	_____
River:	_____	_____	_____
Other (specify)	_____	_____	_____

3. Market Condition

Market Facilities:

Facility	Yes	No	Condition
Eating place	_____	_____	_____
Toilet	_____	_____	_____
Bath room	_____	_____	_____
Storage	_____	_____	_____
Sitting	_____	_____	_____
Other (specify)	_____	_____	_____

### III. COMMODITY INFORMATION

Commodity group	Origin	# of sellers	Level of sale	Condition
1. Cereals	_____	_____	_____	_____
2. Tubers	_____	_____	_____	_____
3. Flour	_____	_____	_____	_____
4. Vegetables	_____	_____	_____	_____
5. Pulse	_____	_____	_____	_____
6. Fruits	_____	_____	_____	_____
7. Processed goods	_____	_____	_____	_____
8. Bananas	_____	_____	_____	_____
9. Chickens	_____	_____	_____	_____
10. Small livestock	_____	_____	_____	_____
11. Eggs	_____	_____	_____	_____

Code for Level of sale

1. Producer
2. Wholesaler
3. Retailers

### IV. TRADERS' POINT OF VIEW

A. What do sellers think of the Market place and produce?

	Place	Produce
1. Condition	_____	_____
2. Location	_____	_____
3. Accessibility	_____	_____
4. Sanitation	_____	_____
5. Facilities	_____	_____
6. Produce quantity	_____	_____
7. Produce quality	_____	_____
8. Produce availability	_____	_____
9. Price	_____	_____
10. Taxes	_____	_____
11. Costs	_____	_____

B. What do buyers think about the market place and produce?

	Place	Produce
1. Condition	_____	_____
2. Location	_____	_____
3. Accessibility	_____	_____
4. Sanitation	_____	_____
5. Facilities	_____	_____
6. Produce quantity	_____	_____
7. Produce quality	_____	_____
8. Produce availability	_____	_____
9. Price	_____	_____
10. Taxes	_____	_____
11. Costs	_____	_____

C. Comments on goods from overseas: \_\_\_\_\_

\_\_\_\_\_

D. General Comments: \_\_\_\_\_

\_\_\_\_\_

V. HISTORY OF MARKET

Market information \_\_\_\_\_

\_\_\_\_\_

Codes for questions A and B

- |                  |  |                      |
|------------------|--|----------------------|
| 1. Excellent     |  | 10. Affordable       |
| 2. Good          |  | 11. Expensive        |
| 3. Average       |  | 12. Low              |
| 4. Poor          |  | 13. High             |
| 5. Clean         |  | 14. Always available |
| 6. Unhealthy     |  | 15. Unavailable      |
| 7. Not available |  | 16. Difficult        |
| 8. Sufficient    |  | 17. Other            |
| 9. Inadequate    |  |                      |

## PRODUCER INFORMATION

### Purpose of the Survey

This survey is designed to obtain on-farm information on quantity of crops produced, production constraints and quantity sold at the farm gate, or at the market. Constraints which impede production and sale of product will be evaluated.

### Objectives:

The objectives of the survey are to:

1. Determine quantity produced and sold at the farm level;
2. Determine the constraints which impede production and sale increases; and
3. Obtain information on contractual arrangements used by the farmer for marketing his crops.

### Methodology:

CARE field assistants will conduct this one time survey while collecting their data on yields and area planted. The questionnaire is designed for farmers already collaborating with CARE. This survey should be completed during the harvesting of major crops.

### Time of Survey

The survey will be completed during the months of August and September, 1991.

PRODUCER INFORMATION

1. Questionnaire #: \_\_\_\_\_
2. Region: \_\_\_\_\_
3. Village: \_\_\_\_\_
4. Farmer's name: \_\_\_\_\_
5. Interviewer's name: \_\_\_\_\_

6. Production Information

	Crops produced	Quantity sold	Price sold	to whom	place of sale
a.	_____	_____	_____	_____	_____
b.	_____	_____	_____	_____	_____
c.	_____	_____	_____	_____	_____
d.	_____	_____	_____	_____	_____
e.	_____	_____	_____	_____	_____
f.	_____	_____	_____	_____	_____
g.	_____	_____	_____	_____	_____
h.	_____	_____	_____	_____	_____
i.	_____	_____	_____	_____	_____
j.	_____	_____	_____	_____	_____
k.	_____	_____	_____	_____	_____

Code

	To whom		Place of sale
1.	Wholesaler	3. Other farmer	1. Market 3. House
2.	Retailer	4. Other	2. Field 4. Other

7. Do you experience problems in marketing your products?

Yes: \_\_\_\_\_ No: \_\_\_\_\_

8. If yes list the crops, the type of problem and the time of the year:

	Crop	Problem	Time of the year
a.	_____	_____	_____
b.	_____	_____	_____
c.	_____	_____	_____
d.	_____	_____	_____
e.	_____	_____	_____
f.	_____	_____	_____
g.	_____	_____	_____
h.	_____	_____	_____
i.	_____	_____	_____
j.	_____	_____	_____
k.	_____	_____	_____

9. Do intermediaries come to the farm to buy your products?

Yes: \_\_\_\_\_ No: \_\_\_\_\_

10. If yes, list products, time of year and method of payment:

	Crops	Time of year	Method of payment
a.	_____	_____	_____
b.	_____	_____	_____
c.	_____	_____	_____
d.	_____	_____	_____
e.	_____	_____	_____
f.	_____	_____	_____
g.	_____	_____	_____
h.	_____	_____	_____

cont...

- i. \_\_\_\_\_
- j. \_\_\_\_\_
- k. \_\_\_\_\_

11. Do you have any contract for sale of product with intermediaries?

Yes: \_\_\_\_\_ No: \_\_\_\_\_

12. If yes, describe the type of contract and give the advantages and disadvantages of it.

a. Description: \_\_\_\_\_

b. Advantages: \_\_\_\_\_

c. Disadvantages: \_\_\_\_\_

13. What do you think of price you receive for your crops?

Crop	Enough to cover cost	Low	Other(explain)
a.	_____	_____	_____
b.	_____	_____	_____
c.	_____	_____	_____
d.	_____	_____	_____
e.	_____	_____	_____
f.	_____	_____	_____
g.	_____	_____	_____
h.	_____	_____	_____
i.	_____	_____	_____
j.	_____	_____	_____
k.	_____	_____	_____

14. Do you know about the market price of products existing in the nearest market to you?

Yes: \_\_\_\_\_ No: \_\_\_\_\_

15. Do you know about the market price existing in other markets?

Yes: \_\_\_\_\_ No: \_\_\_\_\_

16. Where do you get price information?

Market: \_\_\_\_\_ Neighbors: \_\_\_\_\_ Radio: \_\_\_\_\_

Family: \_\_\_\_\_ Other (specify): \_\_\_\_\_

17. Do you sell all your products at the same price?

Product	Yes	No
1. _____	_____	_____
2. _____	_____	_____
3. _____	_____	_____
4. _____	_____	_____
5. _____	_____	_____
6. _____	_____	_____

18. If no, do you charge higher price for the better quality products?

Products	Yes	No	Sometimes
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____

19. Do you have problems in storing your crops?

Yes: \_\_\_\_\_ No: \_\_\_\_\_

20. If yes, list crops, problems and period:

Crop	Problem	period(month)
a. _____	_____	_____
b. _____	_____	_____
c. _____	_____	_____

cont...

- d. \_\_\_\_\_
- e. \_\_\_\_\_
- f. \_\_\_\_\_
- g. \_\_\_\_\_
- h. \_\_\_\_\_
- i. \_\_\_\_\_
- j. \_\_\_\_\_
- k. \_\_\_\_\_
- l. \_\_\_\_\_

## MARKET PARTICIPANT INFORMATION

### Purpose of the Survey

This survey is designed to obtain information from market intermediaries on commodities sold, origin of commodities, and quality of products sold. This study will provide information on the difficulties intermediaries encounter in selling their produce and the time at which these difficulties are most frequently encountered. This study will complement the market distributive margin study.

### Objectives:

1. Obtain information on the products sold from various locations in the Northwest; and
2. Obtain information on the pricing mechanism adopted by sellers and difficulties encountered by intermediaries in selling their product.

### Methodology

Toward the end of the market study about September 15th. to 30th, SECID Agricultural economist, CARE field assistant, two interviewers and Reynold will conduct the survey. The selected interviewers should have at least a high school diploma, and knowledge of the markets. A total of 10 participants from each of the region will be selected; 4 wholesalers, 4 retailers and 2 small retailers who can also be producers. These market participants will be representative of the market intermediaries operating in the food market.

### Time of the Study:

September 15th to September 30th, 1991.

MARKET PARTICIPANT INFORMATION

1. Questionnaire#: \_\_\_\_\_ Date: \_\_\_\_\_ 199\_\_
2. Market's name: \_\_\_\_\_ Town: \_\_\_\_\_
3. Interviewer's name: \_\_\_\_\_
5. Type of seller: \_\_\_\_\_ sex \_\_\_\_\_
6. Do you encounter problems in selling your products?  
Yes \_\_\_\_\_ No \_\_\_\_\_
7. If yes, list the commodity, the type of problem and the time (of months of the year) you encounter such problem.

	Commodity	Type of problem	Time of the year
a.	_____	_____	_____
b.	_____	_____	_____
c.	_____	_____	_____
d.	_____	_____	_____
e.	_____	_____	_____
f.	_____	_____	_____
g.	_____	_____	_____
h.	_____	_____	_____
i.	_____	_____	_____
j.	_____	_____	_____
k.	_____	_____	_____

8. How do you determine the price at which you sell your products?
  - a. According to the existing price \_\_\_\_\_
  - b. Based on the existing demand \_\_\_\_\_
  - c. Based on the type of client \_\_\_\_\_
  - d. Based on the amount on market \_\_\_\_\_
  - e. Based on the quality \_\_\_\_\_
  - f. Based on the cost \_\_\_\_\_
  - g. All of the above \_\_\_\_\_
  - h. Other (specify) \_\_\_\_\_

9. What do you think of the cost of products you buy for resale?
1. Expensive: \_\_\_\_\_
  2. Affordable: \_\_\_\_\_
  3. Fair: \_\_\_\_\_
  4. Low: \_\_\_\_\_
10. What do you think of the cost of transport?
1. Expensive: \_\_\_\_\_
  2. Affordable: \_\_\_\_\_
  3. Fair: \_\_\_\_\_
  4. Low: \_\_\_\_\_
11. Where do you get information on availability of products?  
\_\_\_\_\_
12. Where do you get information on price of products?  
\_\_\_\_\_
13. Do you grade your products before selling?  
\_\_\_\_\_
14. Do you think you could make more money by selling by different grades?  
\_\_\_\_\_
15. Do you know about the prices existing for the same products in nearby markets? Yes \_\_\_\_\_ No \_\_\_\_\_  
Explain \_\_\_\_\_
16. Do you know about possibilities for selling products in other regions?
- a. yes: \_\_\_\_\_ No: \_\_\_\_\_
  - b. Explain: \_\_\_\_\_
  - c. Advantages: \_\_\_\_\_
  - d. Disadvantages: \_\_\_\_\_
17. Would you like to sell your products in other regions?
- a. Yes: \_\_\_\_\_ No: \_\_\_\_\_
  - b. Explain: \_\_\_\_\_
18. If yes where would you like to sell your products? \_\_\_\_\_  
Explain \_\_\_\_\_

19. What is the primary constraint which prevents you from selling in other regions? \_\_\_\_\_

\_\_\_\_\_

1. \_\_\_\_\_  
2. \_\_\_\_\_  
3. \_\_\_\_\_  
4. \_\_\_\_\_  
5. \_\_\_\_\_

20. Where do you get information on availability of products? \_\_\_\_\_

\_\_\_\_\_

21. Where do you get information on price of products? \_\_\_\_\_

\_\_\_\_\_

22. Do you change your products before selling? \_\_\_\_\_

\_\_\_\_\_

23. Do you think you could save more money by selling by telephone? \_\_\_\_\_

\_\_\_\_\_

24. Do you know about the prices existing for the same products in nearby markets? Yes \_\_\_\_\_ No \_\_\_\_\_

\_\_\_\_\_

25. Do you have some possibilities for selling products in other regions? \_\_\_\_\_

\_\_\_\_\_

26. Advantages: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

27. Would you like to sell your products in other regions? \_\_\_\_\_

\_\_\_\_\_

28. Disadvantages: \_\_\_\_\_

\_\_\_\_\_

29. If you were would you like to sell your products? \_\_\_\_\_

\_\_\_\_\_

## MARKETING OF PROCESSED PRODUCTS

### Purpose of the Survey:

This survey will provide information on crops transformed locally. The cost and price of the transformed products will be obtained. The added value resulting from transformation will be estimated.

### Objectives:

The objectives of the survey will be to:

1. Estimate the cost and returns of processing specific crops in the Northwest; and
2. Determine the value added through processing.

### Methodology:

This survey will be conducted in all primary and secondary markets chosen for this study. Two sellers and two processors of each product will be selected for interview. This survey will be supervised by SECID agricultural economist who will use two interviewers for two weeks to conduct the survey.

Time of the survey August to September, 1991.

## MARKETING OF PROCESSED PRODUCTS

Date: \_\_\_\_\_ 199\_\_

Market's name: \_\_\_\_\_ Region: \_\_\_\_\_

Interviewer's name: \_\_\_\_\_

Product	Cost of prod/kg	Quantity transformed	Unit	Price of transformed prod.	Origin
a.	_____	_____	_____	_____	_____
b.	_____	_____	_____	_____	_____
c.	_____	_____	_____	_____	_____
d.	_____	_____	_____	_____	_____
e.	_____	_____	_____	_____	_____
f.	_____	_____	_____	_____	_____
g.	_____	_____	_____	_____	_____
h.	_____	_____	_____	_____	_____
i.	_____	_____	_____	_____	_____
j.	_____	_____	_____	_____	_____
k.	_____	_____	_____	_____	_____

Product	Cost of processing		Packaging costs	Labor utilize	Cost of ingredient	Cost of machine	Other
	Time used	Utensil					
1. _____	_____	_____	_____	_____	_____	_____	_____
2. _____	_____	_____	_____	_____	_____	_____	_____
3. _____	_____	_____	_____	_____	_____	_____	_____
4. _____	_____	_____	_____	_____	_____	_____	_____
5. _____	_____	_____	_____	_____	_____	_____	_____
6. _____	_____	_____	_____	_____	_____	_____	_____
7. _____	_____	_____	_____	_____	_____	_____	_____
8. _____	_____	_____	_____	_____	_____	_____	_____
9. _____	_____	_____	_____	_____	_____	_____	_____
10. _____	_____	_____	_____	_____	_____	_____	_____

cont...

- 11. \_\_\_\_\_
- 12. \_\_\_\_\_
- 13. \_\_\_\_\_
- 14. \_\_\_\_\_
- 15. \_\_\_\_\_

List of products

2. Do you encounter problem in selling your products?

Yes: \_\_\_\_\_ No: \_\_\_\_\_

3. If yes, list products, problems and time of the year:

	Product	Problem	Time of the year (month)
a.	_____	_____	_____
b.	_____	_____	_____
c.	_____	_____	_____
d.	_____	_____	_____
e.	_____	_____	_____
f.	_____	_____	_____
g.	_____	_____	_____
h.	_____	_____	_____
i.	_____	_____	_____
j.	_____	_____	_____
k.	_____	_____	_____

4. Do you think you can earn money by selling processed products?

Yes: \_\_\_\_\_ No: \_\_\_\_\_



## TRANSPORT COST

### Purpose of This Survey

This survey will provide information on cost of transportation and road conditions to and from markets. This survey will supplement the other surveys.

### Objective:

The objective of this survey will be to obtain information on the cost of transporting produce from the farm gate to the markets.

### Methodology:

This survey will be conducted by SECID agricultural economist, CARE field assistant and the interviewers in the particular area. This survey will be conducted when they are supervising the market Participant Information Study. A sample of about three transport units from each market will be selected for the survey. The survey will be conducted at the same time the processed products survey is being conducted.

Time of Study September 1st. to September 15th.



9. What do you think of the road conditions?

a. Good: \_\_\_\_\_ b. Trafficable: \_\_\_\_\_ c. Destroys the vehicles: \_\_\_\_\_

d. Horrible: \_\_\_\_\_ e. Other: \_\_\_\_\_

10. Do you think transporters earn a living by transporting goods to market?

Yes: \_\_\_\_\_ No: \_\_\_\_\_ Maybe: \_\_\_\_\_

11. How much time it takes you to make the voyage? \_\_\_\_\_

12. General Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## DISTRIBUTIVE MARGIN

### Purpose of the Survey

The purpose of this study is to estimate the costs and returns for a given market intermediary selling agricultural commodity in primary and secondary markets in the Northwestern Region of Haiti. It will provide information on the percent of margin held at each level of marketing, and the marketing function performed at each level.

### OBJECTIVES:

1. To estimate costs and returns for a trader selling specific vegetables in the Northwestern Region of Haiti.
2. To measure average distributive margin for selling specific agricultural commodities at each level of marketing
3. To evaluate aspects of technical and economic efficiency at each market level.

### METHODOLOGY

SECID agricultural economist, Reynold, together with a care field assistant, in the particular area will visit each the market during two market days. The two market interviewers who will remain anonymous will actually go to the same market at the same day, but, individually. SECID Agricultural Economist, CARE Field Assistant Reynold and interviewers will survey at least two of each of the intermediaries in each market. The market intermediaries are:

1. Producer-Vendor
2. Wholesaler
3. Retailer

Livestock vendors will be included where possible. The interviewers (all of them) will visit the markets at the beginning of the market day to record information. At mid-day, the interviewers will meet with SECID/CARE Specialist for recording of information on the designed questionnaires. The interviewers will return in the afternoon to collect the rest of the information if all of the forms were not completed. The team will meet at the end of the market day to record all information and review their strategy. This should be done for all markets.

### SCHEDULE:

Timing of interview: July 15 to September 30th, 1991.

1. Village \_\_\_\_\_ Date \_\_\_\_\_
2. Market \_\_\_\_\_ Visit # \_\_\_\_\_
3. Type of seller \_\_\_\_\_

4.

Investment	Average cost	Age	Condition
Vehicle	_____	_____	_____
Stall	_____	_____	_____
Shed	_____	_____	_____
Basket	_____	_____	_____
Scale	_____	_____	_____
Other (specify)	_____	_____	_____

5.

Commodity sold	Purchased from whom	Origin of commodity	Selling price
a. _____	_____	_____	_____
b. _____	_____	_____	_____
c. _____	_____	_____	_____
d. _____	_____	_____	_____
e. _____	_____	_____	_____
f. _____	_____	_____	_____
g. _____	_____	_____	_____

6.

Commodity purchased	Quantity purchased/kg	Price paid Com./kg	Selling price
a. _____	_____	_____	_____
b. _____	_____	_____	_____
c. _____	_____	_____	_____
d. _____	_____	_____	_____
e. _____	_____	_____	_____
f. _____	_____	_____	_____
g. _____	_____	_____	_____

	Commodity produce/sold	Quantity produced	Average price of com. produced sold/kg
a.	_____	_____	_____
b.	_____	_____	_____
c.	_____	_____	_____
d.	_____	_____	_____
e.	_____	_____	_____
f.	_____	_____	_____
g.	_____	_____	_____

8.

	Commodity Qty. carried to mkt/kg last week	Qty. sold/ kg last week	Qty. spoiled /kg last week	Qty. consumed last week	Qty. thrown away last week	Qty. remaining last week
a.	_____	_____	_____	_____	_____	_____
b.	_____	_____	_____	_____	_____	_____
c.	_____	_____	_____	_____	_____	_____
d.	_____	_____	_____	_____	_____	_____
e.	_____	_____	_____	_____	_____	_____
f.	_____	_____	_____	_____	_____	_____
g.	_____	_____	_____	_____	_____	_____

9. COST

- a. Transportation/day \_\_\_\_\_
  - b. Cost of shed/day \_\_\_\_\_
  - c. Labor/day \_\_\_\_\_
  - d. Market fee/day \_\_\_\_\_
  - e. Tax/day \_\_\_\_\_
  - f. Rent storage/day \_\_\_\_\_
  - g. Other costs/day \_\_\_\_\_
10. Time it takes to prepare to go to market/Hrs. \_\_\_\_\_
11. Arrival time at the market place. \_\_\_\_\_
12. Departure time. \_\_\_\_\_
13. Time spent at the market selling. \_\_\_\_\_
14. Time it takes to return home \_\_\_\_\_
15. Method of transport. \_\_\_\_\_



