WORKING PAPER

NEEDS ASSESSMENT OF AGRICULTURAL MARKET INFORMATION

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Needs Assessment of Agricultural Market Information

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Working Paper No.: 08

August 2016

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First Published: August 2016

Final typesetting and lay-out by: Dilanthi Hewavitharana

ISBN: 978-955-612-212-1

FOREWORD

Marketing of agricultural products is a crucial issue in developing economies due to its nature of production. As a result of shifting agriculture from subsistence to commercial level, farmers have to interact more with other actors of agricultural marketing and information becomes a more important factor in facilitating such exchange.

The objective of this study was to identify the information needs among stakeholders in agricultural marketing and the gaps in existing information systems. The study reveals that price information is considered the most important information by most of the selected farmers and information on demand and supply, alternative markets and cultivated extent were the other important information demanded by farmers. Farmers and traders have various informal arrangements to acquire price related information and they are not satisfied with information on the extent cultivated, alternative markets and new technological improvements. Further, mobile phone was selected as the most convenient way of reaching marketing information by the selected farmers and traders. There is a potential market for market information since most of the farmers express their willingness to pay for reliable market information.

I congratulate the team of researchers for successfully undertaking this study and I hope the findings and suggestions of the study would be useful for policy makers and practitioners in agricultural marketing.

Haputhanthri Dharmasena
Director

ACKNOWLEDGEMENTS

We, the research team are thankful to Mr. E.M. Abhayarathne, former Director, and Mr. J.K.M.D. Chandrasiri, Additional Director of HARTI, for giving us the opportunity to undertake this study.

We are truly grateful to all the farmers, traders and other information providers who took time from their busy daily routines to help us understand how they respond agricultural market information. We owe the graduates who worked as investigators and helped collecting reliable and descriptive field information. We wish to express our appreciation to Mr. N.S.J.K. Nissanka, Mr. Ajith Rathnasiri, Mr. Upul Arunashantha and Mr. K.A.R. Pathmasiri, the statistical staff of HARTI.

We greatly value the comments and suggestions given by Mrs. C.P. Hathurusinghe, former Head of the Agricultural Marketing and Food Policy Division of HARTI. Our sincere thanks go to Ven. Prof. W. Wimalaratana Thera of University of Colombo and Dr. D.P.S. Chandrakumara, University of Sri Jayewardenepura, who reviewed the final version of the report and provided valuable comments and suggestions to improve its quality.

We also wish to express our gratitude to Mr. Haputhanthri Dharmasena, Director, HARTI for his support in bringing out this report as a publication.

Finally, we wish to thank the publication, printing and other HARTI staff for their support which was extended to us in various ways until the report was finally published.

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EXECUTIVE SUMMARY

Significant and the use of improved agricultural market information in developing economies increase with the change of agriculture from diversified-subsistence to more specialized-commercial production. Farmers have to interact more with traders and other actors in input and output markets as they move away from subsistence to commercial agriculture and information becomes an important factor that facilitates such exchanges. Market information can be defined as all information about the buying and selling of products and services. It is much more than merely providing information about prices and quantities and it should include all the information throughout the marketing process. In Sri Lanka marketing information is collected, analyzed and disseminated by several governments as well as private institutions, especially after the liberalization of the economy in 1977. The importance of sound agricultural marketing policies for ensuring fair returns to the farmers can hardly be over- emphasized. Therefore, it becomes necessary for regulatory agencies to ensure remunerative prices to the farmers for the sale of their produce, to boost their efforts for increasing and sustaining the agricultural production. Various measures such as regulation of markets, grading of agricultural produce and cooperative marketing have been taken by the governments to safeguard the interests of farmers. Still the benefits are not trickling down to the farmers, as they are unable to plan their strategies for sale of their produce at remunerative prices, in the absence of correct and timely market information and advice on arrivals, prices, market trend, etc. Therefore, it is essential to identify the need for agricultural market information of all the stakeholders in agricultural marketing process.

The specific objectives of the study were to assess the market information needs among stakeholders in agricultural marketing, assess the current level of satisfaction and utilization of existing marketing support (information) services and make recommendations on the necessary improvements, if any, to the existing agricultural marketing information systems. Primary data was collected using a structured questionnaire from farmers, wholesalers, retailers, millers and processors who are engaged in the agricultural marketing process. Focus group discussions were held with farmer groups and community based organizations to gather qualitative data.

The study reveals that price information is considered the most important information by 55% of selected farmers. Information on demand and supply, alternative markets and cultivated extent was selected as the most important information by 25%, 12% and 10% of selected farmers respectively. Farmers and traders have various informal arrangements to acquire price related information and they are not satisfied with information on the extent cultivated, alternative markets and new technological improvements. The study found that 70% of the selected farmers have no idea about the market information system or institutes providing market information. Mobile phone was selected as the most convenient way of reaching market information for 95% of the selected farmers and traders. There is a

potential market for market information since 92% of the farmers express their willingness to pay for reliable market information.

The study recommends increasing of farmer awareness on market information. The study revealed that mobile phone as the most convenient medium for farmers reaching agricultural marketing information. Only vegetable wholesale prices of major wholesale market is disseminated in Sri Lanka at present. It can be expanded for other agricultural commodities and inputs as well. Timely and accurate information on expected market situation, alternative buyers, extent cultivated and prevailing prices should be made available at Agrarian Service Centers or any convenient place accessible to farmers.

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LIST OF ABBREVIATIONS

HARTI	-	Hector Kobbekaduwa agrarian Research and Training Institute
MIS	-	Market Information Systems
OFC	-	Other Field Crops
O/L	-	Ordinary Level

CHAPTER ONE

Introduction

1.1 Background

The significance and the use of better agricultural market information in developing economies increase with the change of agriculture from diversified-subsistence to more specialized-commercial production. Farmers have to interact more with traders and other actors in input and output markets as they move away from subsistence to commercial agriculture and information becomes a more important factor that facilitates such exchanges. Market information can be defined as all information about the buying and selling of products and services. It is much more than just providing information about prices and quantities and should include all the information throughout the marketing process.

Structured marketing information systems have various ways of collecting, analyzing and disseminating information. Some systems heavily use internal records and reports. Some others make use of market research. Market intelligence systems and marketing information models are also deliberately designed to provide marketing insights and support the decision makers (Kotler, 1988).

In Sri Lanka marketing information is collected, analyzed and disseminated by several government institutes as well as private sector institutes especially after the liberalization of the economy in 1977. The importance of sound agricultural marketing policies for ensuring fair returns to the farmers can hardly be over- emphasized. Therefore, it becomes necessary for regulatory agencies to ensure remunerative prices to the farmers for the sale of their produce, to boost their efforts for increasing and sustaining the agricultural production. Various measures such as regulation of markets, grading of agricultural produce, cooperative marketing have been taken by the government to safeguard the interests of farmers. Still the benefits do not reach farmers, as they are unable to plan their strategies for sale of their produce at remunerative prices, in the absence of correct and timely market information and advice arrivals, prices, market trend, etc. Therefore, it is essential to identify the need of agricultural market information by all the stakeholders in the agricultural marketing process.

1.2 Objectives of the Study

The overall objective of the assessment is to identify the need of agricultural marketing information for market participants and other interested parties.

The study aimed at achieving the following specific objectives:

i) To assess the marketing information needs among stakeholders in agricultural marketing.

ii) To assess the current level of satisfaction of market participant and their utilization of existing marketing support (information) services.

iii) Make recommendations on the necessary improvements, if any, to the current agricultural marketing information system.

1.3 Methodology

1.3.1 Area Selection

The study was conducted in selected consumer and production areas and aimed at addressing the needs of market information of all the market players for rice, other field crops, fruit and vegetable sectors in Sri Lanka. The area was selected based on the extent and production of selected commodities in the last five years. Matale, Badulla and Nuwara Eliya were selected to collect information on the vegetable sector. Hambantota and Anuradhapura were selected to collect information on rice and OFC sector. The Colombo district was selected to cover the traders and processors.

1.3.2 Data Collection

This study depended on qualitative primary data. Hence the method of key-informant interview was used to collect information covering all the user groups of market information.

In order to collect data from farmers they were grouped into five focus groups. These groups were selected based on the information obtained from agricultural officer in each selected area. A semi-structured questionnaire was used to collect information from focus group discussions.

To achieve the objective (i) and (ii), a pre-tested structured questionnaire was used and the sample is explained in table 1.1.

Large scale farmers were selected with the help of the agricultural officer in selected districts. These farmers were selected from all the districts visited during the study. One-on-one discussion was held using a semi-structured interview schedule to collect information from this user group.

The traders were selected from the market areas of the above mentioned districts.

Table 1.1: Selected Samples

Category	Number
Vegetable Farmers	175
Paddy Farmers	109
OFC Farmers	67
Retailers	60
Wholesalers	30
Collectors	25
Millers and Processors	20
Farmer Groups	5
Community based Organizers	5

1.3.3 Data analysis

As the study depends on qualitative and quantitative data, simple statistical techniques were used covering both areas.

1.4 Organization of the Report

This report is organized in six chapters. Chapter one is an introduction to the study. The second chapter provides a comprehensive survey of literature with special focus on empirical research and findings of previous studies that used the same method of study. Chapter three presents the socio-economic characteristics of selected farmers and their views on MIS. The fourth chapter presents the use and need of MIS by different groups in the agricultural marketing process. The final chapter concludes the report with recommendations.

CHAPTER TWO

Literature Review

This chapter reviews the issues related to Market Information System (MIS) with comparisons of findings between different countries. It provided a background to carry out the study more effectively.

2.1 Historical Review on Market Information System

Ramkumar (1995) who analyzed the information systems of dairy farmers in two villages of India found that each farmer's information system was unique. There was little linkage between farmers and non-farmers in and outside the villages. The print media and the dairy extension workers were rarely used as information sources, but the private veterinarian and the secretary of the milk cooperative were widely used. The farmers functioned as both disseminators and users of information. Decision-making by the farmers was made more complex by inappropriate and inefficient information transfer from research and extension services. This compelled the farmers to capitalize on their working knowledge to find suitable solutions.

The findings of Ozowa (1995) indicate that the information needs may be grouped into five headings: agricultural inputs; extension education; agricultural technology; agricultural credit; and marketing. Modern farm inputs are needed to raise small farm productivity. These inputs may include fertilizer, improved variety of seeds and seedlings, feeds, plant protection chemicals, agricultural machinery, and equipment and water. An examination of the factors influencing the adoption and continued use of these inputs would show that information dissemination is a very important factor.

According to Van den Ban (1999) farmers require a diverse range of information to support their farm enterprises. Information is needed not only on best practices and technologies for crop production, which the traditional public sector extension system provided during the green revolution, but also information about post-harvest aspects including processing, marketing, storage, and handling. Farmers require information related to the most appropriate technological options, management of technologies, including optimal use of inputs, changing farm system options (mixed farming and diversification, animal husbandry, fisheries), sourcing reputable input suppliers, collective action with other farmers, consumer and market demand for products, quality specifications for produce, off-farm income-generation options, implications of changing policies (input subsidies, trade liberalization), access to credit and loans, sustainable natural resource management and coping with climate change.

Rahman (2003) reported that the growers received low prices in Bangaladesh due to lack of market information which resulted in wide inter-market price variation. Qat (1991) revealed that Improvement of agricultural market information services was necessary for domestic market efficiency and to integrate domestic agricultural market with regional and international market for sustainable development of the agricultural sector and to ensure country's long run food security.

FAO (2005) observed that due to poor linkages between research and advisory services, adoption of new agricultural technologies by farmers is often very slow and research does not focus on the actual needs of farmers. In many countries low agricultural production has been attributed, among other factors, to poor linkages between research, extension, farmers and to ineffective technology delivery systems, including poor information packaging, inadequate communication systems and poor methodologies. Therefore, the information systems which integrate farmers, agricultural educators, researchers and extensionists should be introduced to the agriculture sector.

Demiryurek *et al*, (2008) identified agricultural information as an important factor that interacts with other production factors. Productivity of these other factors, such as land, labor, capital and managerial ability, can arguably be improved by relevant, reliable and useful information. Sulaiman and Ban (2003) reported that information supplied by extension, research, education and agricultural organizations helps farmers make better decisions. Therefore, there is a need to understand the functioning of a particular agricultural information system in order to manage and improve it.

Demiryurek *et al*., (2008) pointed out that there is a basic difference in the information needs between market oriented, transitional and subsistence based farming. In addition, recent experiences show that, the human components of the system such as researchers, educators, extensionists and farmers are not connected in information flow. Therefore, it is a current need to investigate the proper information delivery systems for agricultural sector and people involved in agriculture. However, there have been limited studies about the agricultural information systems. Thus, there is a need for a substantial study on these issues, including the mechanisms of the information systems, interactions between components in the system, and their activity. Specifically, the information requirements of farmers, the structure of the organizations involved in these activities are issues that need to be explored.

CHAPTER THREE

Socio-Economic Characteristics of Selected Farmers and Their Views on Market Information Systems

3.1 Introduction

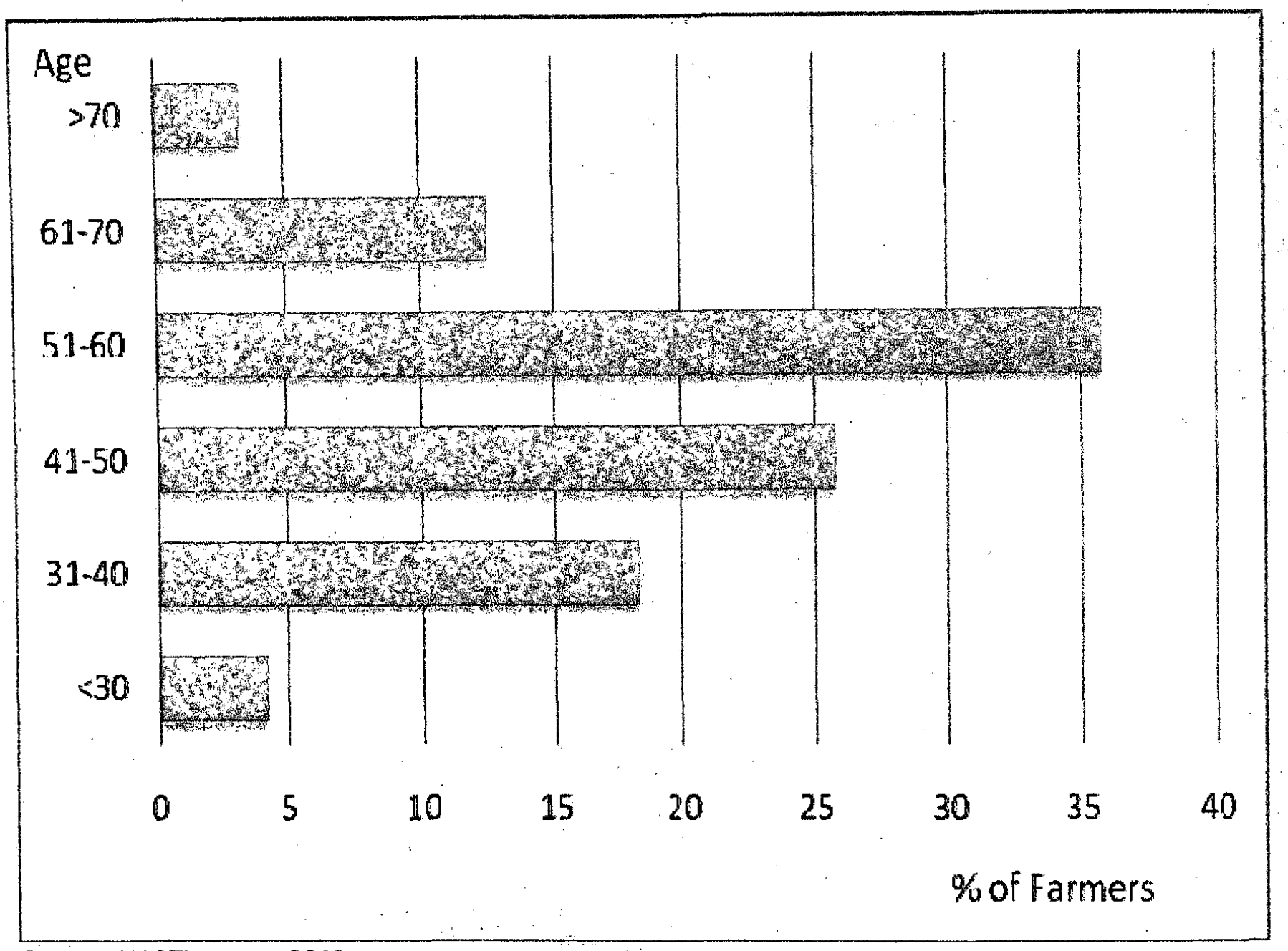
In this chapter, the socio-economic background of the selected farmers and their views on MIS are discussed briefly. Socio-economic characteristics such as age, level of education, primary and secondary income level of the household are analyzed in the first part of the chapter and the second part of the chapter is dedicated to observe the farmers' views on market information system. Their interpretation of market information and how they use market information in decision making are taken into consideration in the latter part of the chapter.

3.2 Socio-economic Characteristics of the Selected Farmers

Socio-economic condition of farmers is a powerful tool in using market information and taking decision based on the available information. The main socio-economic characteristics are age, level of education, family size, main and secondary occupation and monthly income. In this section socio-economic situation of selected farmers engaged in vegetable, paddy and other field crop farming activities are discussed to gain a basic knowledge on them.

3.2.1 Age Distribution of Selected Farmers

Age is an important factor in using market information. Personal activities change with the age of the farmers. According to the survey results 48% of the farmers are below 50 years. It shows that most of the farmers in the sample are over 50 years. The situation does not differ much on the crops they cultivate.

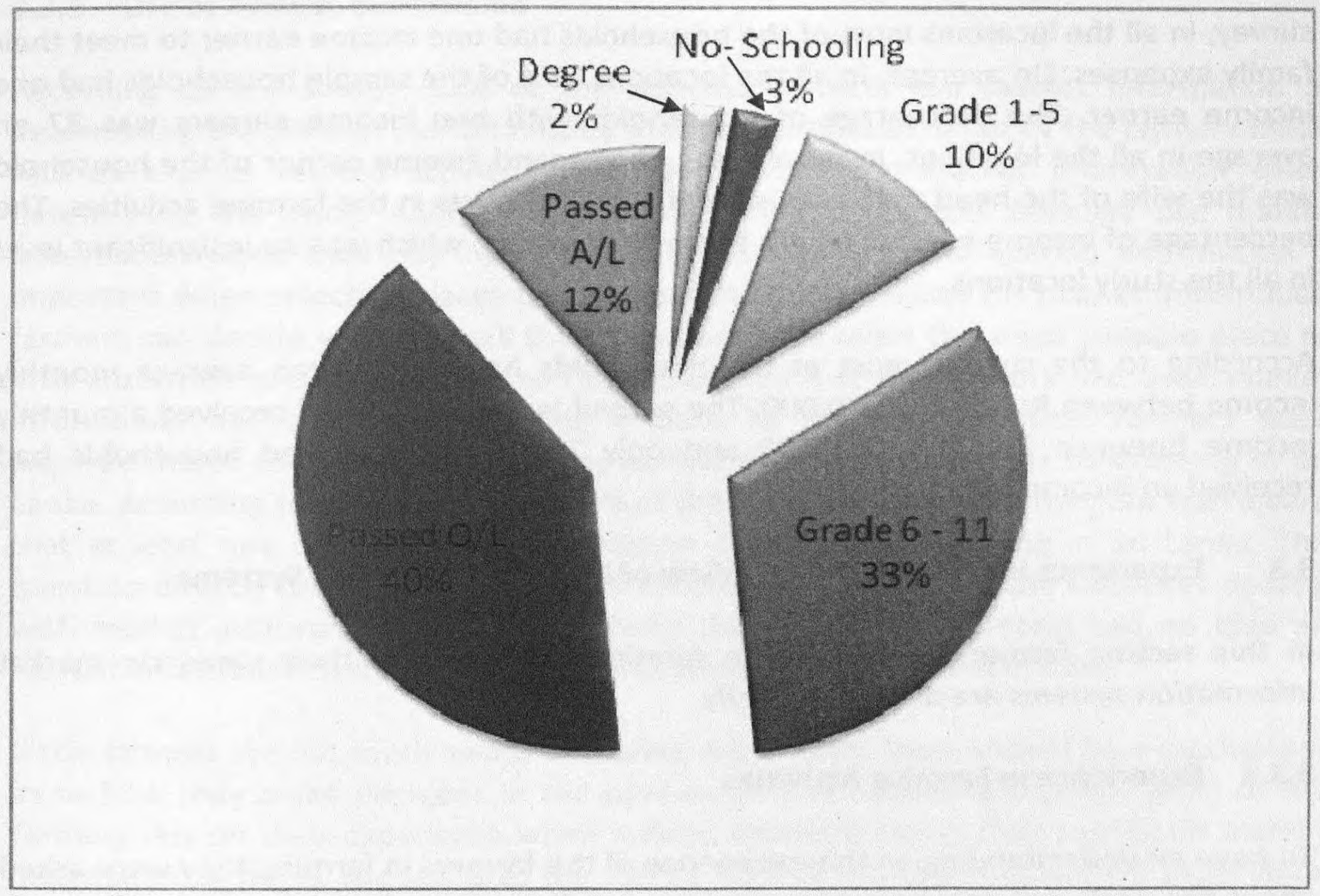


Source: HARTI survey, 2013

Figure 3.1: Age Distribution of Selected Farmers

3.2.2 Level of Education

The level of education received by the farmers is a good indication of how they can use market information in making decisions effectively. According to the survey results most of the farmers in all the study locations have received education up to General Certificate of Ordinary Level (O/L) or higher. According to the Figure 3.2, 54% of the selected farmers have received education up to O/L or a higher level. The percentage of graduates in practicing farming activities was very low and previous studies have also proved that the rate of graduates engaging in farming activities is very low in any area of Sri Lanka. A significant portion of the farmers in all the study locations had received education up to grade 6-10. The level of education in Sri Lanka is relatively in a good position because in the sample, only 3% of the farmers had never attended school and illiterate. There was no much difference in the education level of the farmers based on the farming activities that they are engaged in.



Source: HARTI survey, 2013

Figure 3.2: Level of Education of Selected Farmers

3.2.3 Main and Secondary Occupation

In this study, farmers were selected to have an understanding on how they used market information and satisfaction over the sources of market information. Hence it is evident that the main occupation of the selected sample is farming. According to the survey, 91% of the selected family heads are engaged in farming as the main source of income of the family. Among the rest, 7.5% of the selected family heads are engaged in government sector employment. They have selected farming as the secondary income source of the family. Animal husbandry, agricultural labour and private sector employment were the sources of secondary occupation.

3.2.4 Number of Family Members and Income Earners

In line with the national figures, most of the families in the sample had four members in the family. The survey also highlighted that 35% of the sample households had four members in their family. Further, 25% of the sample had five members in the family. Only 10% of the sample had six members or above in the family. According to the

survey, in all the locations most of the households had one income earner to meet their family expenses. On average, in all the locations 55% of the sample households had one income earner. The percentage of households with two income earners was 37 on average in all the locations. In most cases, the second income earner of the household was the wife of the head of the household and she assists in the farming activities. The percentage of income earners equals to three or higher, which was an insignificant level in all the study locations.

According to the survey, most of the households had received an average monthly income between Rs. 10,000 - 20,000. The second largest group had received a monthly income between Rs. 21,000-30,000 and only 20% of the selected households had received an income over Rs.40, 000.

3.3 Experience in Farming and the View of Market Information Systems

In this section farmers' experience in farming activities and their views on market information systems are discussed briefly.

3.3.1 Experience in Farming Activities

To have an understanding on the experience of the farmers in farming they were asked about the period of engagement in farming activities. According to the survey results, 80% of the selected farmers had above 10 years of experience in farming activities. Nearly 50% of the farmers had experience in farming activities for over 20 years. Hence, we can reach a conclusion that most of the farmers are well experienced in farming.

3.3.2 Farmers' Views in Market Information Systems (MIS)

In this section attention was drawn to measure the views of the farmers on market information systems. Farmers were asked a few questions based on the theory of MIS.

The first question was what they mean by MIS. It is a basic question on MIS and 62 % of the famers had stated market price as MIS. Theoretically MIS has a broader definition and most of the farmers in all the location have taken MIS in narrow sense, limited to market prices. This indicated that most of the farmers in all the locations had no broader understanding on market information systems and it was limited to market prices. They have not identified the significance of MIS and what they gain from MIS and it was to some extent limited to market prices.

3.3.3 Use of Market Information

According to the survey, 53% of the selected farmers use market information in determining the price of the commodity that they produced. Most of the farmers mean MIS as a price related activity and they normally use market information when determining the price. Another 36% of the selected farmers basically use market information when they buy inputs in the production process. Market information is important when selecting places to sell their production. Based on market information farmers can decide where to sell the production and select the most suitable place to maximize their profit. According to the sample, 10% of the farmers had used market information basically when selecting a place to sell their produce. Farmers were inquired about their awareness of the market information systems functioning in Sri Lanka. According to the survey, only 30% of the farmers stated that they are well aware that at least one of the market information systems is functioning in Sri Lanka. The question directly focused on the market information system and the institutes dealing with market information. The survey found that 70% of the farmers had no idea on market information system or the institutes providing market information.

If the farmers are not much aware of market information there should be a mechanism as to how they make decisions in the production and marketing process. Most of the farmers rely on their experience when making decisions rather than relying on market information systems. According to the survey, 85% of the farmers use their experience when making production and market related decisions. Only 12% of the selected farmers use market information basically in making decisions on production and the marketing process. The rest 3% of the selected farmers used a mixed experience and market information in making decisions on production and the marketing process.

Most of the farmers in the sample are willing to adopt novel technology in obtaining market information. As a result of information and communication revolution, all the farmers in the sample had access to mobile phones. Hence, 82% of the selected farmers express their willingness to use modern technology in acquiring market information. Among that, 95% of the farmers confirmed that the mobile phone is the most convenient way of accessing market information due to fast and easy access.

3.3.4 Access to Market Information

The access to market information by the farmers at present and their views on the degree of reliability market information are discussed in this section. According to the survey, most of the farmers in all the study locations obtain the required information over television. According to the survey, 70% of the farmers on average in all the study locations use the television to access agricultural information they required. The mobile based market information system has been developed only for vegetable price

dissemination in Sri Lanka. Hence the percentage of access to mobile based market information by vegetable farmer is higher compared to paddy and other field crop sectors.

According to the survey, 60% of the farmers in all the study locations prefer obtaining market information from the public sector sources. Another 30% expressed their willingness to access both public and private sectors and only 10% had expressed that they preferred the private sources.

According to the survey, 55% of the farmers had selected price information as the most important component in the production and marketing process. Based on that, they determine the type of produce, the time of produce and their customer base. Information on demand and supply had been granted as the most important information by 25% of the selected farmers. Information on the market had been rated as the most important information by 12% of the farmers and only 10% of the farmers had rated cultivated extent as the most important information.

According to the survey 60%of the farmers were satisfied with the market information which is currently used by them. Of them, 25% of the farmers were very much satisfied with the market information that they used. The most important factor was 40% of the farmers were not satisfied with the market information.

There is a potential market for market information as according to the survey, 92% of the farmers expressed their willingness to pay for better market information. Hence, it is a potential market for both public and private sectors since there is a demand for accurate and timely market information.

CHAPTER FOUR

Use and Need of Market Information for Different Participants in Agricultural Marketing Process

4.1 Introduction

Information needs and usage vary from one group to another. In agricultural marketing process different groups can be identified with similar characteristics. In this study we try to find out the need and usage of market information by different groups with similar characteristics. Based on that, in broader sense these groups were derived as vegetable farmers, paddy farmers, other field crop farmers, traders, millers and processors.

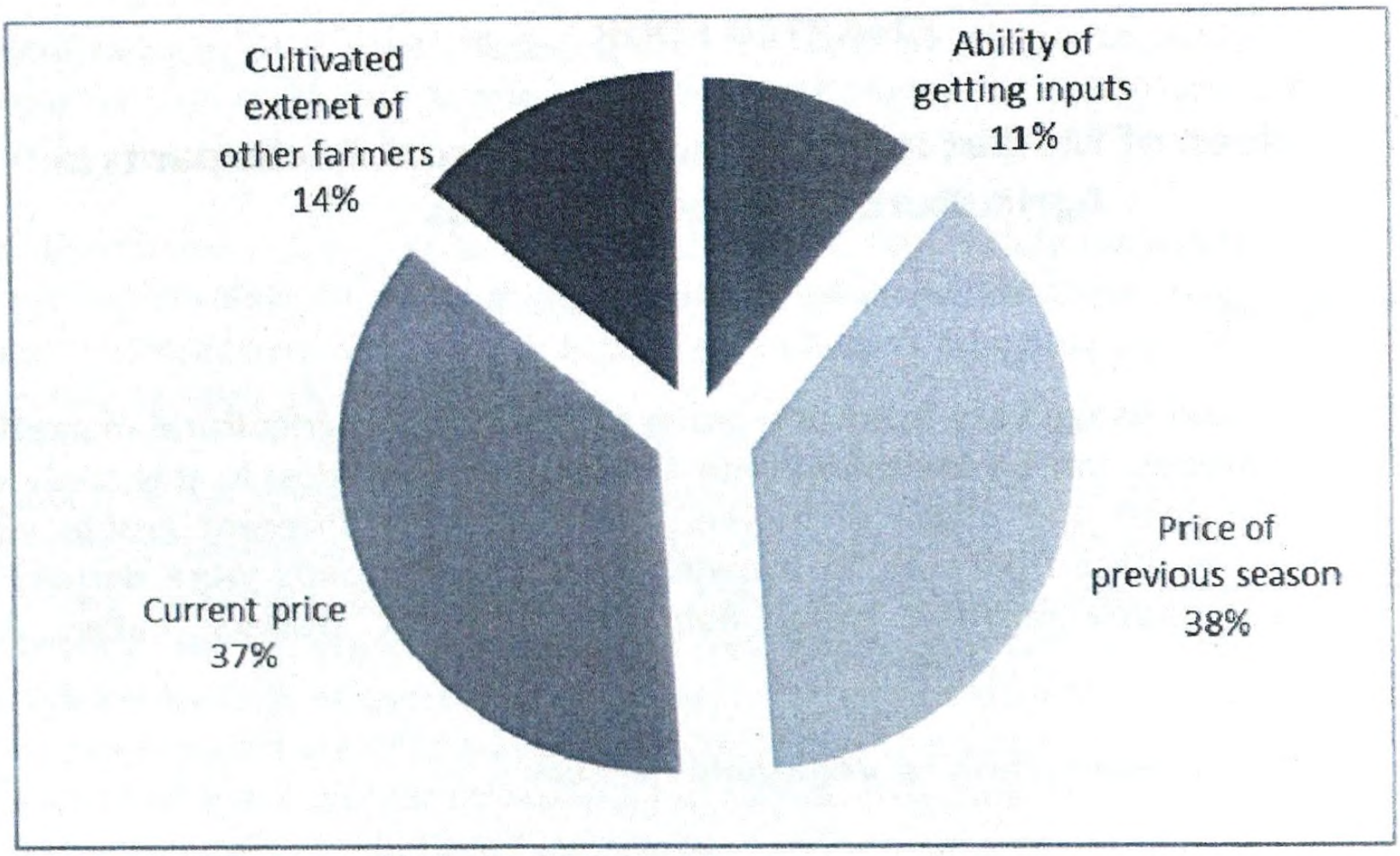
4.2 Use of Market Information by Vegetable Farmers

The usage and needs of market information of vegetable farmers are discussed in this section. The use and the need of market information of the vegetable farmers are divided into three categories.

1. Use of market information in crop selection.
2. Use of market information in buying inputs.
3. Use of market information in post-harvest and marketing activities.

4.2.1 Use of Market Information by Vegetable Farmers in Crop Selection

Every farmer has to decide on the cultivating crop at the beginning of each cultivation season. According to the survey, the largest portion (38%) of vegetable farmers in all the study locations selected for the study considers the price of the particular product in the previous season as a major factor in determining the crop. For example, if tomato fetched a good price in the previous season farmers tend to cultivate tomato in the coming season as well. Prevailing prices of a particular crop is considered the most important information by 37% of the selected vegetable farmers. The third most important factor in decision making in crop selection is information on the extent cultivated by the other farmers. The availability of inputs especially the seeds was rated by 11% of the selected vegetable farmers as a major factor in selecting the crop. According to the survey, it is clear that the most of the farmers have determined on the crop selector based on the price which prevailed in the previous season or in current season.



Source: HARTI survey, 2013

Figure 4.1: Use of Market Information by Vegetable Farmers in Crop Selection

The information source is highly significant and most of the vegetable farmers (50%) in all the study locations had used their own experience as the main source of market information. Another 21% of the farmers had used information gathered from neighboring farmers as the main source of market information. The percentage of information taken from government officers was 12%. Accordingly it is very clear that most of the vegetable farmers in all the study locations rely on informal sources of marketing information as the main source of market information.

4.2.2 Satisfaction over Market Information in Crop Selection

Satisfaction over the information sources used by the farmers in crop selection was considered in the field survey. According to the survey, 62% of the surveyed vegetable farmers were satisfied with the information sources regardless of its nature; informal or formal. The rest of the vegetable farmers were not satisfied with the information sources due to various reasons such as the incompatibility between the received and actual information, lack of knowledge of neighboring farmers and poor credibility of the information sources.

4.2.3 Gaps of Information in Crop Selection

Based on the survey, certain gaps in market information in crop selection were identified. A larger proportion of vegetable farmers stated that absence of market

information of input is a major lack in crop selection. Especially they emphasized the need of timely information of seed, fertilizer and agro chemicals to determine the crop but that information is rarely available. Further 24% of the vegetable farmers noted that the information on the land extent cultivated by other farmers in or outside the area is more important in crop selection. The lack of information on the extent cultivated by other farmers in and outside the area led to over cultivation of vegetable varieties. For example, due to lack of information on the extent cultivated by other farmers in or outside the area, farmers may cultivate the same variety of vegetables more than the market requirement. The end result is the reduction of market price for particular varieties of vegetables. Farmers argue that they had to correct information on the cultivated extent of other farmers they would not have faced such a problem. Hence, the awareness on the cultivated extent in a particular season of a particular variety of vegetable is more important in the stabilization of market prices. Further, 18% of the selected vegetable farmers highlighted the need of information on agricultural technology and disease controlling. They are very keen on technical know-how of the agricultural sector and newly developed methods in crop cultivation. The non-receipt of such information was identified as a gap in agricultural marketing information. Only 10% of the selected farmers described the non-availability of price information on particular crop as the information gap in selecting crops. The view of the most of the farmers in the sample is that they have easy access to price information than before. As a result of high prevalence of mobile phones, the connection of farmers with the other stakeholders in the marketing system has increased. Hence, access to price information is not a crucial problem to the farmers at present.

According to the survey, 65% of the selected vegetable farmers are more concerned over the type and the quantity of the vegetable and to whom it is produced for before making the choice. The survey found that 76% of the selected vegetable farmers similarly considered the demand of the particular crop and the price of the crop when making the crop selection.

4.2.4 Information Needs on Off Season Cultivation

Off season cultivation can be considered as a price stabilization method. Especially, in the vegetable sector, high price fluctuation is experienced as a result of seasonality of production. If the farmers can produce vegetables targeting off season, they would be able to get more benefits higher than in normal harvesting season. According to the survey, 51 % of the selected vegetable farmers cultivate vegetables in off season. The agro ecological condition is the main factor considered by the farmers in off-season cultivation. Nearly 45% of the farmers who practice off season cultivation make crop selection based on the price which can be received in off season. Normally they consider the price prevailed in the last season when selecting the crop for the coming season.

4.2.5 Use of Market Information by Vegetable Farmers in Purchasing Inputs

Information on agricultural inputs such as seed, fertilizer and agro chemicals is very important to farmers in the production process. If they have easy access to accurate information it may reduce their searching cost and transaction cost. According to the survey, 94% of the selected vegetable farmers had purchased agricultural inputs from private traders while the rest had purchased from agricultural service centers. The main reason for purchasing agricultural inputs from private traders is the convenience of purchasing. The survey paid special attention to the information needs of the vegetable farmers when receiving inputs. According to the results most of the farmers (48%) had given priority to the price information when purchasing inputs. Farmers are more concerned about the current price information of the inputs. Further, they had given priority for the information of the quality of the particular inputs. Especially when purchasing seed, fertilizer and agro chemicals they need to purchase good quality products. Due to that reason they are more concerned about the information on quality of the inputs. Another 13% of the selected vegetable farmers had given first priority to the information on accurate use of inputs. Only 5% of the farmers had given first priority to the information on places where particular inputs are available.

The survey paid special attention to identify the information gaps. The most important information that was difficult to obtain was traced by noting the point of view of vegetable farmers. The survey revealed that 43% of the selected farmers stated that the information on input usage is the most important, especially the information on agro-chemicals and fertilizer and prescribed quantity for specific diseases. Information on good quality seed and the places of availability is highlighted by 14% of the selected vegetable farmers as the information gap. Further, that 28% of the selected vegetable farmers emphasized that they faced no difficulties in obtaining market information on agricultural inputs. Only 2% of the selected vegetable farmers highlighted price information of agricultural inputs as the main lacking part.

Farmers' suggestions on filling the information gaps are very important as it represents the ground level situation. According to the survey, 48% of the selected vegetable farmers had suggested the need for intervention of the Department of Agriculture to make farmers aware on the usage of agricultural inputs. Further, 34% of the selected vegetable farmers had suggested the need to increase the number of agricultural extension officers to receive an efficient service.

4.2.6 Needs of Market Information in Post-harvest Management and Marketing of Vegetables

Information needs of vegetable farmers in relation with the post-harvest and marketing is analyzed in this section. According to the survey, 72% of the farmers emphasize that

the information on market demand is very important even before making decisions on cultivation. Non availability or lack of market information in relation to the market demand is highlighted as a major problem faced by the farmers. Especially at the beginning of the cropping season, farmers do not have a clear understanding on the market demand of a particular crop. Using their own experience and convenience in planting they select the crop and the quantity of production. Only after harvesting they think about marketing. This situation is common to most of the vegetable farmers in the sample. Information on harvesting time or the correct time of supplying to the market was highlighted by 15% of the vegetable farmers in the sample. Especially for the farmers who use irrigational water or manage water supply for farming activities highlighted the need of this form of information to plan their production. Another 8% of the selected farmers highlighted the need of information on the market place with reasonable profit.

The survey ordered the most important information of farmers in marketing of vegetables. Accordingly 68% of the selected vegetable farmers had rated price information which is formulated in the market on the same day of marketing their production, as most important. According to the vegetable marketing system if the farmers have information on the prices in different markets the bargaining power is higher. Especially the farmer in remote areas like Hambantota and Anuradhapura would still select the conventional vegetable marketing channel which is based on the commission system. The price is not determined in the presence of farmers. Hence the information on price prevailing in the market on the same day of supplying vegetable to the market is very important for the farmers when marketing vegetable. Further 19% of the selected vegetable farmers had given the highest priority for the information on the price prevailed on the previous day at the market. It helps them to plan their supply and decide on whether to supply vegetable the following day or not. Especially to the farmers closer to the economic center highlighted the need of such information to plan their harvesting. Only 4% of the farmers had given priority for the price information of the other markets other than the particular market they supply vegetables to.

According to the survey findings, 72% of the selected vegetable farmers were aware on the prices before supplying vegetables to the market. It is a good indication of the awareness of price information of the farmers. As a result of rapid changes in vegetable marketing system the access to the price information of farmers has increased and the bargaining power of the farmers has also increased. According to the survey, 56% of the selected vegetable farmers stated that the power of bargaining is higher when they visit the market with more information.

4.3 Information Needs of Paddy Farmers

The needs of market information of paddy farmers are different from that is of vegetable farmers. Normally the paddy farmers have no choice of crop selection at the beginning of the cropping season like vegetable farmers. It is hard to adjust the cropping season based on the information on price, input or other. Hence, the study pays attention to the information needs and the gap of information of paddy farmers when purchasing and using inputs, post-harvest management and marketing of paddy.

4.3.1 Information Needs of Paddy Farmers in Purchasing Inputs

The study pays attention to the priority information as rated by paddy farmers in purchasing and using inputs. According to the survey, for 35% of the selected paddy farmers it was the information on the quality of inputs especially on seed paddy. Another 30% of the selected paddy farmers said it was the price information and discounts offered by the traders. Information on accurate use of the inputs is very important for 23% of the selected paddy farmers and they especially heighted usage of fertilizer and agro-chemicals. Information on the places to buy inputs was a priority for 12% selected paddy farmers. According to the survey findings it is evident that the paddy farmers in selected areas are more concerned about the quality of inputs and such information should be made available to make a correct decision when purchasing inputs.

According to the survey, 43% of the selected paddy farmers stated that the information on the usage of agro-chemicals for a specific disease is one of the most important with regard to input and such information is difficult to obtain when required. There is a gap between the information needs of paddy farmers and the available information. There should be a proper mechanism to make farmers aware of the usage of inputs. Normally farmers tend to depend on private traders to obtain information rather than depending on formal methods. Thirty percent of the selected farmers had no idea on the information gap and they stated that the received information is sufficient to decide on purchasing and using inputs in paddy farming. Further, 12% of the selected paddy farmers emphasized the need of information on seed varieties, prices of particular varieties and places from where they can buy seed paddy at the beginning of the harvesting season.

4.3.2 Use of Market Information in Post-harvest Management and Marketing of Paddy

Information needs of paddy farmers in relation post-harvest management and marketing is discussed in this section. According to the survey, 69% of the selected paddy farmers stated that the information on market situation of paddy/rice is very

important to plan or make decisions whether to sell all the paddy stock just after harvesting or store for some time. Hence, paddy farmers expected information on country situation of paddy/rice market for deciding on selling paddy. Information on the place or person to sell paddy is expected by 24% of the farmers selected in the sample.

Information needs of paddy farmers in relation to marketing of paddy were gathered using a structured questionnaire. Farmers were asked to make a priority list leaving the first priority for the information based on marketing paddy. According to that, 63% of the selected paddy farmers rated the price information prevailed on the same day within the locality as most important. The price prevailed on the previous day or previous week was selected as the most important information by 13% of the selected paddy farmers. Price information of paddy in other markets outside the area was given the first priority as the most important information by 11% of selected farmers. The next most important information in relation to marketing of paddy is information on buyers and collectors.

According to the survey, neighboring farmers, wholesalers and retailers were identified as main information sources that the farmers obtain information from. The survey revealed that 46% of the selected paddy farmers receive the same day price information from wholesalers. It can be considered as the main information source of obtaining price information by the farmers. The second most important source is the neighboring farmers. According to this most of the paddy farmers depend on wholesaler and neighboring farmers to get price information. The percentage of using print or electronic media was insignificant.

4.4 Information Needs of OFC Farmers

The information needs of other field crop (OFC) farmers are discussed in this section. The use and needs of market information of OFC farmers are divided into three categories as follows.

1. Use of market information in crop selection
2. Use of market information in buying input
3. Use of market information in post-harvest and marketing activities

4.4.1 Use of Market Information by OFC Farmers in Crop Selection

In this section attention was drawn to identify the most important information of OFC farmers in crop selection at the beginning of the cultivation season. According to the survey 48% of the selected OFC farmers rated the price information prevailed in the previous season in selecting crop for cultivation as a priority. The price of the crop at the time of planting was rated as the most important information by 30% of the selected OFC farmers. Accordingly, it is evident that 78% of the selected OFC farmers had

selected price information as a major factor in selecting crop which is to be cultivated. Obtaining inputs especially seed was selected by 22% farmers as the most important information when selecting crop for cultivation.

According to the survey, 67% of the OFC farmers were satisfied with the information they received at present. The major reason for the non-satisfaction is the lack of own knowledge and neighboring farmers in relation to market information. Also, 62% of the non-satisfied farmers with the information at present stated that lack of their own knowledge and knowledge of neighboring farmers as the major barrier with regard to market information.

When the OFC farmers were asked about the most important information but difficult to obtain with regard to crop selection, 35% emphasized that information on inputs such as seed is more important but hard to obtain at the correct time. Information on disease and curative methods had been selected by 22% of the selected OFC farmers.

4.4.2 Needs and Use of Market Information by OFC Farmers in Purchasing Inputs

The need of market information of OFC farmers in purchasing inputs is taken into consideration in this section. The survey paid attention to the most important information for the farmers in purchasing inputs as revealed by them. According to that 36% of the selected OFC farmers had rated price information as most needed. The largest portion of the selected farmers (42%) had given first priority to the information on the quality of inputs; especially they required information on how to identify the quality of inputs. Information about the places of buying inputs and information on application had received the same level of priority by 11% farmers.

The current source of information and the level of satisfaction on the information received are very important when improving the market information system. According to the survey, 38% of the selected OFC farmers tend to get price information from neighboring farmers. Wholesale and retail traders were the main source of price information for 47% selected OFC farmers. No records were found using media as the information source for obtaining price information.

4.4.3 Use of Market Information by OFC Farmers in Post-harvest Management and Marketing

Information needs of OFC farmers in relation to post-harvest management and marketing are discussed in this section. According to the survey, 68% of the selected OFC farmers stated that the information on market situation of OFC is very important to plan or decide on selling the production soon after harvesting or store for some time. Hence, OFC farmers expected information on the country situation of OFC market for

making decisions on selling production. Information on the place or person to sell production is expected by 17% of the farmers in the sample.

Information needs of OFC farmers in relation to marketing of production were gathered using a structured questionnaire. Farmers were asked to make a priority list ordering priority information with regard to marketing. Accordingly 52% of the selected OFC farmers placed price information prevailing on the same day in their locally as highest priority. The price prevailed on the previous day or in the previous week was selected as the most important information by 15% of the selected OFC farmers. Price information in other markets outside the area was given the first priority by 19% of selected farmers. The next most important information in relation marketing of OFC is information on buyers and collectors and 6 % of the selected OFC farmers had marked for that.

According to the survey, neighboring farmers, wholesalers and retailers were identified as the main information sources of the farmers. The survey revealed that 64% of the selected OFC farmers receive the days' price information from wholesalers. It can be considered as the main information source of getting price information by the farmers. The second most important source is the neighboring farmers. According to this, most of the OFC farmers depend on wholesaler and neighboring farmers to get price information. No records were found to have used printed or electronic media to obtain price information.

CHAPTER FIVE

Summary and Policy Implications

5.1 Summary

According to the survey, 53% of the selected farmers use market information in deciding the price of the commodity they produced. Most of the farmers mean MIS a price related activity and they normally use market information on making decisions in price formation.

On average in all the study locations 70% of the farmers used television to access the market information they required. The mobile based market information system has developed for only vegetable price dissemination in Sri Lanka. Hence the percentage of access to mobile based market information by vegetable farmers is relatively higher with paddy and other field crop sector.

Selected farmers in all the study locations prefer to receive market information from the public sector (60%). Another 30% expressed their willingness to obtain market information from both public and private sectors and only 10% said they prefer the private sector. Further, 55% of the farmers had selected price information as most important in the production and marketing process. Based on that, they determine what to produce, when to produce and to whom to sell. Information on demand and supply had been selected as the most important information by 25% of the selected farmers. Information on the market had been selected as the most important information by 12% of the farmers and only 10% of the farmers had selected cultivated extent as the most important information.

The survey found that 60% of the farmers are satisfied with the market information which is currently used by them. Of them, 25% are highly satisfied with the market information they used. The most important factor is that 40% of the farmers are not satisfied with the market information. Among the farmers who are not satisfied with the market information stated that the price information disseminated by various media did not match the real market situation.

There is a potential market for market information since 92% of the farmers in the sample expressed willingness to pay for better market information. That is a potential market for both the public or private sectors since there is a demand for accurate and timely market information.

The largest portion (33%) of vegetable farmers in all the study locations considered the price of the product in the previous season as a major factor in crop selection. The

information source is vital and most of the vegetable farmers (50%) in all the study locations had used their own experience in crop selection rather than depending on market information. Another 21% of the farmers had used neighboring farmers as the main source of market information. The percentage of information received from government officers was 12%. Accordingly, it is very clear that most of the vegetable farmers in all the study locations rely on informal sources as the main source of market information. The larger proportion of vegetable farmers stated that the market information on input is a major lacking area in crop selection. They emphasized the need for information on seed, fertilizer and agro chemicals as being most important but rarely available when required. The survey revealed that 72% of the selected vegetable farmers were aware of the prices before supplying vegetables to the market. It is a good indication of awareness of price information of the farmers. As a result of rapid changes in the vegetable marketing system, the access to price information of farmers has increased. Consequently, the bargaining power of the farmers has increased. Further, 56% of the selected vegetable farmers stated that the ability of negotiation on prices is higher when they have price information before selling their products.

The study pays attention to the most prioritized information of paddy farmers in purchasing and using inputs. The selected paddy farmers rated it as follows, a) information in relation with the quality of inputs, b) price information and discounts offered by the traders, c) the correct way of using inputs, d) information on the places to buy inputs.

Information on usage of agro-chemicals for specific diseases is one of the most important with regard to input and such information is rarely available when needed. There should be a proper mechanism to educate farmers on the use of inputs. The survey found that 69% of the selected paddy farmers believed that the information on market situation of paddy/rice is very important to plan or determine whether to sell the entire paddy stock soon after harvesting or store for some time. Hence, paddy farmers expected information on the country situation of paddy/rice market for deciding on selling paddy. Information on the place or person to sell paddy is expected by 24% of the farmers.

Information needs of paddy farmers in relation to marketing of paddy were gathered using a structured questionnaire. The farmers were asked to make a priority list ordering the priority information on marketing paddy. There, 63% of the selected paddy farmer had given first priority for the price information of the day within the locality. The price prevailed on the previous day or in the previous week was selected as most important information by 13% of the selected paddy farmers. Price information of paddy in other markets outside the area was given first priority by 11% of selected farmers. Neighboring farmers, wholesalers and retailers were identified as main information sources in obtaining information by paddy farmers in relation to marketing.

The survey revealed that 46% of the selected paddy farmers received price information of the day from wholesalers and it can be considered as the main information source of price information by the farmers. The second most important source is the neighboring farmers. According to this, most of the paddy farmers depend on wholesalers and neighboring farmers for price information. The percentage of using print or electronic media was at an insignificant level (1%).

According to the survey, the selected OFC farmers had prioritized the following information in crop selection; a) price information prevailed in the previous season, b) price of the crop at the time of planting, c) information on inputs especially seed.

Further the survey found that, 67% of the OFC farmers were satisfied with the information they received at present. The major reason for the non-satisfaction is the lack of own knowledge and neighboring farmers in relation to market information. Also 62 % of the non-satisfied farmers stated that lack of their own knowledge and knowledge of neighboring farmers is a major barrier with regard to market information.

The survey paid attention to understand the most important information of the OFC farmers in purchasing inputs on priority basis. Price information, information on the quality of inputs, places of buying inputs and application were the most important respectively. Further, the survey found that the neighboring farmers, wholesalers and retail traders were the main sources of price information of the selected OFC farmers. No records were found to have used media as the information source for obtaining price information.

5.2 Policy Implications

The study recommends strengthening of farmers' awareness on market information and institutions disseminating market information.

There should be a coordinating body to make farmers aware of providing information on the cultivated extent of each vegetable in each season to make correct decisions.

The study revealed that mobile phone is the most convenient medium for farmers reaching agricultural marketing information. Only vegetable wholesale prices of major wholesale market is disseminated in Sri Lanka at present. It can be expanded for other agricultural commodities and inputs as well.

Timely and accurate information on expected market situation, alternative buyers, extent cultivated and prevailing prices should be made available at a convenient place accessible to farmers.

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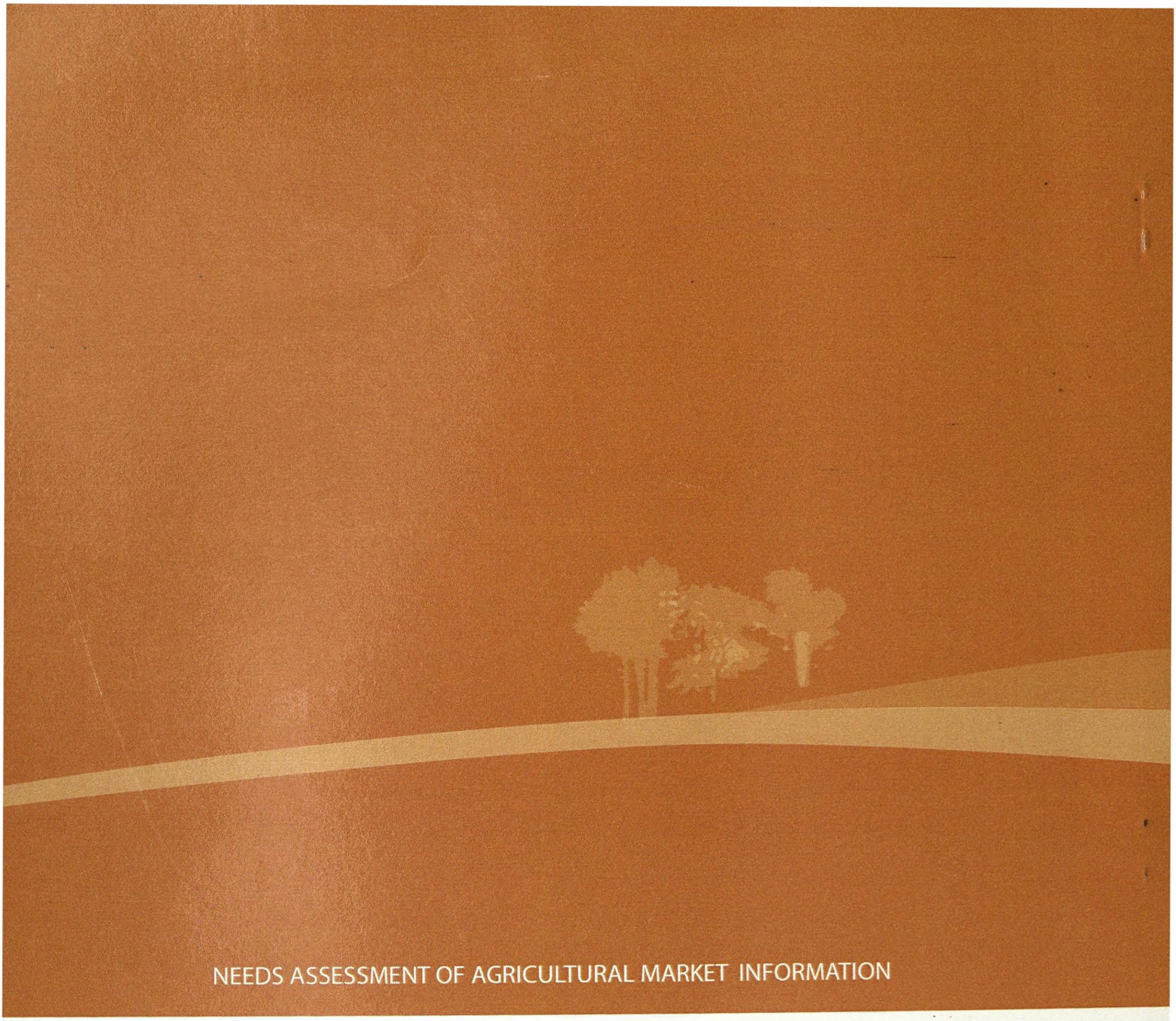

NEEDS ASSESSMENT OF AGRICULTURAL MARKET INFORMATION

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ISBN:978-955-612-212-1

PRICE 220/- LKR

Department of Government Printing

National Digitization Project

National Science Foundation

Institute : National Science Foundation

1. Place of Scanning : Sanje (Private) Ltd, Hokandara
2. Date Scanned : 02/06/2017
3. Name of Digitizing Company : Sanje (Private) Ltd, No 435/16, Kottawa Rd, Hokandara North, Arangala, Hokandara
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