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## **Value chain analysis of Paprika and Bird's Eye Chillies in Malawi**

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**A VALUE CHAIN ANALYSIS IN PAPRIKA AND BIRD'S EYE CHILLIES IN MALAWI UNDER SPICE PROMOTION IN COMMERCIAL ENTERPRISES (SPICE) PROJECT**

**FINAL REPORT**



# SPICE PROJECT

## A VALUE CHAIN ANALYSIS IN PAPRIKA AND BIRD'S EYE CHILLIES IN MALAWI UNDER SPICE PROMOTION IN COMMERCIAL ENTERPRISES (SPICE) PROJECT

### FINAL REPORT

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## ACRONYMS

ADD	Agricultural Development Division
ADF	African Development Fund
AIM	Africa Invest Malawi
ASNAPP	Agribusiness in Sustainable Natural African Plant Products
ASTA	American Spice Trade Association
ASWAp	Agriculture Sector-wide Approach
DAES	Department of Agricultural Extension Services
DANIDA	Danish International Development Assistance
EU	European Union
GTZ	Deutsche Gesellschaft für Technische Zusammenarbeit
ICRISAT	International Crops Research Institute for the Semi-Arid Tropics
PAMA	Paprika Association of Malawi
SPICE	Spice Promotion in Commercial Enterprises
SWOT	Strengths, Weaknesses, Opportunities and Threats
TLC	Total Landcare Malawi

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We take responsibility for any omissions, misrepresentation of facts or any other errors in the report.

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**20 July, 2010**

## **EXECUTIVE SUMMARY**



TLC is implementing a three-year USAID-funded Spice Promotion in Commercial Enterprises (SPICE) project in collaboration with NALI Limited and ASSNAP. The main aim of the project is to link small-scale spice producers to high-value markets and develop the competitiveness of bird's eye chillies and paprika through commercial upgrading of the major players in their respective value chains. Under the SPICE project, TLC commissioned the paprika and bird's eye chillies' value chain study in February 2010 with the overall objective of providing technical guidance, professional expertise and knowledge on the current status of the paprika and bird's eye chillies sector in Malawi and the prospects for value addition of the two crops in Malawi. The study covered Dowa, Dedza, Ntcheu, Salima, Nkhotakota, Nkhatabay, Mzimba and Thyolo districts.

A value chain approach was used to identify the main players in paprika and bird's eye chillies sub-sectors, the governance of the respective value chains, the vertical and horizontal linkages along the value chains and opportunities for value chain upgrading. A review of the different policies that relate to agriculture was also done to highlight the extent to which different policies promote or inhibit paprika and bird's eye chillies production and marketing in Malawi. An analysis of the institutional framework was also conducted to determine the degree of coordination between different institutions in the paprika and bird's eye chillies sub-sector.

Among the major findings of the study, male farmers dominate the production of both paprika and bird's eye chillies in Malawi and the two crops are largely sold to large-scale traders, most of whom are also exporters of the commodities. The smallholder farmers allocated relatively less land (18 percent) to paprika production in 2009/2010 season, compared to 40 percent of land to bird's eye chillies. Although production is dominated by small-scale farmers, a number of commercial producers are also involved, such as Africa Invest Malawi. Some of the commercial producers are also engaged in out-grower schemes with the smallholder farmers. It was also observed that a large proportion of the farmers of both paprika and chillies access their seed through market-based sources. Among the major constraints facing the smallholder farmers is access to market information, especially as it relates to prices. Gross margins for bird's eye chillies were found to be significantly higher (MK79,057/Ha) than that of paprika in the study areas (MK11,553/Ha).

The Malawi paprika value chain has a number of actors. Paprika is mostly grown by smallholder producers, with Africa Invest Malawi being the only commercial producer. Apart from NALI LTD that buys fresh paprika as an ingredient into its Mango achar, most of the paprika is sold to large-scale traders/players as de-seeded pods. Most of the Malawi paprika is exported to spice manufacturing companies and brokers in South Africa. The brokers then export the product to Europe and USA, among other markets. The governance of the Malawi paprika value chain rests with the final buyers. In this buyer-driven chain, the quality demanded by the international buyers is enforced through prices. Similarly, the bird's eye chilli value chain also has few players. The producers are mostly smallholder farmers, who sell their dry chillies to large-scale traders (Nali LTD, Africa Invest Malawi, Cheetah Malawi LTD, and Duconti Produce, among others). The large-scale traders export the commodity mostly to brokers in South Africa, and to end-users in Europe, the United Kingdom and others parts of the developed world. In this buyer-driven chain, prices are dictated by the final consumers.

In order to improve the paprika and bird's eye chillies sector in Malawi, there is an urgent need to substantially increase the production levels and the productivity of the two crops. Specifically, there is need to improve the paprika and bird's eye chillies seed system; improve farmer's agronomic practices through the provision of quality agricultural extension services and also improve the organization of farmers into groups. In order to improve marketing of the two commodities there is need to promote legally-binding contracts between producers and buyers, promote value-adding activities and processes so that different players experience value chain upgrading, promote domestic demand for chillies and paprika, promote vertical linkages among the buyers of paprika and chillies, and also improve the quality, timeliness and utilization of market information. On the policy front, there is an urgent need to develop a horticultural policy, as the sector is operating without a policy, an institutional framework or a legislative framework. It is expected that the three-year SPICE project will help the targeted farmers to address the major constraints and challenges highlighted in this report.

## **CHAPTER 1: INTRODUCTION**

### **1.1 Background**

The agricultural export base for Malawi is dominated by tobacco, a crop viewed by the local population as Malawi's green gold, which contributes over 70 percent of the country's total export earnings. Two decades

after the launch of the anti- smoking campaigns and the steady decline in the tobacco world market prices, the Government of Malawi continues to face problems in diversifying away from tobacco despite the well acknowledged risks associated with over-dependency on one crop for export. Consistent with this observation, Mataya and Tsonga (1999) report that although the country has a potential to diversify beyond tobacco through commodities that are of high-value and less bulky such as spices, oil seeds, some horticultural crops, cotton and pulses, constraints such as the lack of a policy framework and a strategy for implementation, poor dissemination of technical and economic information about the crops, inadequate value-adding activities, and deficient access to production facilities continue to impede the diversification efforts.

Paprika and birds eye chillies offer an important option for diversification out of tobacco. Coupled with the readily available world market for the two crops, earlier studies (Nakhumwa *et al.* (2000) have shown that Malawi is an efficient producer of paprika and other chillies. They report that Malawi has a comparative economic advantage in the production of paprika using both low and high input technology and that low input producers are more efficient than high input producers. At the time of the study the farmer returns per hectare averaged US\$1,300 and US\$2,000 using low and high input technologies, respectively. Such high returns would be used as justification for further investment into the crop. Consequently, the Government of Malawi, in collaboration with NGOs, the private sector, and donor agencies has been implementing several programs aimed at promoting the cultivation of such crops. Paprika was introduced in Malawi in the late 1990s by Cheetah Limited and Press Agriculture Limited. The private sector has also been instrumental in supporting the production of bird's eye chillies. In particular, Nali LTD which produces hot sauces, besides exporting raw bird's eye chillies, has been fundamental in the promotion of chilli production in Malawi.

However, a number of changes in production and marketing environment occurred since the crop was first introduced which might also have led to changes in the profitability of the two crops. Furthermore, previous studies have not looked at the whole range of activities and the interaction of actors along each step of the production system (from raw producer to consumer) as well as the linkages within each set of actors. Such an approach, popularly known as the value chain approach, considers international trade relations as being part of a series of networks of producers, exporters, importers, and retailers, whereby knowledge and relationships are developed to gain access to markets and suppliers. This is the entry point of the study.

The value chain approach is applied in this study to understand the flow of paprika and bird's eye chillies from the production to the end user.

## SCOPE OF THE STUDY

### 1.2 Background to Total Landcare Malawi and the SPICE Project

Total Landcare Malawi (TLC) is a non-profit non-governmental organization in Malawi that was set up in 1999. The mandate of Total Landcare Malawi (TLC) is to improve the livelihoods of smallholder farmers with a focus on community-based approaches to increase agricultural production, food security and incomes within the context of sound natural resource management. In 2006, Total Landcare Malawi (TLC) expanded its operations to Mozambique, Tanzania and Zambia. The main areas of focus for TLC include reforestation and agroforestry; soil and water conservation; sustainable farming practices; irrigation development; and crop diversification, among others.

TLC received funds from USAID in October 2009 to implement a three-year project on Spice Promotion in Commercial Enterprises (SPICE). The SPICE project is being implemented in five districts of Malawi, namely Nkhotakota, Salima, Ntchisi, Dowa and Nkhata-bay. TLC is implementing the SPICE project in collaboration with NALI Limited and the Agribusiness in Sustainable Natural African Plant Products (ASNAPP)<sup>1</sup>. **The main objective of the SPICE project is to link small-scale spice producers to high-value markets and develop competitiveness of bird's eye chillies and paprika through commercial upgrading of the major players in their respective value chains.**

In order to achieve this overall objective, the project is being implemented to attain the following **expected results**.

- Result 1: Increased linkages among various players in the respective value chains.
- Result 2: Increased yields and improved quality of paprika and bird's eye chillies.
- Result 3: Improved knowledge and skills of producers in post harvest handling.
- Result 4: Increased volume of value-added paprika and bird's eye chillies products.

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<sup>1</sup> The Agribusiness in Sustainable Natural African Plant Products (ASNAPP) main objective is to help create and develop successful African agribusinesses in the natural products sector, providing income, employment and development, through environmentally and socially conscious practices to produce high quality natural products for local, regional and overseas markets.

- Result 5: Improved favourable policy and environmental framework for paprika and bird's eye chillies.

The project envisages providing training to over 7,500 paprika and bird's eye chillies producers, while supporting around 2,500 smallholder producers to adopt best agronomic practices. The project further aims at working with five micro, small and medium enterprises (MSMEs) to facilitate linkages between the MSMEs, smallholder producer groups and the government, as well as the other stakeholders in order to raise the spice industry.

Under the SPICE project, TLC commissioned the paprika and bird's eye chillies' value chain study in February 2010 with the overall objective of providing technical guidance, professional expertise and knowledge on the current status of the paprika and bird's eye chillies sector in Malawi and the prospects for value addition of the two crops in Malawi. The detailed Terms of Reference (ToRs) for the value chain study are available in annex 1.

### **1.3 Report Structure**

The report is structured as follows: Chapter 2 presents the major findings from the review of literature. This is followed by Chapter 3, which presents an analysis of the policy environment and a review of the major relevant policies in Malawi. Results from a qualitative and quantitative analysis are presented in Chapter 4, which is followed by a chapter on the institutional framework. The value chain mappings for paprika and bird's eye chillies are presented in chapter 6. Chapter 7 outlines the major strengths and weaknesses of the paprika and bird's eye chillies sub-sector. Finally, chapter 8 concludes the discussion by offering some recommendations based on the findings from this study.

## CHAPTER 2: METHODOLOGY

### **2.1 The Value Chain Methodology**

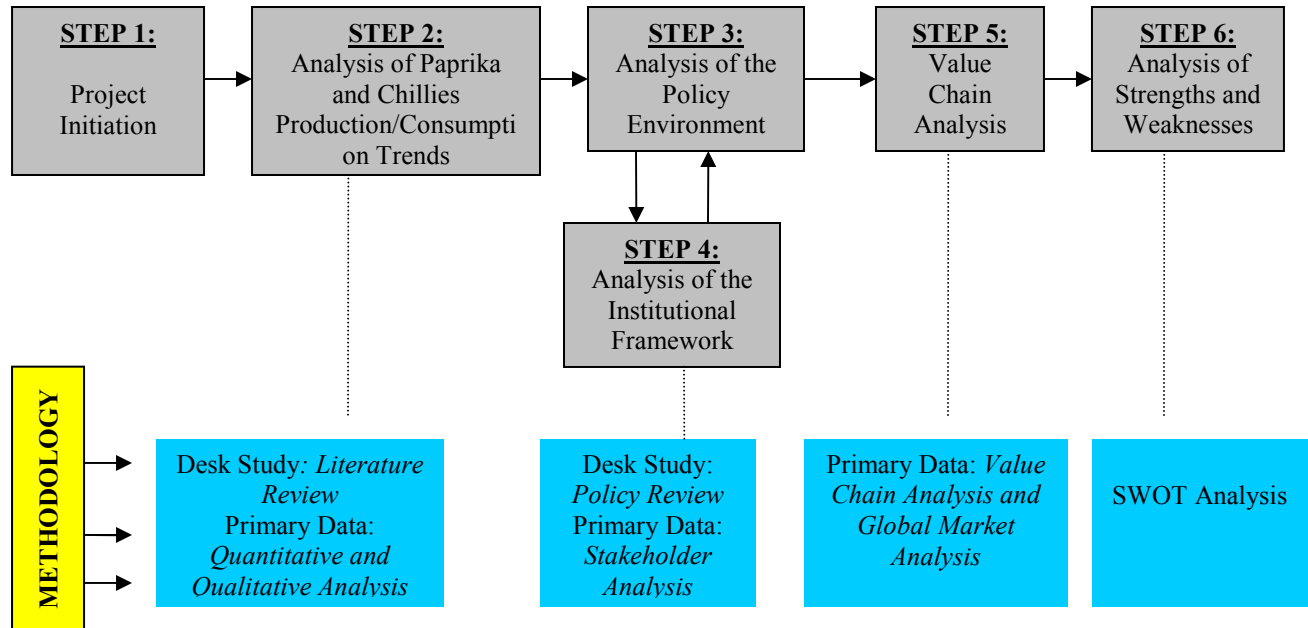
In order to understand the current status of paprika and bird's eye chillies and the prospects for their value addition in Malawi a value chain methodology was used. **A value chain describes the full range of activities required to bring a product from initial primary production, through different phases of production to the final consumer** (Kaplinsky and Morris, 2000; Makoka, 2009; Kaizer Associates, 2006). The value chain methodology provides a systematic way of examining the development of competitive advantage for a production activity as it takes into account the fact that agricultural producers and entrepreneurs in developing countries are increasingly being integrated into the world trading systems. It is therefore important to understand how the different activities and players are interlinked from "farm to fork".

A firm understanding of value chain development is a key component of any strategy that may be formulated to reduce poverty among smallholder farmers in Malawi. This is based on the fact that a value chain provides a way in which farmers can add value to their products and access new and lucrative markets. According to Kaplinsky and Morris (2000), a value chain analysis can be used to:

- Identify the nature and determinants of competitiveness, often assessing a group of interconnected producers rather than narrowly focussing on individual producers;
- Identify which activities are subject to increasing returns to scale, and which activities are facing decreasing returns by focusing on all links in the chain and on all activities within each link;
- Assist policymakers to formulate appropriate strategies and interventions based on the distinctions regarding the nature and dynamics of returns throughout the various links in the chain.

In order to examine the value chains, as well as the other aspects of paprika and bird's eye chillies production, consumption and trade, the study was divided into three components: a desk study, a qualitative and quantitative analysis, and a value chain analysis. Figure 2.1 shows the different steps taken within the three components of the study.

Figure 2.1: Steps Undertaken in the Study



### Component I: Desk Study

As shown in Figure 2.1, one of the methodologies used was a desk study through a review of secondary resources. In particular, the desk study involved a review of literature on paprika and bird’s eye chillies in Malawi. It also included a review of different policies in Malawi to better understand the policy environment, as outlined below:

#### i). Literature Review

The first aspect of the desk study was a review of literature on paprika and bird’s eye chillies sector in Malawi. In particular, the SPICE project proposal was reviewed to understand the background, as well as the objectives of the project. Past studies that have been conducted on paprika and bird’s eye chillies in Malawi were reviewed and the major findings are highlighted in chapter 3. The literature review also involved an analysis of the production, consumption and trade trends in paprika and bird’s eye chillies in Malawi, while unveiling any past and current efforts by the government of Malawi and other stakeholders to promote the two crops in Malawi. Studies on value chain development for paprika and chillies conducted in

other countries (such as Zambia, Mozambique, South Africa, Rwanda, Uganda, Cambodia and Australia) were also reviewed.

**ii). Policy Review**

Different policies that relate to agricultural production and consumption in Malawi were reviewed **to determine the extent to which the policy environment supports or inhibit paprika and bird's eye chillies, production, consumption and trade.** Among the policies reviewed include:

- The Malawi Growth and Development Strategy (MGDS) (2006)
- The Agriculture Sector Wide Approach (ASWAp) (2009)
- Agricultural Extension in the New Millennium (2000)
- Agricultural Research Master Plan (1995)
- The Crop Production Policy (1987 )
- National Seed Policy (2003)
- Malawi National Land Policy (2002)
- National Land Resources Management Policy and Strategy (2000)
- The Bingu Greenbelt Concept (2009)
- Food and Nutrition Security Policy (2005)
- National Irrigation Policy and Development Strategy (2000)
- Integrated Trade and Industry Policy (1998)
- Micro and Small Enterprise Policy Statement (1995)
- Cooperative Development Policy (1997)

The policy review also highlighted the existing gaps in the policies, which would promote the production, consumption and trade of paprika and bird's eye chillies if addressed.

**iii). Review of Institutional Framework within the paprika and bird's eye chillies sub-sectors**



Different institutions within the paprika and bird's eye chillies sub-sectors were reviewed to understand the extent to which their set-up, mandate and functions promote paprika and bird's eye chillies production, consumption and trade in Malawi. The institutions include the Ministry of Agriculture and Food Security, The Paprika Association of Malawi, Cheetah Malawi Ltd, Nali Ltd, etc.

## **Component II: Quantitative and Qualitative Analysis**

The second component of the study involved undertaking both quantitative and qualitative analyses of production, consumption and trade issues relating to paprika and bird's eye chillies in Malawi. This involved the use of both primary and secondary data. Secondary data sources included crop and trade estimates for paprika and bird's eye chillies from the Ministry of Agriculture and Food Security, Cheetah Malawi Ltd, National Statistical Office and the FAOSTAT database. Of paramount importance, however was primary data which were collected from paprika and bird's eye chillies farmers in the SPICE project implementation areas of Dowa, Ntchisi, Salima, Nkhotakota, Nkhatabay and Mzimba. Other districts from which data were collected but are not currently under the SPICE project are Dedza and Thyolo. These were included in the sample as Dedza is among the leading producers of paprika while Thyolo produces a significant proportion of Malawi's bird's eye chillies.

A total sample of 209 households was interviewed in the selected districts. The distribution of households that were selected for the producers' survey in each district is presented in Table 2.1. Out of a total sample of 209 households, 118 (representing 56 percent of the sample) were paprika producers while the rest were producers of bird's eye chillies. As depicted in Table 2.1, paprika farmers were mainly from Dowa (*Nachisaka EPA*), Ntchisi (*Malomo and Kalira EPAs*), Nkhotakota (*Mwansambo EPA*) Dedza (*Kaphuka EPA*) and Mzimba (*Eswazini EPA*). The producers of bird's eye chillies were mainly from Salima (*Khombedza EPA*), Nkhotakota (*Nkhunga and Linga EPAs*), Nkhatabay (*Chintheche EPA*) and Thyolo (*Khonjeni EPA*).

Figure 2.2: Map of Malawi Showing Study Areas



**Table 2.1: Distribution of sampled households by district**

District	Paprika		Total
	producer	Bird's eye chillies producer	
Dowa	23	0	23
Dedza	20	0	20
Ntchisi	30	0	30
Salima	0	16	16
Nkhotakokota	22	43	65
Nkhatabay	0	17	17
Mzimba	23	0	23
Thyolo	0	15	15
<b>Total</b>	<b>118</b>	<b>91</b>	<b>209</b>

Using a household questionnaire selected households provided information on various aspects of the household including household compositions and characteristics, household farm assets besides land, crop and livestock production, production and marketing of paprika or bird's eye chillies, access to information, and constraints faced in the production of paprika and bird's eye chillies. Information was also collected on the constraints in the marketing of paprika and bird's eye chillies, sources of inputs for the crops, yield levels and suggestions from farmers on ways to address such constraints.

### **Component III: Value Chain Analysis**

In this study, *a value chain is defined as a range of activities required to bring a product from production to the final consumer*. Thus, the aim of the value chain analysis was to track the processes that paprika and bird's eye chillies go through from production to the final consumer. In particular, the value chain analysis aimed at identifying the following:

- The main players in the paprika and bird's eye chillies value chains and their roles and functions;
- Governance of the paprika and bird's eye chillies value chain;
  - Main drivers in the value chain

- Inter-firm cooperation and competition
- Vertical and horizontal linkages among the different players within the paprika and bird's eye chillies value chains;
- SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis in the paprika and bird's eye chillies value chains;
- Marketing and value addition within the value chains
  - Supporting markets and services;
  - End markets;

## **CHAPTER 3: OVERVIEW OF THE BIRD'S EYE CHILLIES INDUSTRY**

### **3.0 Introduction**

The African bird's eye chillies are among the most pungent varieties of pepper in the world (UEPB, 2005). Malawi is one of the leading producers of African bird's eye chillies in the world. Other producers include Ghana, South Africa, Uganda, and Zimbabwe. Malawi's bird's eye chillies are highly sought after internationally (Nakagawa *et al*, 2009). This chapter presents the major findings from a review of the literature on paprika and bird's eye chillies. In particular, it presents the ecological conditions necessary for the production of the two crops, uses and markets, global outlook as well as past initiatives to promote the two crops in Malawi.

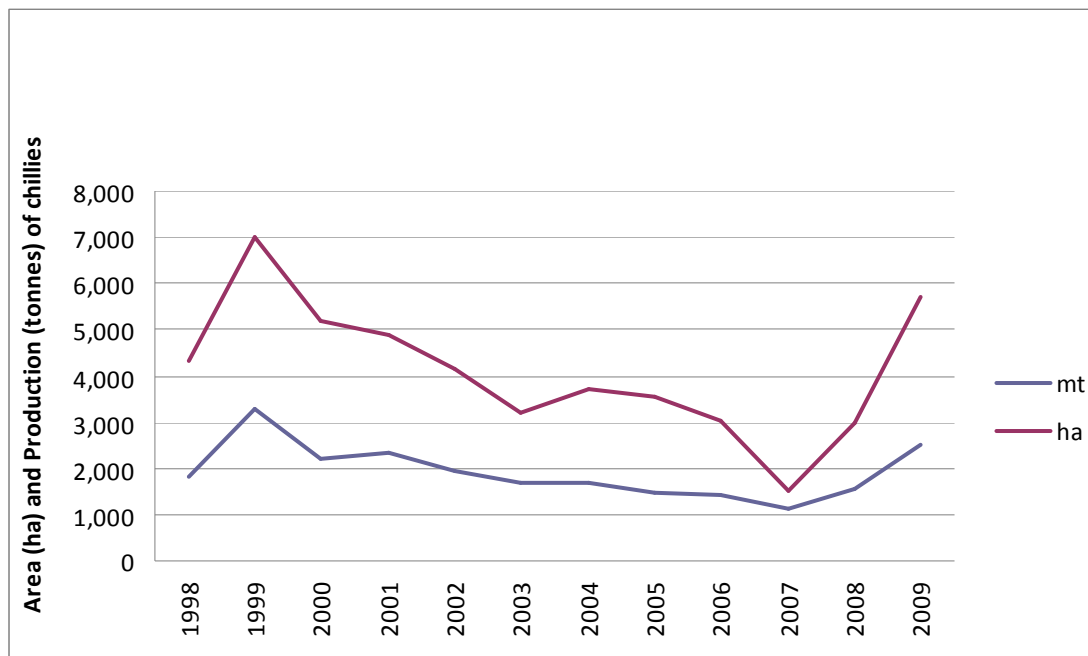
### **3.1 Uses**

The Bird's Eye chilli plant is a small bush that can grow to a height of 4 feet and sometimes more with a productive life of two to three years. Among others, bird's eye chillies are used as curry ingredient, pharmaceuticals, organic pest control spray and in making tear gas. Most Bird's Eye chillies are processed to extract the oleoresins for sale to the food and pharmaceutical industries (ADC, 2001). The market demands top quality and consistent product. There are specialized brokers in Europe, North America, the Middle East, and Asia who deal with chillies. The European Union, the United States, and Japan are the largest markets of high pungency dried chillies.

### **3.2 Ecological Conditions**

Bird's eye chillies grow well in an altitude of coastal lowlands to lower-midlands, from sea level to 1,500 meters. Optimum temperatures range from 20 degrees to 30 degrees Celsius (minimum, 16 degrees Celsius and maximum, 32 degrees Celsius). Chillies can survive a wide range of rainfall, optimum range: 600 ml to 1,200 ml per year and is generally very draught resistant. Excess rain can defoliate crop and cause rotting. Furthermore, extreme water deficits can stunt growth and cause flower abortion and fruit drops. The soil type ranges from light sand to heavy clay with Ideal pH of 5.8-6.5. However, slightly higher levels of pH can be tolerated. Chillies are also suited for well-drained, aerated and light- to medium-textured sandy loams.

Figure 3.3: Hectarage and Production of Bird's Eye Chillies in Malawi (1998-2009)



Source: Ministry of Agriculture and Food Security

Figure 3.1: A Farmer in the field of bird's eye chillies



Source: Photo taken by Authors

### 3.3 Pests and Diseases

Common pests which attack chillies include; Cutworms, thrips (*Sciothrips dorsalis*), Aphids (*Aphis gossypii*), and Red spider mites (*Polyphagotarsonemus latus*). Neem tree extracts are used as a repellent. Soap solution is also used as a control measure in other cases. In addition, common diseases are rots and diebacks, which are caused mostly by *Colletotrichum Capsici*, and bacterial wilts. Others include blights, mildews and rust. Remedial measures to these disease attacks include; careful seed selection and phytosanitary measures, practicing crop rotation, applying Copper Sprays like Kocide DF, Cuprocafaro, Funguran and Copper ox chloride; and seed treatment (root Guard and Gaucho aimed at preventing damping off at the nursery stage).

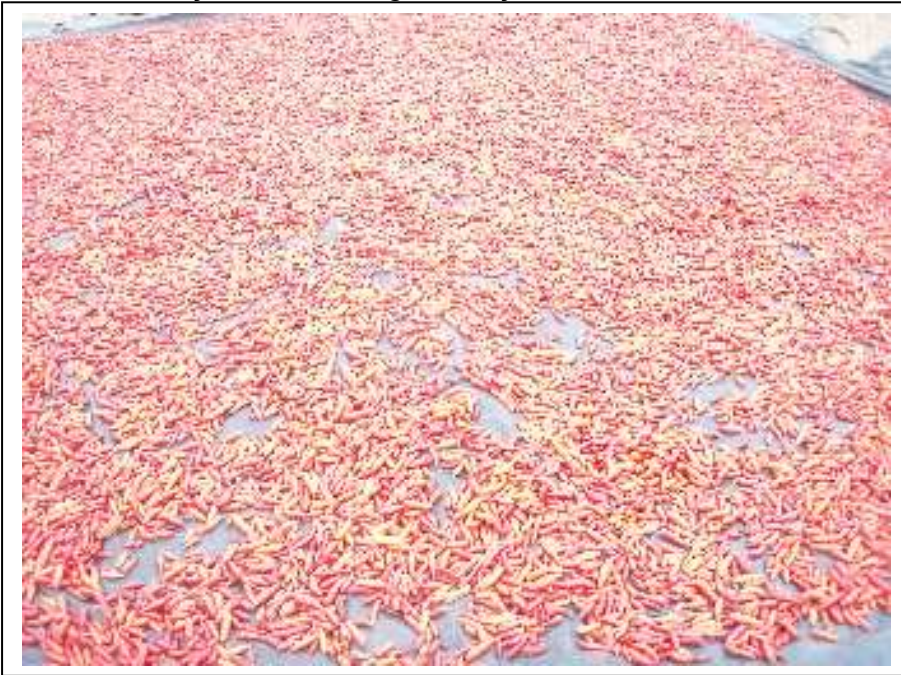
### 3.4 Harvesting

Chillies are ready for first fly picking between 2½ to 3 months. Picking continues for 3 to 4 months and it is recommended to harvest all the Red Ripe Chillies as soon as they appear. Chilli sizes vary from 1 cm to 3 cm long. Depending on management a farmer can yield 1,000 kg to 3,000 kg per acre.

### 3.5 Drying

It is recommended not to dry chillies on the ground or directly in the sun/open to avoid rain damage and sunburn. Drying takes 4 to 7 days. Fruits should be shrivelled yet not brittle (moisture content of 7.5 to 8 percent). After drying, chillies should be stored in a covered basket or a gunny sack and kept in a dry place off the ground. Drying must reach a moisture content of 13% before storage to avoid growth of Aflatoxins. Storage should be in gunny bags in dry, well-ventilated stores and should not be handled to limit irritation and maintain pungency.

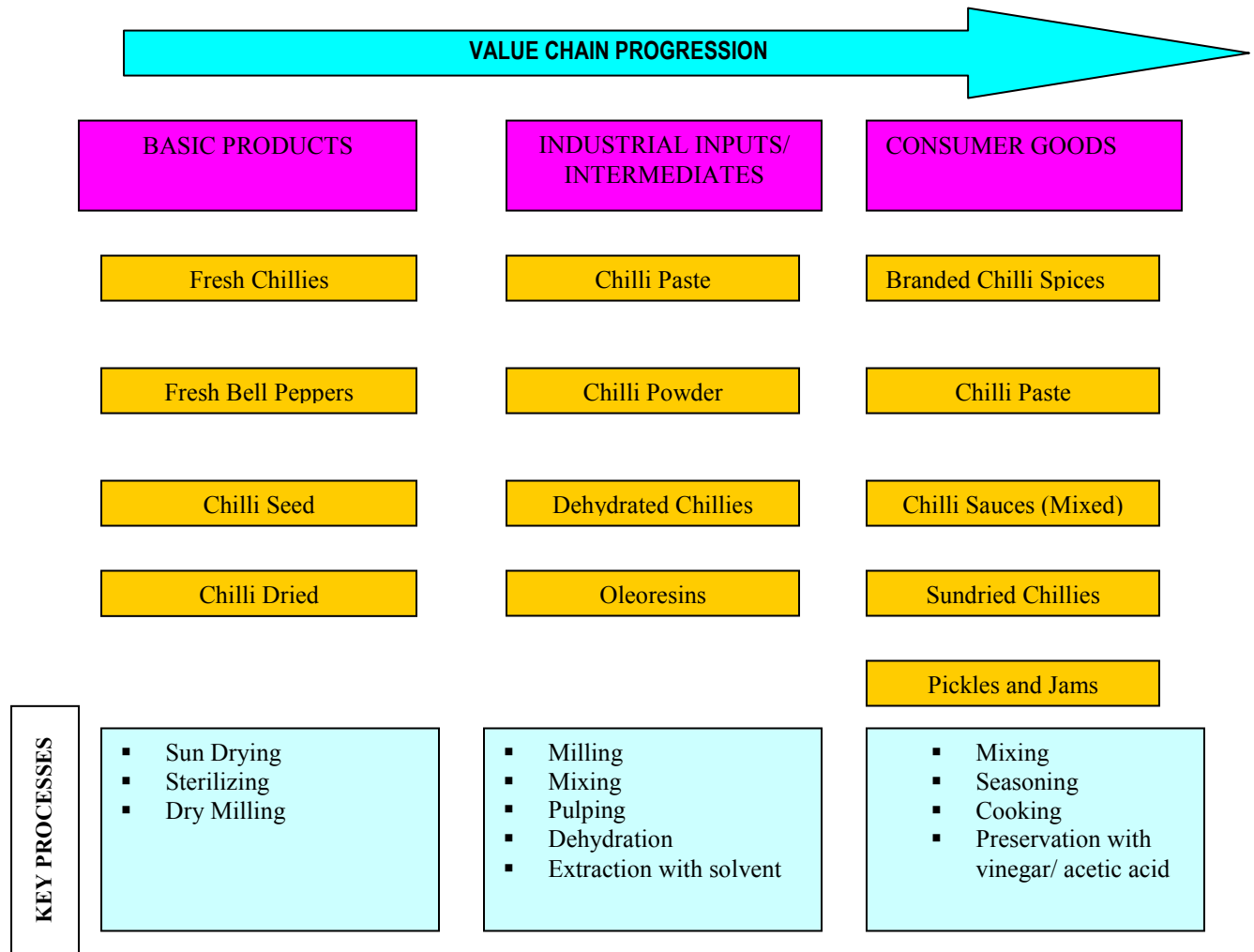
Figure 3.2: Bird's Eye Chillies Being Dried by a Small-scale Producer.



Source: Photo taken by Authors



Figure 3:3 Bird's Eye Chillies' Value Chain Progression



Source: Kaiser Associates (2006)

Figure 3.3 shows the different ways in which bird's eye chillies gain value as it passes from one process to another. The basic products from chillies, such as fresh chillies, chilli seed and dried chillies, can be turned into industrial inputs or intermediaries, such as chilli powder, chilli pastes and oleoresins. These can further be turned into consumer goods through mixing and branding.

### 3.6 Global Markets for Bird's Eye Chillies

The chilli markets are dynamic and stable worldwide due to an increased demand in the natural products for food and pharmaceuticals in the Western World (Geoffman Enterprises, 2009).

#### **Table 3.2: Global Chilli Markets and Competition**

Table 3.2 shows the global markets for chillies and highlights major issues relating to market access for these high-value international markets. The major markets for chillies are United States of America, the United Kingdom, Germany, France and China. There is also a market for chillies in Africa, especially in West Africa where the majority of the population eat hot dishes.

**Table 3.3: Global Chilli Markets and Competition**

COUNTRY	SIZE AND CHARACTERISTICS OF THE MARKET	CONSUMER TRENDS	COMPETITION	ISSUES RELATED TO MARKET ACCESS
United States of America	<ul style="list-style-type: none"> <li>▪ Leading importer of fresh, dried and further processed chillies</li> <li>▪ Second biggest importer of curries</li> </ul>	<ul style="list-style-type: none"> <li>▪ Ageing Population</li> <li>▪ Relatively high population growth due to immigration and high fertility rates of immigrants</li> <li>▪ High growth of Hispanic population</li> <li>▪ Preference for ethnic foods by immigrants</li> <li>▪ High prevalence of convenience eating</li> </ul>	<ul style="list-style-type: none"> <li>▪ Mexico is the leading global exporter of fresh chillies;</li> <li>▪ India, Spain and Brazil are leading suppliers of dried or further processed chillies</li> </ul>	<ul style="list-style-type: none"> <li>▪ Highly competitive food sector characterised by consolidation;</li> <li>▪ Increased direct procurement of products from food suppliers;</li> <li>▪ Over 80 % of processed food is nationally or regionally sourced.</li> </ul>
United Kingdom	<ul style="list-style-type: none"> <li>▪ Significant importer of fresh chillies;</li> <li>▪ Leading importer of curries;</li> <li>▪ Major exporter of curries.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Ageing population;</li> <li>▪ Strong growth of ethnic populations</li> <li>▪ Preference of ethnic foods by immigrants;</li> <li>▪ Increasing emphasis on quality of food products;</li> <li>▪ High prevalence of convenience eating</li> </ul>	<ul style="list-style-type: none"> <li>▪ India is a major supplier of curries, competing on cost;</li> <li>▪ South Africa is a major supplier of chillies;</li> <li>▪ Papua New Guinea and China also supply chillies;</li> <li>▪ Other Africa countries (Uganda, Nigeria, Zimbabwe) supply low volumes of dried chillies</li> </ul>	<ul style="list-style-type: none"> <li>▪ Concentration of supplier efforts by major retailers;</li> <li>▪ Dominance of small group of local producers in mainstream retail;</li> <li>▪ Established speciality importers of hot sauces;</li> <li>▪ Quality and non-tariff barrier compliance.</li> </ul>
Germany	<ul style="list-style-type: none"> <li>▪ Western Europe's biggest market for consumer-oriented foods and beverages;</li> <li>▪ Major importer of fresh, dried and further processed chillies;</li> <li>▪ Europe's largest market for organic products</li> </ul>	<ul style="list-style-type: none"> <li>▪ Increases in number of working women and the number of single-person households;</li> <li>▪ Strong growth in the consumption of convenience foods;</li> <li>▪ Large immigrant population;</li> <li>▪ Consumer concerns about food safety and the environment.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Netherlands, Spain and United Kingdom are major suppliers of fresh, dried or further processed chillies, competing on proximity;</li> <li>▪ South Africa is an important supplier of chilli products.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Stringent German and EU food law requirements;</li> <li>▪ EU internal market results in food products from the other EU member states having a competitive advantage in the German market;</li> <li>▪ Very competitive market combined with stagnant growth in retail sales.</li> </ul>

## Value Chain Analysis for Paprika and Bird's Eye Chillies under SPICE Project. MAIN REPORT.

France	<ul style="list-style-type: none"> <li>▪ Significant importer of fresh and dried/ground chillies and curries and mixes;;</li> <li>▪ EU's most competitive producer, processor and exporter of agricultural and other food products.</li> </ul>	<ul style="list-style-type: none"> <li>▪ High prevalence of convenience eating;</li> <li>▪ Imports are largely innovative foods that are not produced in France;</li> <li>▪ France has an increasing interest in foreign cuisine and products.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Spain and UK are major suppliers of fresh, dried and further processed chillies and curries, competing on proximity;</li> <li>▪ South Africa is an important supplier of chilli products.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Mandatory stringent customs duties, sanitary inspection and labelling requirements;</li> <li>▪ Price competition is fierce and there is heavy pressure to observe suppliers' norms;</li> <li>▪ Retailers look for well known branded products with promotional backing.</li> </ul>
China	<ul style="list-style-type: none"> <li>▪ Largest producer of chillies globally;</li> <li>▪ Leading exporter of dried or crushed chillies.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Rapid urbanization;</li> <li>▪ Increasing demand for convenience and ready-to-eat foods;</li> <li>▪ Rapidly maturing retail sector;</li> <li>▪ Consumers are highly sensitive to prices.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Strong competition from Asian countries with similar tastes;</li> <li>▪ Preference for locally sourced raw materials for processed products;</li> <li>▪ Incentives and protections to domestic participants.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Localised procurement of processed products is prevalent;</li> <li>▪ Large number of players in a fiercely competitive market;</li> <li>▪ High prevalence of procuring food ingredients locally;</li> <li>▪ Suppliers often obliged to pay slotting fees to growing hypermarket sector.</li> </ul>
Africa	<ul style="list-style-type: none"> <li>▪ Insufficient information to clearly quantify the market;</li> </ul>	<ul style="list-style-type: none"> <li>▪ Strong tastes for hot food in some countries, particularly in West Africa;</li> <li>▪ Widespread poverty and low income levels;</li> <li>▪ Increasing number of Asian immigrants (Indians, Pakistanis and Chinese).</li> </ul>	<ul style="list-style-type: none"> <li>▪ Strong competition in African chillies from South Africa, Uganda, Ethiopia and Ghana.</li> </ul>	<ul style="list-style-type: none"> <li>▪ The market for chilli products is mainly low end, with high barriers to entry.</li> <li>▪ South African companies have an advantage of supplying to their supermarkets, such as Shoprite, which sells food products to more than 10 African countries.</li> </ul>

Source: Kaiser Associates (2006)



## **CHAPTER 4: OVERVIEW OF THE PAPRIKA INDUSTRY**

### **4.0 Introduction**

Paprika was first introduced to Malawi in 1995 by Cheetah Zambia, two years after establishing its operations in Zambia (ECIAfrica, 2006). At the time of its introduction, Cheetah Zambia worked in collaboration with a local company, Press Agriculture which organized a paprika outgrower scheme under a smallholder tenant system. Under that arrangement, Press Agriculture was responsible for providing land and all inputs to the tenants, and the farmers were obliged to sell their paprika produce to Press Agriculture. However, because of widespread criticisms of the tenant system, Press Agriculture abandoned the arrangement in 1997.

After Press Agriculture had pulled out of paprika production, Cheetah Malawi was established in 1997 and took over the paprika farmers, which were now required to grow paprika on their own land. Around the same time, the Government of Malawi had been looking for a high-value crop to be an alternative export earner next to tobacco. This initiative was undertaken due to falling prices of tobacco leaf, as a result of the global anti-smoking lobbying, spearheaded by the World Health Organization. Through the Ministry of Trade and Private Sector Development, as well as the Malawi Export Promotion Council, paprika was identified as the alternative crop. As a result, the crop gained popularity among smallholder farmers, especially in tobacco growing districts of Malawi to the extent that an association of paprika farmers (called the Paprika Association of Malawi, PAMA) was formed in 1998.

#### **4.1.1 Use and Markets**

Paprika (*Capsicum annuum*), is from the same family as tomato, tobacco, potato and eggplant. It is used as a flavouring ingredient and a colorant in the food industry. The colour is measured in ASTAs, which are units defined by the American Spice Trade Association. There are two paprika products that are produced: paprika oil and paprika powder, all of which contain the rich orange/red colour. Over 90% of the paprika products are used in the food industry, while the remainder is used in pharmaceutical products. All the products produced at this plant have a rich orange/red colour; after all, paprika is a natural dye and it is used worldwide because of the colour it brings to foods and other kinds of products. Typically, the farmer

brings in big bags filled with dried paprika. Each bag is labelled showing the Grade of the paprika (Grade A, Grade B or Grade C), the weight of the bag and the lot number. They are brought in dried, with only 10% moisture content; a condition set by the Paprika plants to allow for better extraction of the oil and powder. The pod usually contains 30% seed.

**Figure 4.1: Paprika in a smallholder farmer's field**



Source: Photo taken by Authors

#### **4.1.2 Ecological Conditions**

Paprika's growth period is over 7-9 months and prefers warm summer rainfall areas with irrigation. The altitude is from sea level to 1800m with optimum temperatures varying from 24-40 degrees Celsius. Too hot areas induce flower drop and too cold temperatures retards growth and maturity. Some of paprika-growing countries worldwide are Argentina, Brazil, Chile, Hungary, Mexico, Morocco, South Africa, Zimbabwe, Israel, United States of America, some parts of Mozambique and Malawi. Yields vary due to soils, temperature, moisture stress, nutrients, pests and diseases pressure and management. Preferred soils are rich fertile well drained with good humus content and pH of 6.0 – 6.8. A rainfall of more than 800 mm is desirable. Scale farmers without inputs might achieve between 300 to 500 kilograms per hectare,

compared with an average of 2.3 Mt from a high-yield system and 1.6Mt from a low- yield system (PAMA, 2003 and Langmead, 2003).

#### **4.1.3 Pests and Diseases**

Common pests in paprika include African Bollworm (*Heliothis armigera*), Cutworms, false wireworm, white grubs, thrips, Jassids, Red spider mites and Termites. Common diseases include powdery mildew, anthracnose, ripe rot, root rot or phytophthora blight, fusarium wilt, bacterial spot.

#### **4.1.4 Harvest and Post Harvest Management**

Paprika is usually harvested when pods are dark red to purple-brown colour and when moisture content is between 10-20%. These factors can be obtained when pods are left to ripen and partially wither on the plant. Picking starts when the apex of the pods starts to dry down, shoulders collapse around carlyx and the carlyx itself starts turning yellow.

#### **4.1.5 Drying**

Drying is normally done on racks that are 1.0m high tables and are made out reeds or grass on rails of poles. It is recommended to spread paprika two pods high to avoid rotting. The process might take 3-4days. When fruits are about to crack when squeezed it is the right time to remove your paprika off the racks ready for bailing. Four simple grades of paprika are; Grade 1: dark-purple (maroon) pods without blemishes with thick skins; Grade 2: dark-red/purple with thinner skin compared to that of grade one; Grade 3: dark-red with maximum of 25% spots or blemishes; Grade 4: reddish and orange in colour with spots.

#### **4.2 Global Outlook of Paprika and Chillies**

In recent years Malawi has emerged as a player in the expanding world market for paprika (*Capsicum annuum*), which is from the same family as tomato, tobacco, potato and eggplant. Paprika is used as a flavoring and a colorant in the food industry. The colour is measured in ASTAs, which are units defined by the American Spice Trade Association. Paprika is another name for sweet pepper. It looks like a hot chilli, but lacks the pungency. It is used to make oil (used as a natural food colorant) or ground into a powder and used as a spice. In Malawi paprika is mostly grown by smallholder farmers whose number has increased



exponentially in recent years. Kumwenda and Madola (2005) indicated that an estimate of about 60,000 smallholder farmers is growing paprika on contract in Malawi.

Once farmers have made the decision to diversify into a cash crop in addition to their maize food security crop, paprika is viewed as particularly profitable, along with cotton and tobacco, but as being less labour intensive. With its large tobacco production, Malawi seemed ideal for the introduction of this new cash crop. The trade in paprika is based on its colour, which is measured in a laboratory. The oil extractors have stringent colour requirements. In other instances the dried flesh of paprika is exported because it has better colour.

Paprika can be cultivated from sea level to 1500m in optimum temperatures of between 24°C and 32°C, in a well-draining loamy fertile soil with a pH between 6 and 6.5. A rainfall of more than 800mm is desirable and yields can be up to five tons per hectare with inputs, under irrigation and with artificial drying; small-scale farmers without inputs might achieve between 300 to 500 kilograms per hectare, compared with an average of 2.3 Mt from a high-yield system and 1.6Mt from a low- yield system (Langmead, 2003).

There are two paprika products that are produced: paprika oil and paprika powder, all of which contain the rich orange/red colour. Over 90% of the paprika products are used in the food industry, while the remainder is used in pharmaceutical products. All the products produced at this plant have a rich orange/red colour; after all, paprika is a natural dye and it is used worldwide because of the colour it brings to foods and other kinds of products. Typically, the farmer brings in big bags filled with dried paprika. Each bag is labelled showing the Grade of the paprika (Grade A, Grade B or Grade C), the weight of the bag and the lot number. They are brought in dried, with only 10% moisture content; a condition set by the Paprika plants to allow for better extraction of the oil and powder. The pod usually contains 30% seed.

When extracting oil from the pods, the seeds are removed. The seeds have over 10% of oil in them, but this is not used in creating the oil; instead the pod is used, which has 6%-9% oil. This is because paprika oil is known for its rich colour; if the seeds were to be used in the paprika oil production, the oil would have no colour. Therefore, it is the empty pod, which is rich in orange/red that is always used in processing for oil. This oil is used for many purposes, one of which includes mixing the oil in sausages. The seeds are used

as raw material for creating the paprika powder, which is then used as spice, either in its pure form or mixed with other spices.

### **4.3 The Paprika Economy in Malawi**

Initially the smallholder sector dealing with paprika was relatively small, but it has grown rapidly after tobacco production was liberalized. Paprika was first introduced to larger farms in various areas in 1995. The following year, smallholder farmers nearby started growing the crop as well. About 3, 803 hectares (ha) of land is allocated to paprika by smallholder farmers who then produce about 511, 489 Metric tons (MT). For chillies, 1, 565 MT was estimated to be produced from 2, 826 ha of land. Production with estates was estimated at 14 MT and 44 MT for paprika and chillies respectively. Estimated hectarage was at 9 ha and 102 ha for paprika and chillies respectively (Ministry of Agriculture, 2010). Paprika is normally grown in rotation with maize, soybeans, groundnuts or beans. Nearly all the paprika grown in Malawi is exported to Europe, South Africa and America.

Some of the key actors dealing with paprika in Malawi include; Africa Invest, Cheetah, Mughona Enterprises, NALI Limited and Duconti Produce. Most of these actors provide their own extension services to farmers through paprika clubs. Extension workers are allocated to specific areas, and also organize meetings with the paprika clubs and provide technical know-how to farmers, government extension workers and NGO staff. Other responsibilities include distributing seed, providing extension, and procuring paprika in his area. The extension officer coordinates a number of field assistants: these are local farmers with several years of experience with the crop. Extension messages cover sowing, transplanting, field management, harvest and post-harvest management. Quality issues are emphasized, and all lead farmers and field assistants are trained how to grade paprika. It is very important to keep in contact with the farmers to control the quality and quantity of output. Without such controls, the export market might be easily lost.

### **4.4 Key Trends in the Local Market**

Taking farming as a business has become one of the most important messages being given to smallholder farmers. This means that the farmers need to have enough information to make sound business decisions before they start growing paprika.

Ideally paprika farmers in Malawi are organized into associations which fall under the Paprika Association of Malawi (PAMA). PAMA has established standards for the industry, which are aimed at reducing confusion among farmers, as well as with other buyers in the market. Standards on grading (4 grades have been agreed), purchasing methods and administration are important for a new and growing industry. PAMA's involvement has also helped create transparency and reducing fraud against, or by, farmers. All issues raised by farmers are directed to PAMA for consideration. This gives farmers a feeling that they are treated fairly. Each year a buyer–seller meeting agrees on prices for the season and sets modalities and standards for buying, transport and packaging. This ensures that the quality and quantity are what the market requires. However, there are several challenges that PAMA faces which limit its ability to coordinate the activities of different actors in the paprika sub-sector (see Section 7.1.7).

#### **4.5 Global Markets for Paprika**

Competition in the global market for paprika is determined by colour quality. Prices of dried paprika, paprika powder and oleoresins are directly related to their colour values, which are measured by ASTA values and colour units (Kaiser Associates, 2006). There are several developments in the paprika value chain that have a bearing on the demand of paprika worldwide. First, it has been observed that natural flavourants and colourants are increasingly substituting artificial flavourants and colourants, as food manufacturers increasingly insist on natural products in line with consumer demands and increasing awareness of food safety. Second, oleoresins are expected to increasingly substitute paprika powder, as oleoresins are a higher quality input.

Figure 4.2: Global Markets for Paprika

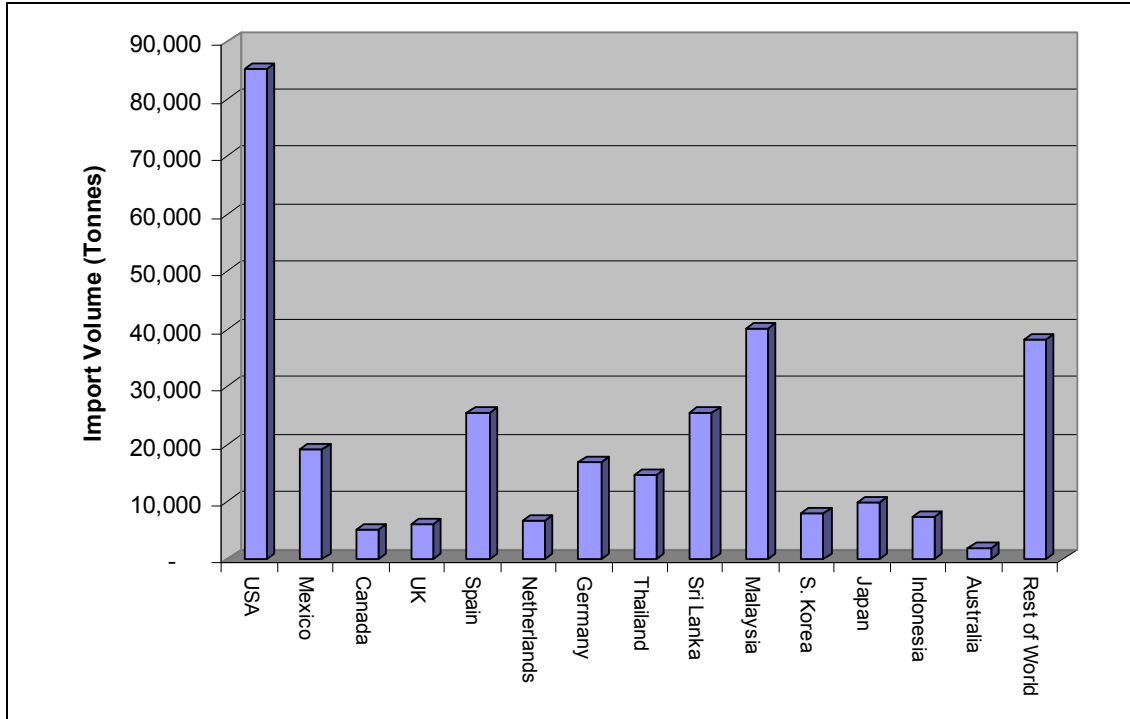
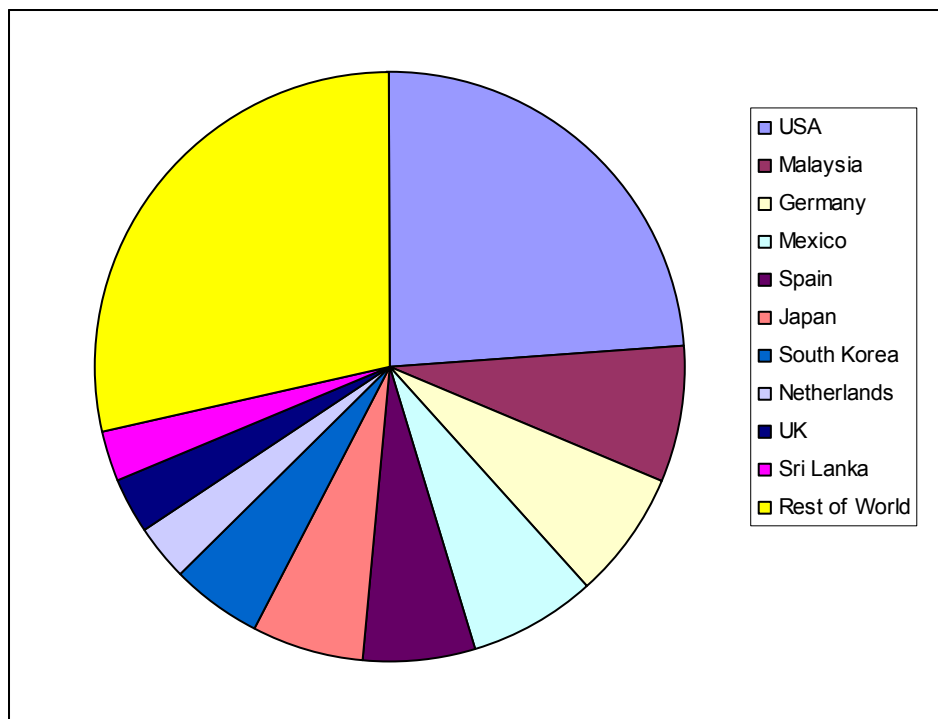


Figure 4.3: Major Importing Markets for Paprika, 2004



Source: Lancaster (2009)

#### 4.6 Returns to Land and Labour for Paprika and Bird's Eye Chillies

A study commissioned by the Malawi Government on agricultural marketing and food processing in Malawi in 2008 provides a comprehensive analysis on the outlook of different horticultural crops including paprika and bird's eye chillies. Table 4.3 extracted from the report shows the returns to land and labour, including breakeven price and yield for paprika and chillies in 2006/2007.

**Table 4.4: Return to Land and Labour, and Breakeven Price and Yield for Paprika and Chillies, 2006/2007**

Crop	Level	Return to land (MK/ha) <sup>1</sup>	Return to labour (MK/personday) <sup>2</sup>	Breakeven yield/ha	Breakeven Price (MK/Kg)
Paprika	Rain-fed	3,811	15.2	568.4	114.14
	Irrigated	34,393	110	1,214	97.60
	<i>Average</i>	<i>19,052</i>	<i>68</i>	<i>892</i>	<i>102.50</i>
Chillies	Rain-fed	24,117	65	204	96.09
	Irrigated	178,603	407	418	45.93
	<i>Average</i>	<i>101,360</i>	<i>250</i>	<i>311</i>	<i>55.42</i>

Source: HMFP Study (2008)

Notes: 1. Return to land shows the gross margin per hectare

2. Return to labour shows the gross margin per person-day

Using 2006/07 data, both paprika and bird's eye chillies had positive returns to both land and labour. The positive gross margins (per hectare and per person-day) show that the value of their output is sufficient to cover their total variable costs of production. However, the returns to labour for both paprika and chillies are much lower under rain-fed agriculture than under irrigation. At the time of the study, the minimum rural wage rate was MK105/day, and as can be seen from Table 4.3, the returns to labour under rain-fed agriculture was lower than the minimum rural wage rate. This means that paprika and bird's eye chillies under rain-fed agriculture appeared to be a less productive enterprise, as the opportunity cost for their labour was higher elsewhere. The implication is that farmers would be better-off to move from producing paprika and bird's eye chillies under rain-fed agriculture to another enterprise that would give them more than the minimum rural wage.

#### 4.7 Past Initiatives to Promote Paprika and Bird's Eye Chillies

There are several initiatives that government put in place in the past to promote horticultural crops, including paprika and bird's eye chillies. In the late 1990s, there was a **German-Malawi Promotion of Horticulture Project** in the Department of Crop Production in the Ministry of Agriculture. With financial and technical assistance from GTZ, the main objective of the project was four-fold:

- To contribute to improved food security and incomes both in rural and urban areas of Malawi;
- To increase diversification of agricultural production;
- To Improve local marketing for horticultural crops, and
- To promote horticultural exports.

Among other things, the project aimed at promoting the production, marketing and processing of spices, herbs and medicinal plants (Malawi Government, 1999). The emphasis was on implementing gender-oriented promotional approaches and creating awareness on environmentally friendly crop production methods.

Recently, the Ministry of Water Development and Irrigation has been implementing a **Horticulture and Food Crops Development Project (HFCDP)**, with funding from the African Development Bank. The main objective of the project is to contribute to national and household food security by promoting irrigation, agricultural productivity and farm incomes of smallholder farmers whose main enterprise will be horticultural production and marketing (Malawi Government, 2008). The project is being implemented in nine districts across four ADDs (Mzimba and Rumphi in Mzuzu ADD; Dowa, Kasungu and Mchinji in Kasungu ADD; Dedza and Lilongwe in Lilongwe ADD; and Nkhhotakota and Salima in Salima ADD).

Another initiative to promote chillies production and marketing was the provision of an African Development Fund (ADF) grant to **Zikometso Smallholder Farmers Association** which assists farmers to grow and market bird's eye chillies. Zikometso, which is located in southern Malawi (in Mulanje District) with the funding from the African Development Fund (ADF) has recently been implementing a project whose overall goal was to improve the living standards of farmers in the Southern Region of Malawi by improving the management and institutional capacity of the Association. The project also aimed at improving bird's eye chillies production systems using a number of strategies: First, the project aimed at improving product quality and promoting value-adding through acquisition and utilization of chilli processing equipment. Second, the project was geared at supplying improved chilli seeds to Zikometso Association members (See Box 4.1). Third, product quality improvements through product certification from Malawi Bureau of Standards was another way that the marketing system.

#### **Box 4.1: Zikometso Smallholder Farmers' Association**

Zikometso Smallholder Farmers' Association was set up in 1997 in Mulanje District by the Agricultural Cooperative Development International and Volunteers in Overseas Cooperative Assistance (ACDI/VOCA). Since 1994, with funding from USAID, ACDI/VOCA has been working with small farmers in Malawi by organizing them into groups to collectively address problems of agricultural production and marketing. After setting up a small technical office in Mulanje, ACDI/VOCA started working with smallholder bird's eye chilli farmers by organizing them into small groups, and working with them to set up chillies' collection and marketing centres. Further, ACDI/VOCA provided the farmers with seed and extension services to ensure that farmers had the knowledge of how to produce high quality chillies. In 1999, Zikometso Smallholder Farmers' Association whose membership was over 5,000 smallholder farmers was formally admitted to NASFAM.

Currently, Zikometso is the largest smallholder chilli farmer association in southern Malawi, producing around 200 tonnes per year. Apart from producing the raw dry chilli crop, Zikometso also supplies chilli powder as well as the chilli seed to the local market. Proceeds from sales of these products are directly transferred to its members.

Since 2008/09 agricultural season, Zikometso has been implementing an EU-funded Farm Income Diversification Programme (FIDP), under which its members produce groundnuts and sunflower. Under the programme, FIDP has already built a factory in Phalombe to enable the farmers process the sunflower into cooking oil. The factory is currently waiting for power connection from ESCOM. In 2009, Zikometso received a grant from USAID (ADF), which is being used to build offices and a factory at its premise in Mulanje (see the pictures below). The aim of the ADF project is to improve the capacity of Zikometso and its members to process and market the bird's eye chillies.

Grading of chillies at Zikometso is done by women, who, unfortunately, do not wear any masks to protect themselves against the strong fumes of chillies. The women grade 20 Kg of chillies in a day for a daily wage of MK175 (less than US\$1.20).



**Figure 4.1: Pictures from Zikometso Smallholder Farmers' Association in Mulanje**



Zikometso is also implementing a FIDP programme since 2008



Part of the factory that Zikometso is constructing with the ADF grant



A warehouse where the graded chillies are stored



The grading of the chillies is done by women who are paid MK175/day (less than US\$1.20) to grade 20 Kg of chillies

## **CHAPTER 5: AN ANALYSIS OF THE POLICY ENVIRONMENT**

### **5.0 Introduction**

Paprika and bird's eye chillies, being horticultural crops, require specialist knowledge to promote its production and marketing. This, inevitably, requires that effective policies and supporting legislative and institutional frameworks should in place to guide the development of the sub-sector. This chapter analyzes the policy environment to examine the extent to which it is conducive to promote the production and trade of paprika and bird's eye chillies. The second section of this chapter provides a review of the different policies in Malawi to examine the extent to which they promote or inhibit paprika and bird's eye chillies production and trade.

### **5.1 Policy Environment**

Although the horticultural sector has long been seen to have the potential to complement Malawi's traditional crops, such as maize and tobacco, it continued to be neglected prior to 1999. However, upon the realization that substantial increases in horticultural output would contribute towards attainment of food and nutritional security, while improving incomes for farmers and increasing foreign exchange earnings, the Ministry of Agriculture with financial and technical assistance from GTZ, initiated a process of developing a comprehensive horticultural development strategy. The purpose of the 1999 Malawi Horticultural Development Strategy was to identify areas of focus for the development of the horticultural sector between 1999 and 2009 (Malawi Government, 1999). The Malawi Horticultural Development Strategy had seven specific objectives:

- To achieve a position of broad self-sufficiency in the main horticultural food stuffs to allow Malawi to conserve scarce foreign reserves on horticultural imports;
- To increase horticultural production for national and international markets and hence maximizing export earnings;
- To increase the quality and diversity of horticultural produce;
- To improve marketing systems including the flow of market information and the establishment of infrastructure for horticultural produce;
- To improve and maintain competitiveness in horticultural export markets;
- To increase income and employment generation from the horticultural sector, and;

- To ensure that horticultural foodstuffs are distributed in such a manner that every member of the population has a nutritionally adequate diet.

The **vision statement for spices production within the Horticultural Development Strategy** was that:

*“By the year 2010, production of high quality paprika and chillies will be increased to 10,000 MT and 2,000 MT per year, respectively, commercial seed production and distribution of a wider range of spices will be encouraged while organic production of spices will be enhanced and local processing of spices initiated”.*

The Strategy had well articulated strategies and action plans for spice production in Malawi. Further, the Strategy emphasized the need for developing a horticultural policy within the Crops Department of the Ministry of Agriculture. However, after the expiry of the Strategy in 2009, there has not been a review of the Strategy nor a new initiative to develop a horticultural policy, despite recommendations from numerous studies on horticulture in Malawi (see Malawi Government (1999); Malawi Government (2008); Kachule and Kamwendo (1998)). A study on horticultural marketing and food processing in Malawi in 2008 concluded that Malawi has no appropriate legislative and institutional frameworks that could guide the development of the horticulture industry, in the absence of an overall horticultural policy.

#### HIGHLIGHT

*The horticultural sector is currently operating without a policy nor a strategy. The ten-year Malawi Horticultural Development Strategy expired in 2009, and it is yet to be reviewed. The need for a horticultural policy to promote the horticultural sector in Malawi is spelt out in many Government of Malawi documents, and many studies on horticulture in Malawi has recommended that a horticultural policy should be put in place. A horticultural policy would strengthen research, training and extension services in horticultural crops. It would also promote horticultural seed development, multiplication and distribution systems. These initiatives would boost production and commercialization of horticultural crops, including paprika and bird's eye chillies.*

## 5.2 Policy Review

Different policies that appeared to have a bearing on paprika and bird's eye chillies sub-sector were reviewed to examine the extent to which they promote or inhibit paprika and bird's eye chillies production and trade. Further, policy gaps were identified, which if addressed could promote the sub-sector.

### 5.2.1. *The Malawi Growth and Development Strategy (MGDS) 2006-2011*

The Malawi Growth and Development Strategy (MGDS) which is an overarching operational strategy for the achievement of the national development goals was reviewed to assess the extent to which the policy is promoting production and trade in paprika and birds eye chillies. To achieve its overall goal, the MGDS has five themes: sustainable economic growth, social protection and disaster management, social development, infrastructure, and good governance.

The review of the MGDS as the main policy document has revealed some issues that can promote production and trade in paprika and birds eye chillies. These include:

- The MGDS seeks to achieve sustainable economic growth through identification of potential growth sectors where one of them was the agricultural sector. In the agricultural sector, the MGDS focuses on the promotion of agro processing of spices which helps to add unit value to the produce.
- Reducing cost of reaching external markets due to infrastructure by focusing on linkages through Mozambique, the Shire Zambezi waterway, and reduced restrictions on air transport;
- Reducing lead times on export and improved efficiency by improving the efficiency of customs, harmonizing border crossing with neighbours;
- Improving marketability of products to international markets by improving certification (coupled with efforts under the enabling environment) and developing science and technology;
- Improving trade network and information for firms for export; and
- Maximizing the benefits of trade through better knowledge.

### 5.2.2. *The Agricultural Sector Wide Approach (ASWAp) (2009)*

The ASWAp which is a policy document aimed at increasing agricultural productivity, contributing to 6% growth annually in the agricultural sector, improving food security, diversifying food production to improve nutrition at household level and increasing agricultural incomes of the rural people was also reviewed to

find out the extent to which it promotes production and trade in paprika and bird's eye chillies production and trade.

The review of the ASWAp has revealed some issues that can promote production and trade in paprika and birds eye chillies. These issues are:

- The ASWAp seeks to contribute 6% annual growth in the agricultural sector. This was designed to be achieved through emphasizing on production of spices such as paprika and birds eye chillies as one of the sources of growth in the agricultural sector.
- The ASWAp also focuses on promoting agro-processing of key crops which it has comparative advantage including horticultural products as a means of promoting trade through improving the unit value of the export commodities. This is to enable the products to compete on the international markets. Paprika and birds eye chillies are some of the horticultural products highlighted as potential crops for agro-processing and value addition.
- The ASWAp has devised a strategy of enhancing contract farming and out-grower schemes, and improved cooperation between value-chain stakeholders of which producers of paprika and bird's eye chillies will benefit.
- The policy document also strategizes to provide financial and non-financial services to increase the unit value of commodities through vertical (agro-processing) and horizontal (market information, infrastructure) market integration, and facilitating access to credit for small and medium agro-processors through assistance with credit/grant application, business plan preparation and matching grant schemes. This was designed to also benefit paprika and bird's eye chillies producers.

### ***5.2.3. Agricultural Extension in the New Millennium (2000)***

The 2000 Agricultural Extension Policy whose objective is to support the development of pluralistic and demand driven agricultural extension services, was also reviewed.

While the policy does not explicitly emphasize on paprika and bird's eye chillies production, it promotes the collaboration of different extension service providers. As such, efforts to promote the up and out scaling of

paprika and bird's eye chillies could use the same channels, if properly harnessed. Therefore, the incorporation of horticultural related issues in the extension policy could promote production of paprika and bird's eye chillies.

#### **5.2.4. The Crop Production Policy (1987)**

The Crop Production Policy of 1987 aims at promoting a balanced and diversified production of food and cash crops to meet the country's requirements for food, foreign exchange and raising rural income. The specific issues which are identified as relating to production of paprika and bird's eye chillies are:

- The policy promotes increased production of chillies to satisfy domestic and export market demand
- The policy encourages good seed selection for higher yields and high quality produce
- The policy encourages good management of the chillies at the field, through every physical handling till the produce is sold
- The policy also promotes recommended cropping systems in order to achieve high production.

#### **5.2.5. National Seed Policy (2003)**

National seed policy is a policy document which was developed in 2003 to ensure increased agricultural productivity and diversification through a sustainable seed industry in Malawi. Though the policy paper did not explicitly link various efforts to promotion of the production of paprika and bird's eye chillies, producers of these horticultural produce can benefit from efforts that government is placing to attract the private sector to participate in the seed industry, promote a variety of research and development initiatives, as well as the promotion of pre-basic and certified seed production and promotion of quality control.

#### **5.2.6. The Bingu Greenbelt Initiative (2009)**

According to the Greenbelt Initiative (2009), an agricultural greenbelt is a stretch of well managed integrated enterprises aimed at sustainably maximizing food, nutrition and income security. It provides a ground for integrated packaging of interventions for greater efficiency by getting farmers organized for effective action for the market besides food and nutrition security needs. It is an innovative strategy aimed at making a significant difference for impact and improved extension services delivery in the country. The policy document does not explicitly make mention of issues relating to production of paprika and bird eye

chillies but the producers of paprika and bird's eye chillies can benefit from the extension services that the Bingu Greenbelt initiative will provide.

#### **5.2.7. Food and Nutrition Security Policy (2005)**

The Food and Nutrition Policy of 2005 recognizes that many factors interact to create a food insecure situation and those natural disasters such as drought, floods, poor land use management, inadequate fertilizers exacerbate the effect of natural disasters. It is against this background that the goal of the policy is to significantly improve the food and nutrition security of the population. The policy does not explicitly relate to production and trade in paprika and bird's eye chillies.

Since poverty is one of the key contributing factors to poor access to food, the food and nutrition security policy seeks to promote access to food through various measures that can also benefit the production and trade in paprika and bird's eye chillies. These strategies are:

- Formalisation of trade in foods and other economic products in line with bilateral, regional and international trade agreements without compromising sanitary and phytosanitary issues
- Improve market efficiencies to give the poor better prices for their products
- Support producers to combat theft in rural area through expanding community policing system

#### **5.2.8. National Irrigation Policy and Development Strategy (2000)**

The national irrigation policy and development strategy was developed to aid in meeting the prime objective of the department of irrigation which is to manage and develop water and land resources for diversified, economically sound and sustainable irrigation and drainage system under organised smallholder and estate management institutions and to maintain and effective advisory services.

This policy promotes increased production of crops from irrigated agriculture and considerable diversification. Specifically, it seeks that the crop variety from irrigated agriculture is diversified away from a predominantly rise base to other crops like green maize, vegetables and spices. This entails that paprika and bird's eye chillies producers will benefit from all the strategies that the policy has put forward to meet

the goal of the department of irrigation. Such strategies that would benefit paprika and bird's eye chillies are:

- Encouragement of farmer participation and ownership of irrigation projects
- Promotion of scheme financing
- Promotion of women's participation in irrigation
- Promotion of new technologies and research in irrigated agriculture
- Promotion of marketing and crop diversification
- Encouraging private sector participation in irrigation development

#### ***5.2.9 Integrated Trade and Industry Policy (2008)***

The Integrated Trade and Industry Policy Statement was produced with a view to creating a conducive business environment so that producers and suppliers of goods and services in Malawi are promoted and encouraged to be efficient and effective in their operations. It also aimed at enabling the Ministry of Commerce and Industry to fulfil its mission statement of promoting, supporting and facilitating private sector enterprise efforts.

The traders in paprika and bird's eye chillies will benefit from various policies that the government has set for small and medium enterprises (SME) such as:

- Efforts to ensure creation and support of public and semi-public SME support institutions
- Effort to encourage and facilitate the establishment of NGOs dealing directly or indirectly with SMEs
- commissioning, with donor assistance, a number of surveys of the SME sector
- establishment and operationalisation of Government Preferential Purchase Programme
- The establishment of the Small and Medium Enterprises Fund.

#### ***5.2.10 Micro and Small Enterprise Policy Statement (MSE) (1995)***

This policy document was produced to create a conducive environment within which MSEs can thrive. This policy paper benefits traders in paprika and bird's eye chillies through the following strategies:

- Ensuring that MSEs enjoy duty free importation of capital equipment and machinery, raw materials, spare parts and other inputs that could aid in the processing of paprika to ensure that the produce searches high prices



- Establish a credit guarantee scheme in favour of MSEs
- Encourage financial institution to lend through groups
- Promote the establishment of Export Production Villages
- Promote the establishment of Trading Houses to act as intermediaries between MSEs and the market
- promote the spirit of buying locally produced goods

#### **5.2.11. Cooperative Development Policy (1997)**

The cooperative development policy was developed to create an enabling environment that will encourage the sustainable development of cooperatives with an ultimate aim of enhancing the economic and social well-being of members.

When the policy document was reviewed, the following issues were identified as being of great importance to producers and traders in paprika and bird's eye chillies:

- Encourage farmers to form cooperatives
- Encourage farmers to organise the procurement and distribution of farm inputs through cooperatives;
- Encourage cooperatives to establish or facilitate the acquisition of credit for procuring farm inputs and purchase of produce from members;
- Encourage the use of market information in order to determine the best prices for commodities and inputs;
- Assist cooperatives to access knowledge and skills available from various agricultural research and extension institutions in order to raise productivity;
- Assist cooperatives in setting up efficient storage facilities where produce can be stored while awaiting favourable adjustments to commodity prices;
- Encourage the creation of wholesale and retail market facilities;
- Assist cooperatives to establish external and internal markets for their produce;
- Encourage cooperatives to deliver services competitively and coordinate research and extension services;
- Facilitate training of members in leadership and management;

- Encourage processing of produce in order to add value and enhance prices for commodities and;
- Encourage diversification into non traditional crops by providing information on production, processing, storage, packaging, marketing etc.
- 

### 5.3 Discussion

The policy review has shown that there are a number of policies that contain strategies that can promote paprika and bird's eye chillies production and trade, either directly or indirectly. However, the extent to which the strategies outlined above are being implemented in the different agricultural production and marketing initiatives is unknown. An effective implementation of the strategies contained in the reviewed policies would promote paprika and bird's eye chillies production and trade to improve the livelihoods of the smallholder, as well as commercial farmers in Malawi. Further, it is important to stress that the lack of a horticultural policy, a strategy or an action plan that would provide overall direction in the development of the chillies and paprika sub-sector in Malawi is a big set back. The issues outlined in the policy review could have complemented the strategies of the horticultural policy if it existed. It is against this background that the authors argue that the Malawi Horticultural Development Strategy which expired in 2009 needs to be revised urgently in order to ensure a conducive policy environment for the promotion of paprika and bird's eye chillies.

## **CHAPTER 6: QUANTITATIVE AND QUALITATIVE ANALYSES**

### **6.0 Introduction**

This chapter presents the qualitative and quantitative analyses of paprika production and marketing using the data that were collected between February and March 2010. In particular, demographic and other characteristics of paprika and chillies' farmers are presented. A strong emphasis has been placed on the different production statistics, such as land allocated to the two crops, input use, yields and price seasonality.

### **6.1 Characteristics of Paprika and Bird's Eye Chillies Producers**

The study targeted a sample of households that produce paprika and bird's eye chillies in eight districts of Dowa, Dedza, Ntchisi, Salima, Nkhotakota, Nkhatabay, Mzimba and Thyolo. The distribution of households that were selected for the producer' survey and in each district is presented in Table 6.2. Out of a total sample of 174 households, 98 (representing 56 percent of the sample) were paprika producers while the rest were producers of bird's eye chillies. As depicted in Table 6.2, paprika farmers were mainly from Dowa, Nchisi, Nkhotakota and Nkhatabay. The producers of bird's eye chillies were mainly from Salima, Nkhotakota and Nkhatabay.

**Table 6.2: Distribution of sampled households by district**

<b>District</b>	<b>Bird's eye chillies</b>		<b>Total</b>
	<b>Paprika producer</b>	<b>producer</b>	
Dowa	23	0	23
Dedza	20	0	20
Ntchisi	30	0	30
Salima	0	16	16
Nkhotakokota	22	43	65
Nkhatabay	0	17	17
Mzimba	23	0	23
Thyolo	0	15	15
Total	118	91	209

*Source: SPICE- project value chain survey (March 2010)*

Using a household questionnaire selected households provided information on various aspects of the household including household compositions and characteristics, household farm assets other than land, crop and livestock production, production and marketing of paprika and chillies, access to information, and constraints faced in the production of paprika and bird's eye chillies. Information was also collected on the constraints in the marketing of paprika and bird's eye chillies, sources of inputs for the crops, yield levels and suggestions from farmers on ways to address such constraints.

The demographic characteristics of households that grew paprika and bird's eye chillies are presented in Table 6.3 About 24% of the sampled households were female-headed The incidence of female-headed households is higher among growers of bird's eye chillies (34%) than among paprika growers (17%). Further, a major constraint to technological improvement in the agricultural sector is the low levels of literacy of farmers and their lack of familiarity with basic concepts of cost accounting and business administration. Empirical evidence from a number of developing countries has shown a strong relationship between agricultural productivity and literacy. In the case of paprika and bird's eye chillies, the average number of years of formal education for the head of household is 6 years.

The average years of experience in paprika- growing is 4 years and in the cultivation of bird's eye chillies is 3 years. This finding points to the fact that the majority of the paprika and bird's eye chillies farmers do not have the much needed experience to enable them become more efficient, without any technical assistance.

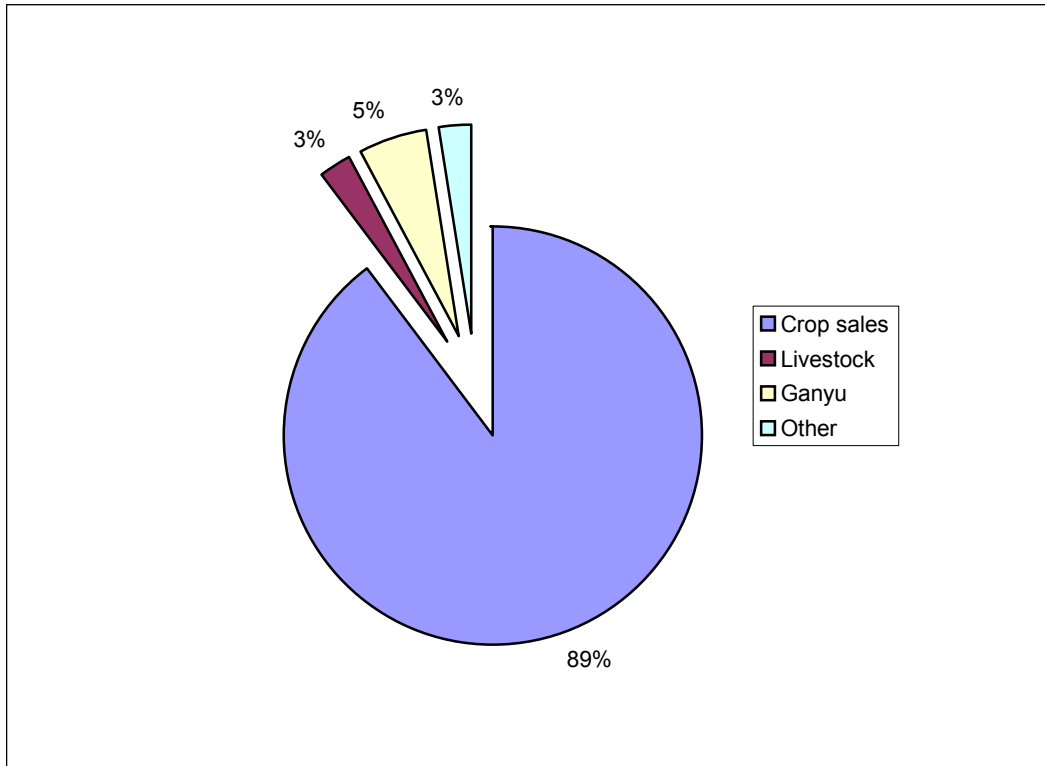
**Table 6.3: Characteristics of farmers sampled for the household survey**

Characteristic	Category		Total (n=209)
	Paprika growers (n=118)	Growers of bird's eye chillies (n=91)	
<b>Sex of head of household (%)</b>			
Female	17	34	24
Male	83	66	76
Average age of farmer	44	47	43
Years of experience in production	4	3	4
Years of formal education	5	7	6
<b>Occupation</b>			
Farming (crop + livestock)	97	97	97
Salaried employment	2	1	2
Self employed off farm	1		1
School/college child		1	1
<b>Farm labour participation</b>			
Full time	91	89	90
Part-time	9	8	9
Not a worker	0	1	1

## 6.2 Major Sources of Income

The Paprika and bird's eye chillies producers were asked to indicate major sources of income for their households. As presented in Figure 6.1, 89% of the farmers get their income from crop sales, followed by ganyu which is a major source of income to 5% of the farmers. About 3% of the farmers derive their income from livestock. This shows that a large proportion of the farmers rely on crop farming as a major source of income, however they still engage themselves in other ways like livestock and ganyu to generate income.

Figure 6.1: Major Sources of Income among Paprika and Bird's Eye Chillies Producers



### 6.3 Operation of Non-farm Enterprises

The farmers were asked whether they are engaged in other non-farm income generating activities. This is important as it provides an indication of the different livelihood strategies that paprika and bird's eye chillies farmers use to supplement their incomes from farming. Such information is vital when formulating programmes aimed at providing livelihood diversification of the paprika and bird's eye chillies producers. Among the sampled farmers, only 40 percent indicated that they are engaged in various types of non-farm enterprises. Since most of the farmers are engaged in rain-fed agriculture, it is evident that the majority of the paprika and bird's eye chillies farmers would be adversely affected by shocks that affect rain-fed agriculture (such as droughts), since they do not have alternative livelihood strategies. Table 6.4 presents the proportion of various non-farm income generating activities that the 40 percent of the sampled farmers in the study areas are engaged in.

**Table 6.4: NON-FARM INCOME GENERATING ACTIVITIES**

Activity	Percent (%)
Fast food sales	37.5
Grocery	12.5
Brewing	12.5
Weaving	12.5
Charcoal selling	6.3
Other	18.7

The results show that a large proportion of farmers (37.5%) are engaged in fast food sales as a non-farm income generating activity. Fast food sales include preparing foodstuffs, such as doughnuts, roasted green maize, etc. for sale. Others are engaged in weaving, brewing and selling groceries. A small proportion is involved in selling charcoal as an income generating activity. A total of 18.7% are engaged in other activities like bicycle taxis, etc.

#### **6.4 Other crops grown**

Cropping patterns for the 2008/09 cropping season for the households in the study area are examined in this section. Table 6.5 presents results of the crop portfolio for the study area including the proportion of households growing each crop and the share of land allocated to paprika and birds eye chillies. Malawi is predominantly a maize producing country and, therefore, it is not surprising to note that over 90% of the households planted maize in the 2008/2009 season. Explaining the predominance of maize in Malawi's farming systems, Carr (1997) notes that the continued rise in the land allocated to maize could be attributed to the fact that maize is a C<sub>4</sub><sup>2</sup> plant, such that it produces more calories per unit land area than other crops

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<sup>2</sup> C<sub>4</sub> plants are plants found principally in hot climates whose initial fixation of carbon dioxide in photosynthesis is by the hatch slack kortshak (hsk) pathway. The presence of the hsk pathway permits efficient photosynthesis at high light intensities and low carbon dioxide concentrations which make C<sub>4</sub> plants more efficient at fixing carbon dioxide than other plants. Most species of this type have little or no photorespiration.

grown in Malawi. With the decline in farm size, smallholder farmers have allocated more of their land to maize. Groundnut is the second most frequently cultivated crop (55%), while cassava is another frequently cultivated crop by the households in the sample (43%). Paprika and chillies were grown by 49% and 45% of the respondents, respectively. Tobacco, cotton and cassava, sweet potatoes beans and soybeans are the other frequently cultivated crops.

While maize is consistently grown by more than 90% of the sampled households in each of the districts, there are significant variations in the distribution of farmers growing the paprika, chillies and other crops across the districts. Paprika farmers were largely from Dedza, Dowa, Ntchisi, Nkhotakota and Mzimba, while farmers for chillies were reported in Salima, Nkhotakota, Thyolo and Nkhatabay.

**Table 6.5: Proportion of household growing different crops (%)**

<b>Crop</b>	<b>Dowa</b>	<b>Dedza</b>	<b>Ntchisi</b>	<b>Salima</b>	<b>Nkhotakokota</b>	<b>Nkhatabay</b>	<b>Mzimba</b>	<b>Thyolo</b>	<b>Total</b>
Maize	100	100	97	100	95	82	87	88	94
Groundnuts	78	58	59	87	55	41	57	42	60
Paprika	100	100	66	0	31	0	100	0	49
Cassava	17	43	25	13	58	82	39	40	43
Birds eye	0	0	0	93	63	100	0	100	45
Potatoes	68	45	32	13	32	29	52	14	38
Tobacco	48	35	38	13	22	6	9	23	24
Beans	52	65	21	0	5	6	48	17	19
Rice	0	0	0	0	35	29	0	0	16
Cotton	0	0	21	80	6	0	4	0	14
Soya beans	0	13	30	0	2	0	22	13	11

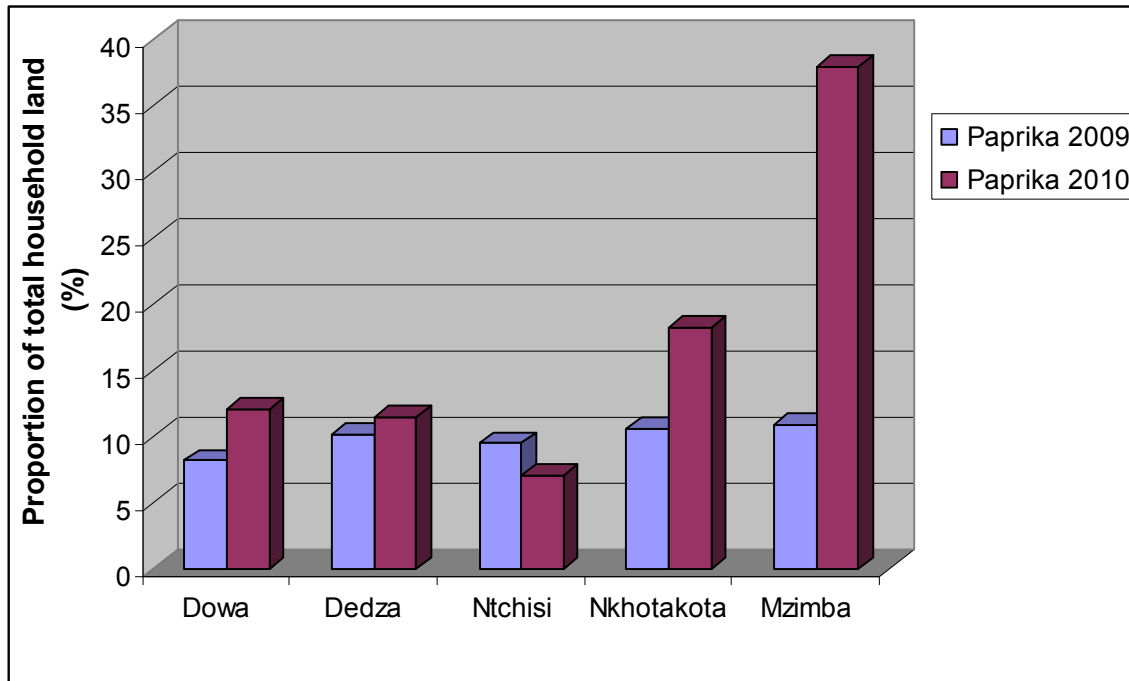
The variation in crop cultivation across districts is largely due to agro-ecological differences across districts as well as presence of the more lucrative and competing crops such as tobacco in some districts.

The farmers were asked to provide information on the size of land allocated to different crops including paprika and chillies. As depicted in Figure 6.2 the share of land allocated to paprika accounted for 18% of the total land cultivated in 2010 up from 9.8% in 2009. Mzimba recorded the highest percentage increase in total land allocated to paprika from 10.9% in 2008/09 growing season to 37.9% in 2009/2010 season. Factors that have contributed to this significant change include the success in the promotion of the crop by Total LandCare Malawi and other players, including Africa Invest (Malawi) LTD. Another factor relates to



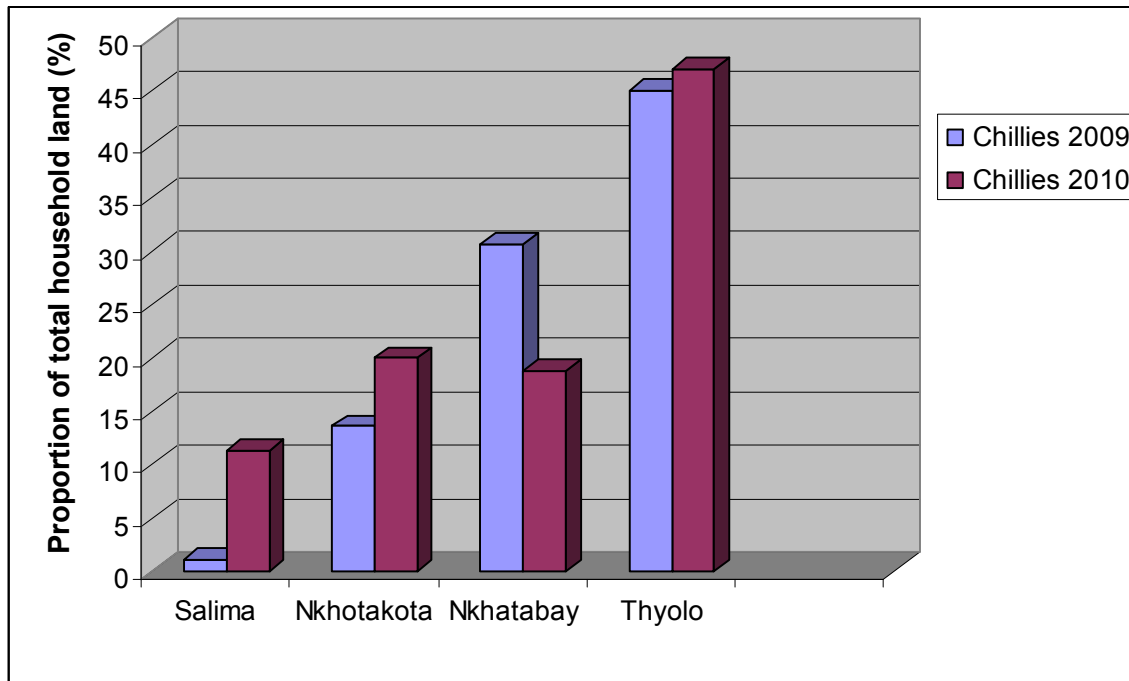
the availability of land in Mzimba which have enabled smallholder farmers to expand their land allocated to paprika, which is increasingly becoming an important cash crop in the district.

Figure 6.2: Proportion of total household land allocated to paprika in 2009 and in 2010



Furthermore, the land allocated to bird's eye chillies accounted for 18% of the total land cultivated in 2010 up from 14.8% in 2009. This was a relatively moderate increase when compared against that of paprika. The share of land allocated to bird's eye chillies declined among farmers in Nkhatabay district from about 31% in 2009 to a mere 18% in 2010 (Figure 6.3). The share of land allocated to chillies, however, increased in Nkhotakota, Thyolo and Salima districts.

Figure 6.3: Proportion (%) of total household land allocated to Chillies in 2009 and in 2010

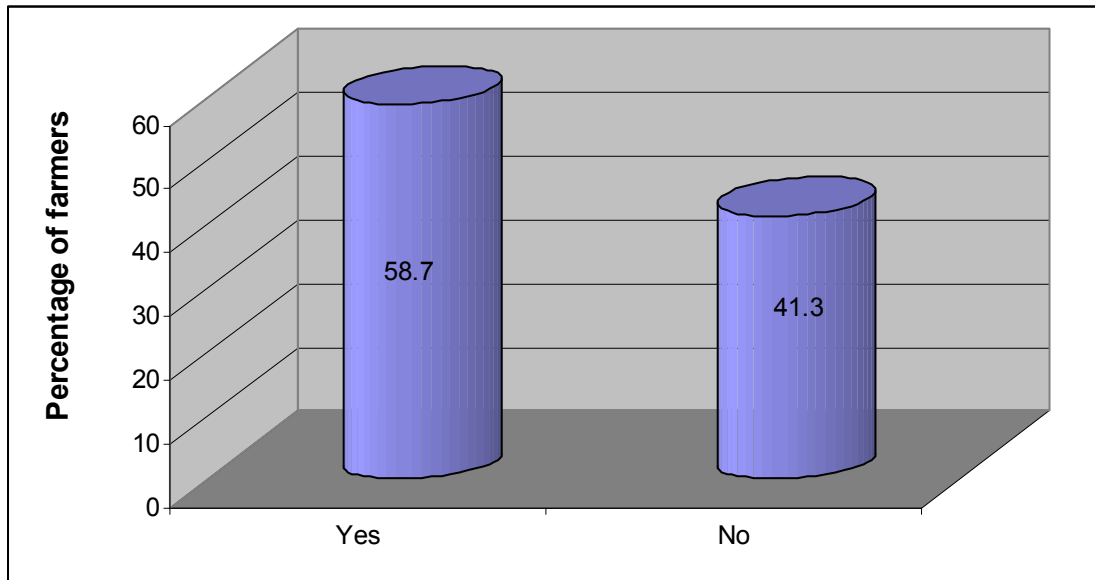


It is important to note that over 40 % of total household land was allocated to bird's eye chillies in both 2008/09 and 2009/10 growing seasons. As a district where landholdings are very small (usually less than an acre per household) and land pressure is high due to the existence of large-scale tea estates, smallholder farmers allocate most of the land to crops that are seen to be of high commercial value, such as bird's eye chillies.

### 6.5 Fertilizer Use

Paprika and bird's eye producers were asked if they applied inorganic fertilizer in these two crops in the 2009/10 growing season. As depicted in Figure 6.4, majority of the farmers (58.7%) applied fertilizer to the two crops. However, the use of inorganic fertilizer among the farmers is still low and this could be attributed to the fact that most of the surveyed bird's eye chillies farmers were in their first year of producing the crop (such as in T/A Khombedza in Salima). There is a general practice among smallholder farmers not to apply inorganic fertilizers to bird's eye chillies in the first year of production, as production levels are high in the first year even without any inorganic fertilizers being applied.

Figure 6.4: Proportion of Farmers who Used Fertilizer for Paprika or Chillies in 2009/10 Season

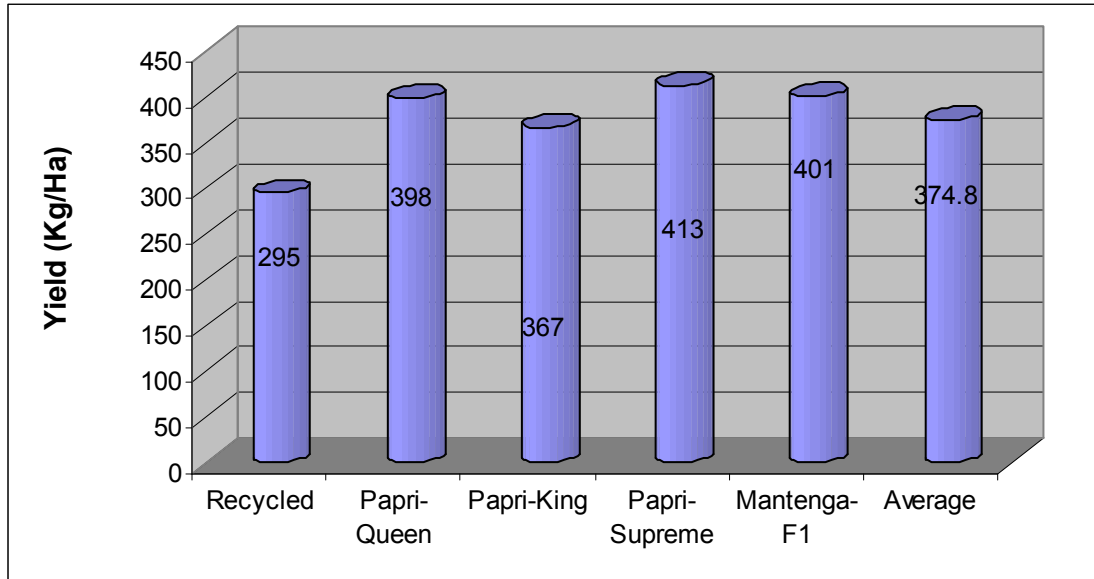


## 6.6 Production Practices among Surveyed Farmers

### 6.6.1 Yield for Paprika and Bird's Eye Chillies among Sample Farmers

The average yield of paprika for the sample farmers in 2008/09 season was 375 Kg/ha (Figure 6.5). The recycled seed had the lowest yield (295Kg/Ha), as expected. No significant yield differences were observed between the other varieties of paprika with Papri-Supreme and Papri-King registering higher yields than the recycled seed. For all the varieties, the realised yield is significantly lower than its potential due to poor agronomic practices among the smallholder farmers.

Figure 6.5: Paprika Yield in Kilograms per Hectare



### 6.6.2 Seed Systems in Paprika and Bird's Eye Chillies Farming

There are two main paprika seed distribution systems in Malawi, namely- the formal and the informal systems. The formal system involves the flow of seeds through the (1) Ministry of Agriculture and Food Security (MoAFS) and related non-governmental organizations (NGOs) and their programs; (2) the large-scale paprika and bird's eye chillies buyers and exporters. The informal seed supply system involves the flow of seed through informal channels such as farmer-farmer seed exchanges and the use of recycled seed among others. This system also involves neighbours, relatives, and friends.

In the study area, the majority of farmers (43%) accessed seed through contractual arrangements with large scale traders (Table 6.6). This finding is indicative of the support that value chain actors are able to offer each other with traders supplying improved and quality seed to farmers. It was also observed that in some cases, for example in the case of NALI Limited, free seed was provided to farmers. The use of recycled seed is quite prevalent among paprika farmers (17%), while some farmers reported purchasing seed from agro dealers (12%) or through farmer clubs (12%). The fact that a substantial proportion of farmers accessed seed through market-based sources indicates the possibility of enhancing the paprika seed industry through the use of market based strategies. This also provided an opportunity to allow for the supply of quality seed on the market.

**Table 6.6: Proportion of Paprika Seed (%) Accessed from Different Sources**

Source	District					Total
	Dedza	Dowa	Ntchisi	Nkhotakota	Mzimba	
Provided by large scale traders	43	38	36	55	40	43
Recycled	16	19	14	20	13	17
Farmers club	14	31	0	5	13	12
Bought from local traders/ agro-dealers	10	6	21	20	0	12
Agricultural input subsidy program	0	0	0	0	20	5
Bought from local seed producers	1	0	7	0	7	3
Provided free by NGOs	0	6	7	0	0	3
NASFAM	0	0	0	0	7	2
Farmer to farmer seed exchange	1	0	7	0	0	2
Provided by other government agency	0	0	7	0	0	2

When sources of seed are disaggregated by variety, results in Table 6.7 indicate that seed for the main variety grown by farmers (Papri-Queen) is obtained through large scale traders (36%), while 15% of the farmers that grew Papri-Queen obtained it from agro dealers.

**Table 6.7: Proportion of seed (%) Accessed from Different Sources Disaggregated by variety**

Source	Variety				Total
	papri-queen	Papri-supreme	papri-king	Matenga F1	
Recycled	21	0	0	11	17
Provided by large scale traders	36	83	100	56	44
Farmers club	13	0	0	11	11
Bought from local seed producers	2	17	0	0	3
Bought from local traders/ agro-dealers	15	0	0	0	11
Farmer to farmer seed exchange	2	0	0	0	2
Provided free by NGOs	4	0	0	0	3
Provided by other government agency	2	0	0	0	2
Agricultural input subsidy programme	2	0	0	22	5
NASFAM	2	0	0	0	2

*Source: SPICE- project value chain survey (March 2010)*

### 6.6.3 Sources of Information on Production and Marketing

The study also established various ways which paprika and bird's eye chillies producers get information on production and marketing. Results indicated that farmers get information from sources like government extension agents, large scale traders, Non-governmental organizations among others. Table 6.8 shows proportion of farmers who source information on paprika using various sources.

**Table 6.8: Sources of Information on Paprika**

Source of Information	Percent (%)
Government extension	20
Other extension agents (e.g. NGOs)	7.5
Large scale traders	10
Television/Radio	15
Farmer club/association	30
Other	17.5

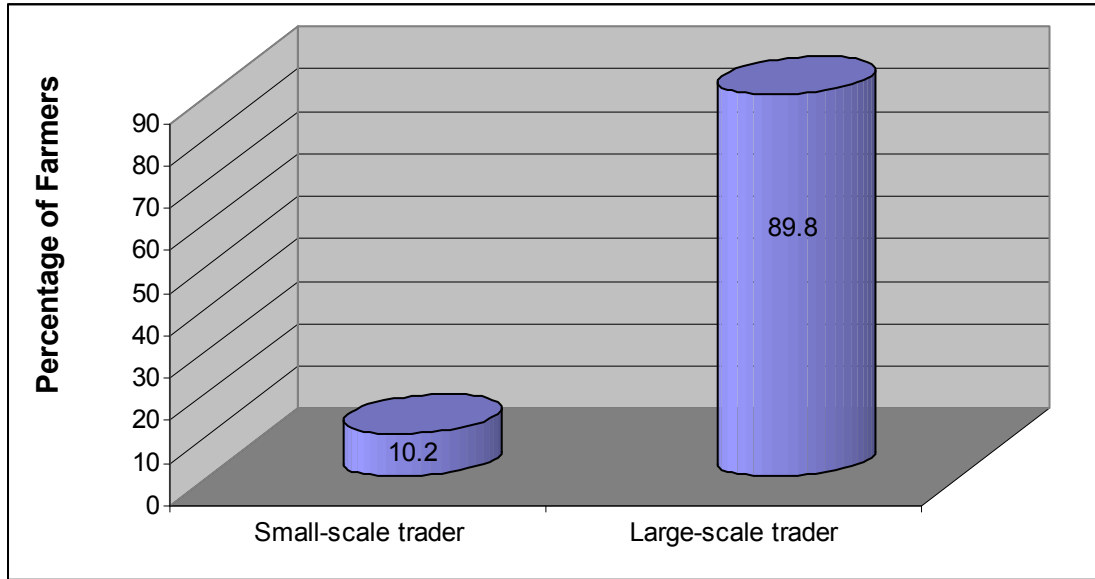
As depicted in the results presented in Table 6.8, a large proportion of paprika farmers (30%) get information on production and marketing from farmer clubs or associations. This is followed by government extension agents (20%) who also play an important role in disseminating production and marketing information. Farmers also access information from other extension agents usually under NGOs working in their area. Large scale traders like Africa Invest Malawi (AIM) also organize farmers and provide important information for production and marketing. A good percentage, 15% get this information from TV or radio which is also an indication that most farmers own these assets.

## **6.7 Prices and Trends on the Local Market**

### **6.7.1 Buyers of paprika**

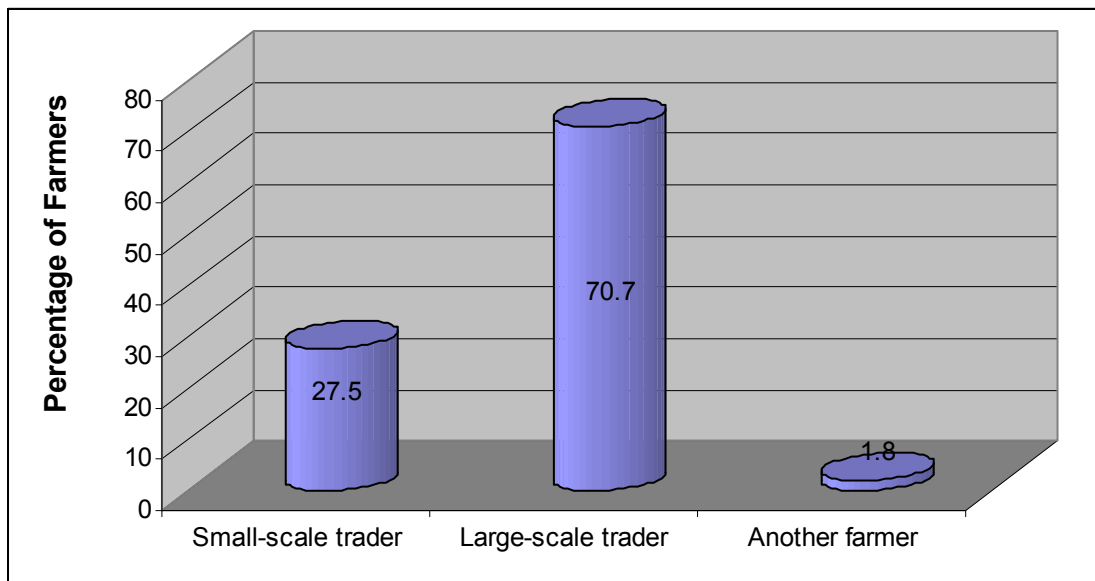
Paprika is largely sold to large scale traders. As depicted in Figure 6.6 about 90% of the paprika growers reported that they sold their paprika to large scale traders while only 10% reported selling to small scale traders. These are usually vendors who come with their own weighing scale and set up a buying point within a village or at the nearest trading centre. The role of small-scale traders in the marketing of paprika is very minimal because of the arrangements that large-scale traders (such as Africa Invest (Malawi) LTD, Cheetah Malawi LTD and Mughona LTD) have with farmers. The large-scale traders usually provide seed to farmers with an agreement that the farmers would sell their paprika to the trader, who would then deduct the cost of the seed from the proceeds of the crop.

Figure 6.6: Buyers of Paprika from Farmers



Chillies are also largely sold to large-scale traders. Figure 6.7 indicates that about 71% of the growers of chillies sold their crop to large-scale traders while 28% reported selling their product to the small scale traders. A very small proportion (1.8%) sold their product directly to fellow farmers, and the product is mainly used for consumption by the other farmers.

Figure 6.7: Buyers of Chillies from Farmers





The distribution of paprika sales is consistent with the paprika cropping seasonality. As depicted in Figure 6.7 the majority of farmers (about 70%) sell their product soon after harvest in the months of June, July and August.

**Figure 6.8: Percentage of Farmers Selling Paprika in Different Months in 2009**

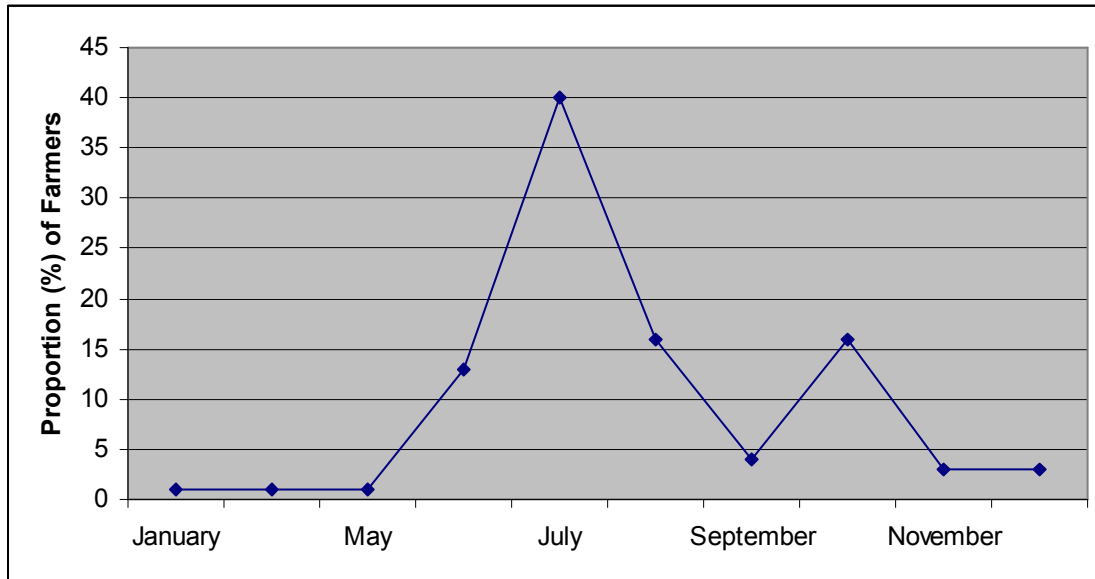
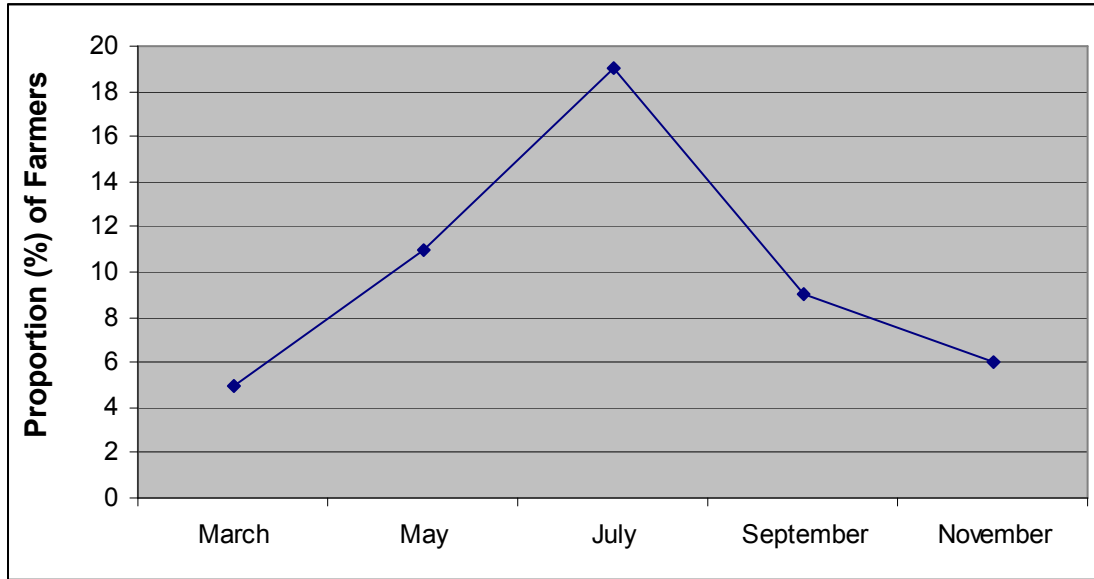


Figure 6.8 shows that the marketing of chillies begins as early as March reaching their peak in June and July. Results also indicate that some farmers also keep their product for sale later in the season around November. Farmers may keep their product to take advantage of the high prices arising from the scarcity of the product later in the cropping season.

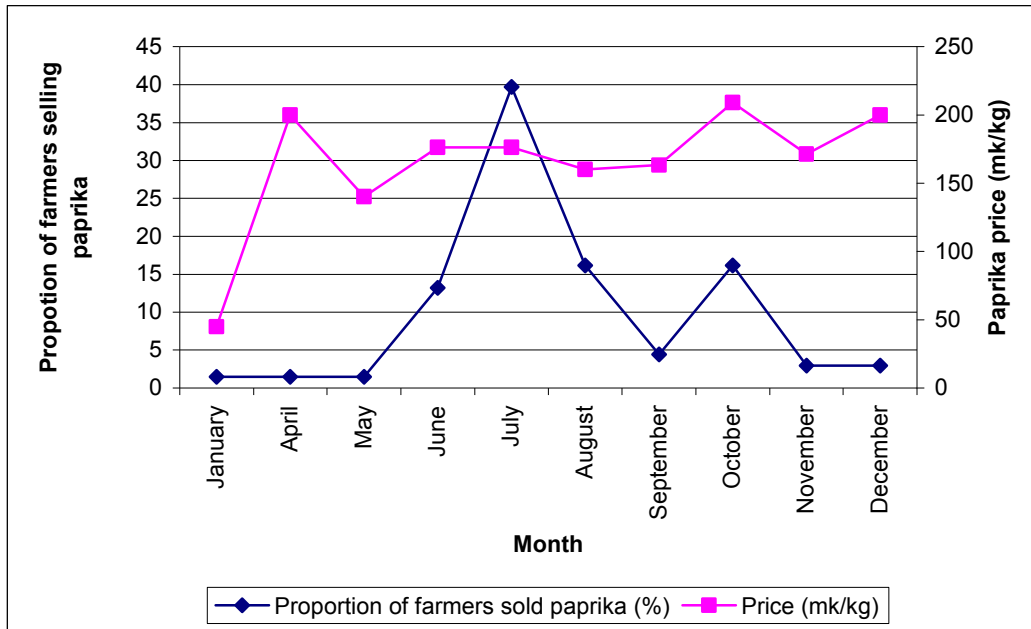
Figure 6.9: Percentage of Farmers Selling Chillies in Different Months in 2009



### 6.7.2 Price Seasonality

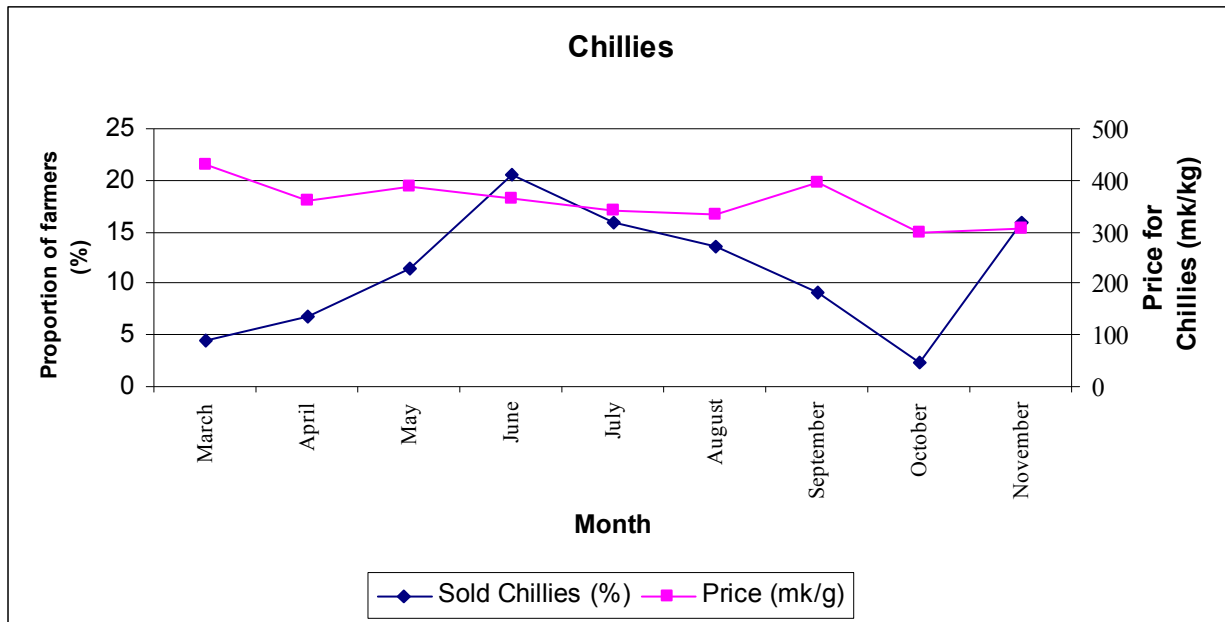
The seasonality of prices is a major driver of the quantities sold for most agricultural products. However in the study area this relationship is only evident in the first six months after harvest. The relationship between prices and quantities sold is almost negative after this period probably due to the running out of supplies by the farmers. As indicated in Figure 6.10 producer prices increased from the month of January through to the month of December. However the proportion of farmers selling the crop only increased from the month of May through July, after which it declined sharply. This may be attributed to two factors; first, most farmers sell all of their products soon after harvesting due to pressing cash requirements as well as due to their contractual obligations with the large scale traders such that farmers are without paprika when prices are at their peak in October. Second, if paprika is properly dried, it can easily be stored without affecting its quality. This would then allow farmers to benefit from the high prices offered in October, November and December. However, the fact that farmers are unable to do so might be attributed to the asymmetric price information. Thus farmers are unaware of the benefits that would accrue to them if they kept the product till October in order to benefit from high prices. There is therefore need for a mechanism through which price information about paprika can be communicated to farmers to facilitate their decision making regarding when to sell their product.

Figure 6.10: Average Paprika Prices and the Proportion of Farmers Selling Paprika at that Price and Time



Unlike paprika, the seasonal prices for chillies appear to be declining over the season ranging from about MK450/kg in March to about MK300/kg in December. Most farmers (about 70%) sold their product between the month of May and August when prices are not necessarily high (Figure 6.11). Low prices at this time may be attributed to too much supply of chillies on the market and also low prices on the international market which might lead to large scale traders offering low prices as well. This may suggest that farmers are unaware of the price trends across the year. In order for farmers to make informed decisions on when to market their product, and for them to benefit from better prices within each season, it is important that a mechanism for disseminating price information about chillies is put in place to ensure that farmers have access to price information at the right time.

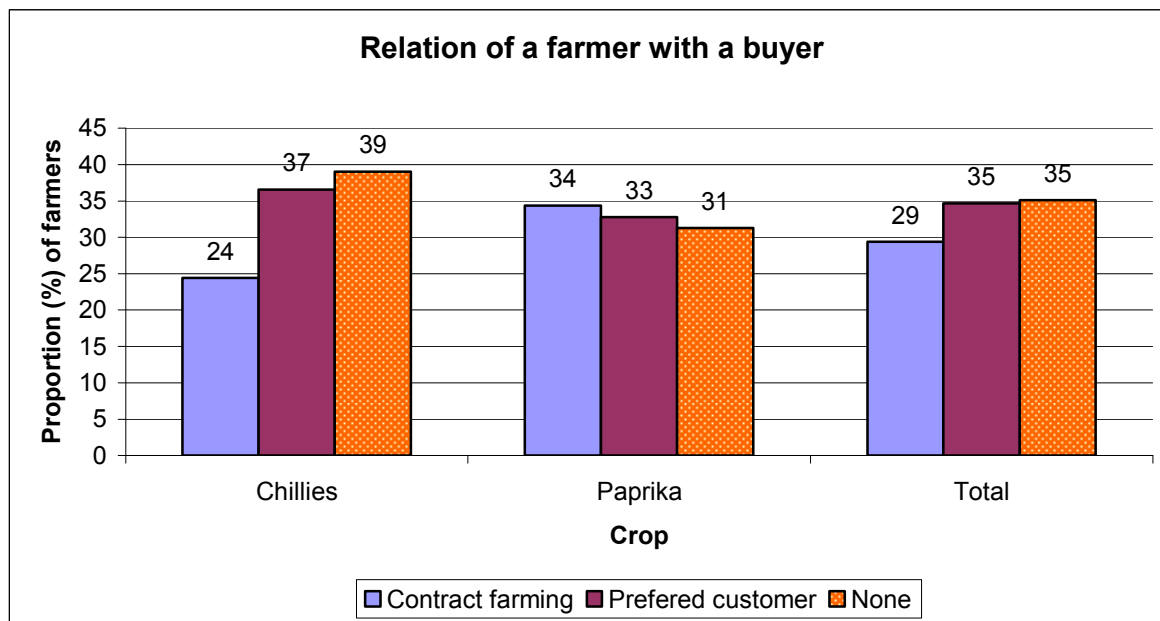
Figure 6.11: Average Chillies Prices and the Proportion of Farmers Selling Chillies at that Price and Time



### 6.7.3 Relationship between Traders and Producers

Farmers were requested to provide information on whether or not they had any relationship with the traders that bought their product. Results presented in Figure 6.12 are a typical reflection of a value chain in which actors are seen to support each other in order to improve systemic efficiency and competitiveness. It is shown that about a third of paprika farmers indicated that they sold their product to contractors who supply them with inputs as well as extension support. As for chillies only a quarter of the farmers indicated that they had a contractual arrangement with the traders.

Figure 6.12: Relationship of a Farmer with a Buyer



### 6.8 Farm-Level Competitiveness of Paprika and Bird's Eye Chillies

Gross margins for paprika and chillies were calculated to examine their competitiveness. In order to be able to calculate the margins, farm-level data for 2008/09 growing season was calculated. The gross margin for rain-fed paprika was close to MK11,553 per hectare (Table 6.9). It was not possible to compute gross margins for irrigated paprika due to data constraints.

**Table 6.9: Gross Margins for Paprika (Rain-fed)**

Activity	Unit	Dowa	Dedza	Ntchisi	Nkhotakota	Mzimba	TOTAL
<b>Direct Inputs</b>							
Seed	MK/Ha	500	600	650	500	400	530
Chemicals	MK/Ha	2,000	2,500	2,250	2,750	2,850	2,470
Fertilizer	MK/Ha	12,000	12,250	11,450	12,000	12,250	11,990
Packaging	MK/Ha	750	560	1,000	1,500	1,000	962
<b>Labour</b>							
Nursery	MK/Ha	4,567	6,475	6,345	4,580	3,456	5,081
Land preparation	MK/Ha	3,215	4,121	5,203	3,456	3,900	3,979
Planting	MK/Ha	2,543	2,888	1,946	2,289	1,750	2,283
Weeding	MK/Ha	3,222	3,281	4,072	3,440	3,423	3,488
Spraying	MK/Ha	1,450	280	1,200	575	1,400	981
Harvesting	MK/Ha	3,068	3,281	2,800	3,450	2,497	3,019
Drying	MK/Ha	1,907	2,100	1,576	1,052	1,268	1,581
Grading	MK	2,200	3,281	2,570	2,081	2,310	2,488
Packaging	MK	500	100	500	750	500	470
<b>Other costs</b>							
Club membership fee	MK	150	100	150	200	200	160
Transportation	MK	0	300	0	0	0	60
<b>Total Input Cost</b>	<b>MK/Ha</b>	<b>38,072</b>	<b>42,117</b>	<b>41,712</b>	<b>38,623</b>	<b>59,204</b>	<b>43,946</b>
<b>Yield</b>	<b>Kg/Ha</b>	<b>321</b>	<b>375</b>	<b>320</b>	<b>345</b>	<b>387</b>	<b>659</b>
<b>Selling price</b>	<b>MK/Kg</b>	<b>148</b>	<b>140</b>	<b>145</b>	<b>150</b>	<b>205</b>	<b>158</b>
<b>Gross Value</b>	<b>MK/Ha</b>	<b>47,508</b>	<b>52,500</b>	<b>46,400</b>	<b>51,750</b>	<b>79,335</b>	<b>55,499</b>
<b>Gross Margin</b>	<b>MK/Ha</b>	<b>9,438</b>	<b>10,383</b>	<b>4,688</b>	<b>13,127</b>	<b>20,131</b>	<b>11,553</b>

For the bird's eye chillies, the gross margin was around MK 79,000 per hectare (Table 6.10). However, great caution needs to be exercised when interpreting these results because very few observations from Salima were considered in the analysis. It should be stressed that 87.5 % of the sampled farmers in Khombedza EPA in Salima were growing bird's eye chillies for their first time in 2009/2010 season. They, therefore, had no information on costs, yields and revenues for 2008/09 season. Nevertheless, the gross margins reveal that in the sampled areas paprika is more competitive than chillies. Although prices of chillies were substantially higher than the selling prices of paprika, the input costs were far much higher for chillies while yields were lower.

**Table 6.10: Gross Margins for Bird's Eye Chillies (Rain-fed)**

Activity	Unit	Salima**	Nkhotakota	Thyolo	Nkhatabay	AVERAGE
<b>Direct Inputs</b>						
Seed	MK/Ha	550	680	800	875	726.25
Chemicals	MK/Ha	0	3,500	3,750	2,700	2487.50
Fertilizer	MK/Ha	0	4,500	12,500	0	4250.00
Packaging	MK/Ha	750	800	650	485	671.25
<b>Labour</b>						
Nursery	MK	4,232	4,287	5,935	4,800	4813.50
Land preparation	MK	3,865	3,954	4,006	3,642	3866.75
Planting	MK	2,964	3,045	3,137	2,944	3022.50
Weeding	MK	3,389	3,219	3,843	3,107	3389.50
Fertilizer Application and Spraying	MK	0	2,450	4,652	3,483	2646.25
Harvesting	MK	5,943	2,654	5,542	3,742	4470.25
Drying	MK	2,534	1,267	1,790	1,332	1730.75
Grading	MK/Ha	2,154	1,435	2,100	1,100	1697.25
Packaging	MK	750	420	680	575	606.25
<b>Other costs</b>						
Club membership fee	MK	0	250	300	250	200.00
Transportation	MK	500	200	0	0	175.00
<b>Total Input Cost</b>	MK/Ha	27,631	32,661	49,685	29,035	34,753.00
<b>Yield</b>	Kg/Ha	403	245	386	164	299.50
<b>Selling price</b>	MK/Kg	405	323	397	395	380.00
<b>Gross Value</b>	MK/Ha	163,215	79,135	153,242	64,780	113,810.00
<b>Gross Margin</b>	<b>MK/Ha</b>	<b>135,584</b>	<b>46,474</b>	<b>103,557</b>	<b>35,745</b>	<b>79,057</b>

\*\* Data used is only from 12 percent of the farmers sampled in Salima, as the rest were growing chillies for the first time during 2009/10 season. They therefore had no information relating to 2008/09 season.

In order to make bird's eye chillies more competitive, there is an urgent need to address the constraints that limit the yields below their potential levels. Studies have shown that yields for bird's eye chillies can go as high as 1,800 Kg/Ha. Prices for bird's eye chillies are currently competitive to enable farmers realize higher incomes if there is a substantial increase in the yields.

### SUMMARY

Production of paprika and bird's eye chillies in Malawi is dominated by male farmers. Relatively less land (18%) was allocated to paprika by the farmers in 2009/2010 agricultural season, compared to 40 percent for bird's eye chillies. When it comes to marketing, the two crops are largely sold to large-scale traders, most of whom export the commodities to international buyers. Gross margins for chillies (MK 79,057/Ha) were found to be higher than that of paprika in the study areas (MK 11,553/Ha).

## **CHAPTER 7: INSTITUTIONAL FRAMEWORK**

### **7.0 Introduction**

There are a number of institutions that are involved in the production and marketing of paprika and chillies, as well as the provision of support services to the sector. However, a comprehensive study on the horticultural sector<sup>3</sup> in 2008 commissioned by the Malawi Government notes that, in the absence of a horticultural policy, the Malawi Horticultural Development Strategy which was guiding the development of the horticultural sector had neither an institutional framework nor any supporting legislative framework. After the expiry of the Malawi Horticultural Development Strategy in 2009, the sector is now operating without a policy or any strategy. Since **an institutional framework stipulates the roles of various stakeholders in a sector or sub-sector, such as producers, government, private institutions, NGOs, etc. and their coordinating mechanism, the horticultural sector in Malawi is currently unorganized and operates without a coordinating mechanism.** Nevertheless, this section highlights the major players that are currently operating in the paprika and chillies sub-sector and their roles. It also highlights other important institutions that should be playing important roles in supporting the development of paprika and bird's eye chillies sub-sectors in Malawi.

### **7.2 Stakeholders**

There are a number of stakeholders that are involved in the paprika and bird's eye chillies production and trade, as well as the provision of support services. These include:

#### **7.1.1 Government of Malawi**

Paprika and bird's eye chillies are horticultural crops. At government level, the Crops Department within the Ministry of Agriculture and Food Security has a mandate for all crops in Malawi. Within the Crops Department, there is a Horticultural Section that deals with all horticultural crops in Malawi, including paprika and bird's eye chillies. The Horticultural section is responsible for initiating activities to promote horticultural production and marketing in Malawi

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<sup>3</sup> The study is known as *Horticultural Marketing and Food Processing in Malawi* conducted by Price WaterHouse Coopers.



### 7.1.2 Africa Invest (Malawi) Ltd (AIM)

Set up in 2006, Africa Invest (Malawi) LTD is an agri-business enterprise involved in both smallholder development and large-scale commercial agriculture in producing high quality crops for both the domestic and the export markets. On its five farms, with a combined arable land of 2,600 hectares scattered across all the three regions of Malawi<sup>4</sup>, AIM produces a wide variety of crops including paprika, soybean, wheat, bird's eye chillies, potatoes, maize and rice (AIM, 2009). Further, AIM also runs an out-grower scheme engaging over 5,000 smallholder farmers throughout the country. AIM remains one of the largest exporters of paprika and bird's eye chillies in Malawi. In 2009, AIM exported 270 tonnes of paprika and 80 tonnes of bird's eye chillies. Its paprika is usually exported to South Africa and Spain, while the chillies are destined for the United Kingdom, USA and Hong Kong.

The paprika that AIM buys from its out-grower farmers is graded into five groups, with the highest grade (A) being bought at MK 210/Kg for de-seeded paprika, and MK195/Kg for full-pod paprika in 2009. For the birds' eye chillies, there are three grades (A, B and C), whose average prices were MK410/Kg, MK380/Kg and MK285/Kg, respectively.

### 7.1.3 Cheetah (Malawi) LTD

Cheetah Malawi Ltd is part of the Dutch-owned Cheetah group of companies, which operates in Zambia (since 1994), Malawi (1995) and Mozambique (2001). Cheetah started paprika production in Malawi with smallholder farmers in 1995 as a way of spreading its political, financial and geographical risks into a new country. With its large tobacco production, Malawi seemed ideal for the introduction of this new cash crop.

When Cheetah started in Malawi, the smallholder sector was relatively small, but it grew rapidly after tobacco production was liberalized. The firm first introduced paprika to larger farms in various areas in 1995. The following year, smallholder farmers nearby started growing the crop as well. More than 15,000 smallholders in northern and central Malawi grew paprika under contract with Cheetah. The smallholders allocated an average of about 0.25 ha, producing about 85 kg of paprika, earning about €60 each season. Better organized farmers planted larger areas – an average of about 0.8 ha, yielding about 640 kg, worth €425 a season.

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<sup>4</sup> AIM has a farm in Mangochi and Dowa, while three other farms are located in Mzimba.

#### 7.1.4 NALI LTD

NALI LTD is the oldest buyer and exporter of bird's eye chillies in Malawi. With over 30 years of experience on the export market for chillies and in the production of chilli sauces destined for the local and regional markets, NALI LTD has all the necessary requirements to fulfil its role as the main driver of all the major players involved in the chillies and paprika value chains, under the SPICE project. Apart from exporting bird's eye chillies to USA, the United Kingdom and other parts of Europe, including Spain, NALI LTD also produces a number of products for the local and regional markets, such as hot sauce, Mango achar, vinegar and honey, whose domestic sales between 2009 and 2011 are presented in table 7.1). It is important to note that fresh paprika is a major ingredient into the production of Nali's Mango Achar.

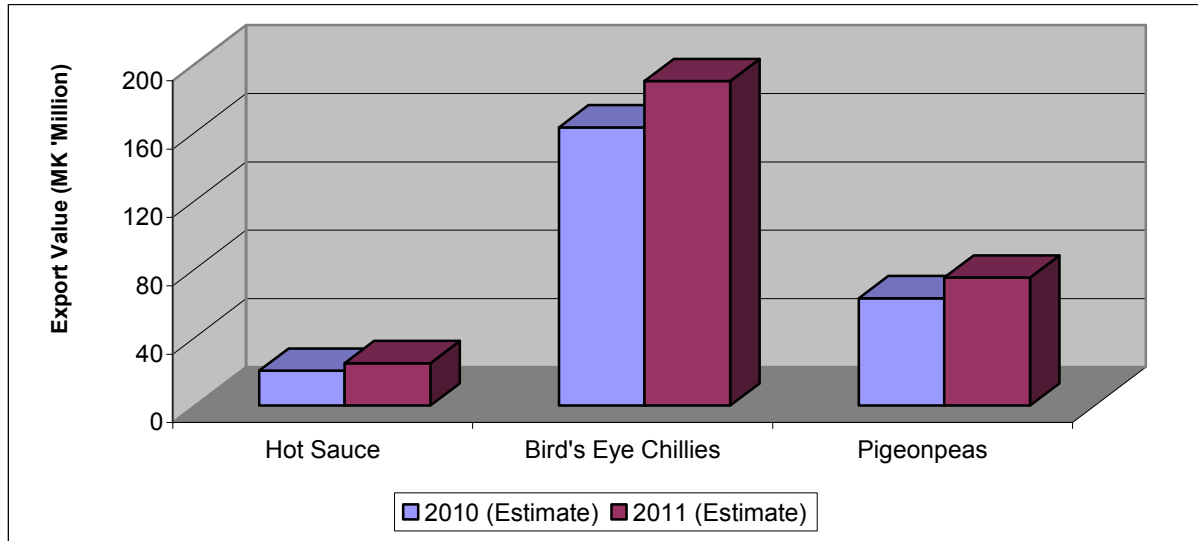
**Table 7.1: 2009-2011 Domestic Sales for NALI LTD**

Domestic Sales	2009		2010 (estimate)		2011 (estimate)	
	Quantity (Kg)	Value (MK million) (including VAT)	Quantity (Kg)	Value (MK million) (including VAT)	Quantity (Kg)	Value (MK million) (including VAT)
Hot sauce	85,210	70.1	101,225	71.3	111,348	83.4
Mango achar	3,564	4.8	7,003	7.9	77,033	9.2
Vinegar	18,388	7.2	18,876	6.3	20,764	7.4
Honey	5,432	4.4	6,984	4.9	7,682	5.7

Source: Data collected from NALI LTD

NALI LTD's major export is bird's eye chillies. In 2009, the company exported over 202 metric tonnes of chillies, and it is expected to export over 238 tonnes in 2010. Other exports are hot sauces and pigeonpeas. Figure 7.1 shows the expected export revenues for NALI LTD between 2010 and 2011.

Figure 7.1: 2009-2011 Domestic Sales for NALI LTD



Source: Data collected from NALI LTD.

### 7.1.5 Duconti Produce

Duconti Produce is a relatively new buyer of chillies and paprika in Malawi, with a warehouse in Lunzu, Blantyre. Started in 2009, the company bought bird's eye chillies from farmers located in Nkhotakota and around Balaka, and it was able to export close to 5 tonnes of chillies to South Africa. In 2010, Duconti Produce is prepared to export both paprika and chillies. Currently, the company has over 200 contract chilli farmers in Nkhotakota, Mangochi and Balaka who were provided with seeds and are expected to sell their chillies to the company. Duconti has already established contacts with buyers in South Africa, Italy, Kuwait, Belgium and Israel. However, its capacity to supply the volumes required by the buyers is limited due to its low financial base. For example, Duconti Produce was able to successfully negotiate a long-term contract of supplying 3 tonnes of bird's eye chillies every 3 months to a broker in South Africa in 2009. However, the company was only able to supply once because it did not have the financial resources to meet the conditions of the contract. In 2009, Duconti also had an opportunity to supply 140 metric tonnes of bird's eye chillies to a buyer in Italy, but it did not manage to supply any chillies because of its financial constraints.

### **7.1.6 Transglobe Produce Exports**

Transglobe Produce is one of the leading buyers and exporters of agricultural products in Malawi. It exports pigeonpeas, maize, soybean and cowpeas to South Africa, United Kingdom and the Far East, among other destinations. However, the company does not export any paprika or chillies. Instead, for the past five years it has been buying bird's eye chillies from farmers, and selling it to NALI LTD after grading. In 2009, it was buying from farmers at an average price of MK400/Kg and the crop was then graded before being sold to NALI at around MK450/Kg. During the 2009 marketing season, the company managed to sell over 50 tonnes of chillies to NALI.

### **7.1.7 Paprika Association of Malawi (PAMA)**

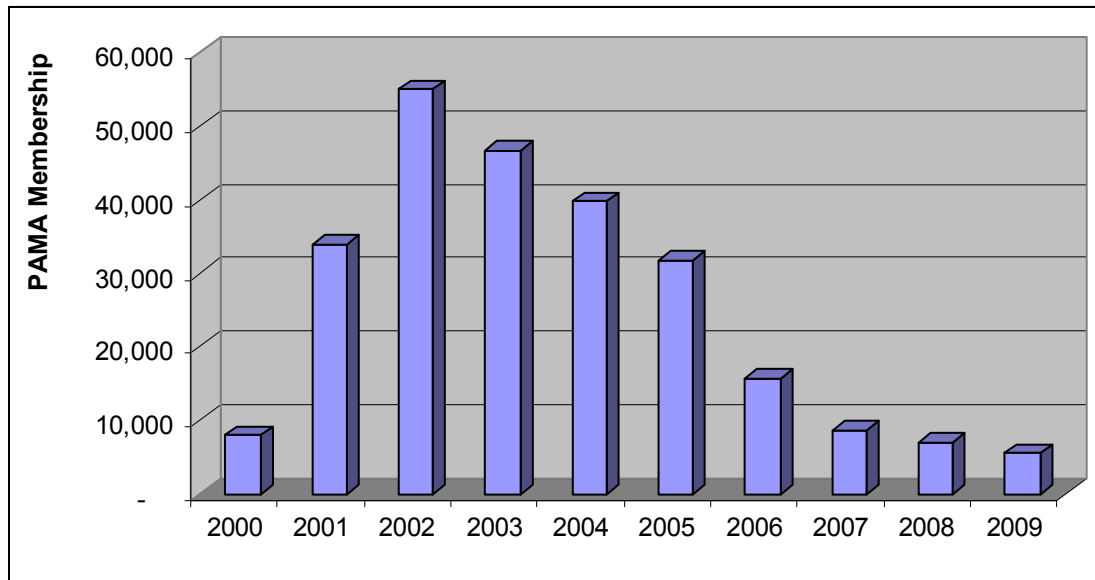
The process of setting up an association of paprika growers was initiated in 1998 by the Malawi Export Promotion Council (MEPC). Registered in 1999 as an association, PAMA aims at promoting paprika production and raise smallholder farmers' incomes from the crop by helping them access high-value markets. PAMA has a board of trustees, as well as a secretariat which runs the day to day affairs of the Association. During the first few years of PAMA's existence, it was getting financial support from DANIDA. During the years that PAMA was receiving financial resources from DANIDA it was able to promote paprika as a cash crop to small-scale farmers to the extent that its membership was as high as 46,750 smallholder farmers in 2003 (see Figure 7.2).

Through PAMA, members are able to access extension services for their paprika, which is crucial if they are to produce high quality crop. In particular, PAMA members are given extension support required to produce paprika - from nursery preparation through transplanting, fertilizer application, pest control, harvesting and post-harvest handling. Further, PAMA assists its members in identifying high-value markets for paprika. This is achieved by ensuring that the major local buyers of Paprika become members of PAMA, as well.

The European Union (EU) financially supported PAMA between 2003 and 2006. However, after the EU funding, the Association was close to being disbanded due to lack of resources to cover its operational costs, and more importantly, PAMA had unpaid loans amounting to over MK39 million. This meant that members could not access extension services and they could not be linked to high-value markets as before, hence the reduction in membership as depicted by Figure 7.2. In a bid to resuscitate the

Association, a new board of trustees was elected in 2008 and there was a change in management with the whole secretariat being replaced by new members. The new management team successfully negotiated with the government through the Ministry of Finance to pay off PAMA's creditors.

Figure 7.2 : Number of PAMA Members (2000-2009)



Source: PAMA

Membership to PAMA has been going down since 2002 (Figure 7.2). After reaching over 55,000 in 2002, it has been going down, and as of 2009 PAMA had only around 5,500 members. The rapid increase in PAMA membership in 2002 was driven by high farm-gate prices for paprika in 2001, coupled with low tobacco prices during the same year. Since paprika is suitable in tobacco growing areas, many small-scale tobacco farmers switched to paprika production in 2002. However, persistent low producer prices for paprika after 2002 forced many of the members to revert back to tobacco.

#### 7.1.7.1 Major Constraints Facing PAMA

Although PAMA is still operational, it needs to be revamped. Currently, PAMA only has around 5,500 members, most of whom are registered with their local associations, which are in turn, affiliated to PAMA. The annual membership fee of MK1,000 for an individual farmer may be seen as being too high for many smallholder farmers. Further, although Cheetah Malawi LTD, Muona Enterprises, Kutचना, Transglobe, etc were some of the paprika buyers who were registered in the past, PAMA currently has no registered

buyer. Although, the annual membership fee of MK10,000 seems affordable to all the paprika buyers, all the buyers have chosen to deal directly with the farmers, thereby rendering PAMA irrelevant. As a result, it is currently not possible for PAMA to negotiate with the buyers for better paprika prices for its members.

PAMA's efforts in the past have largely been donor-driven, thereby lacking sustainability. Apart from membership fees, PAMA has no sustainable sources of income to cover its operational and investment costs. With the falling numbers in membership over the years, PAMA needs to reposition itself to ensure that both smallholder farmers and buyers are being regulated by PAMA, as the mother-body.

#### **7.1.8 Total Landcare Malawi**

Total Landcare Malawi (TLC) is one of the NGOs that are actively involved in the paprika and bird's eye chillies sub-sector. A non-profit non-governmental organization in Malawi that set up in 1999, Total Landcare Malawi (TLC) aims at improving the livelihoods of smallholder farmers with a focus on community-based approaches to increase agricultural production, food security and incomes within the context of sound natural resource management. It operates in Malawi, Zambia, Mozambique and Tanzania. Among its many projects in Malawi, it is involved in promoting irrigated paprika among smallholder farmers in Eswazini EPA in Mzimba. It is also currently implementing the SPICE project, under which this value chain study was commissioned. The objective of the SPICE project is to link small-scale spice producers to high-value markets and develop competitiveness of bird's eye chillies and paprika through commercial upgrading of the major players in their respective value chains

#### **7.1.9 Civil Society Agriculture Network (CISANET)**

The Civil Society Agriculture Network (CISANET) is a Malawi advocacy network of individuals, farmer organization, local and international organizations who are concerned with the development of the agricultural sector in Malawi. CISANET aims at promoting agricultural development and sustainable livelihoods of poor farmers in Malawi by influencing desirable change in policies and practice of the government and its development partners, civil society and the private sector through advocacy and networking. Although CISANET has not been directly involved in any policy advocacy targeting paprika and bird's eye chillies, it is currently lobbying the government through the Ministry of Agriculture and Food

Security to resuscitate the Horticultural Development Organization of Malawi (HODOM)<sup>5</sup>. CISANET hopes that a vibrant HODOM would assist in the promotion of paprika and bird's eye chillies producing and marketing, thereby improving the incomes of the farmers.

#### **7.1.10 Malawi Export Promotion Council (MEPC)**

The Malawi Export Promotion Council (MEPC) is a government institution whose role is to promote Malawi's exports. In particular, MEPC was set up to promote export diversification, since the country is heavily reliant on a few agricultural commodities, including tobacco and tea. Although one would expect MEPC to play an important role in assisting players in the paprika and chillies sub-sector in identifying export markets, this is not the case. MEPC does not provide any assistance to Malawi exporters, and as such small players (such as Duconti Produce) do not get the much-needed assistance to enable them access lucrative paprika and chillies international markets. Discussions with MEPC officials during this study revealed that the institution was aware that most paprika and bird's eye chillies exporters do not conduct comprehensive market research. This is therefore be one of the areas that MEPC could provide support to the exporters.

### **7.2 Coordination among the Different Institutions**

This study has revealed that there is currently no body that exists to coordinate the roles and activities of the different players in the paprika and bird's eye chillies sub-sector. Although one would expect PAMA to take a leading role in coordinating the activities of the different stakeholders, currently PAMA has only smallholder farmers as its members. For the buyers, their relationship could be classified as being rivalry, with no cooperation at all. The initiatives that are being undertaken by different stakeholders in the paprika and chillies sub-sector remain uncoordinated to the extent that they may actually overlap, while lacking direction. It is therefore imperative that an institutional framework with a regulatory body should be set up.

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<sup>5</sup> The Horticulture Development Organization of Malawi (HODOM) was established in 2000 to be the umbrella body of the horticulture sector in Malawi. According to Kachule and Kamwendo (2003), the roles of HODOM included:

- i). Regulating all the activities of the agricultural sector by setting standards and ensuring that the standards are adhered to;
- ii). Organizing training programmes for the sector;
- iii). Regulating and coordinating research programmes within the horticultural sector;
- iv). Lobbying with government and other stakeholders for a conducive environment within which the sector was to operate.

However, HODOM has been dormant for over three years now and CISANET and other organizations are lobbying for the resuscitation of the organization.

All the major stakeholders, including the Ministry of Agriculture and Food Security, other relevant government ministries and departments, NGOs, buyers/exporters and the producers should be included.

It is important to note that several institutions, including Total Landcare Malawi are currently working towards the establishment of a spice association of Malawi, which would look after the interests of producers and traders of not only paprika, but also bird's eye chillies. If such a body is established, it would promote coordination among the different players in the paprika and chillies sub-sector, which would in turn promote the incomes of the producers, most of whom are small-scale farmers.

### **Conclusions**

The Malawi Government recognizes that the expansion of horticultural production for agro-processing is one of the key strategies for increasing agricultural productivity. This is emphasized both in the Malawi Growth and Development Strategy (MGDS) and the Agriculture Sector-wide Approach (ASWAp). Government initiatives through the Agricultural Development Programme are also providing support to develop marketing and agribusiness management skills for producers in the horticultural sector. However, the existing policy and regulatory environment is not conducive for the growth of the horticultural sector, in general and paprika and chillies, in particular. The lack of a horticultural policy, legislation and an institutional framework means that the activities in the horticultural sector remain uncoordinated, and this promotes inefficiencies both in the production and the marketing of the horticultural crops, including paprika and chillies. Further, the potential for horticultural production and marketing remain unexploited. Initiatives to establish a spice association of Malawi should be encouraged as the institution would have the potential to coordinate the activities of the spice sub-sector, while exploiting the potential of paprika and chillies production and marketing.



## **CHAPTER 8: PAPRIKA AND BIRD'S EYE CHILLIES' VALUE CHAIN MAPPING**

### **8.0 Introduction**

**A value chain describes a range of value-adding activities required to bring a product from its conception to the final consumer** (Kaplinsky, 2000; McCormick and Schmitz, 2001, Makoka, 2009). The value chain for most agricultural products, including bird's eye chillies and paprika, are globalized because the chains of value-adding activities are undertaken by different enterprises located in different parts of the world. For example, Paprika that is grown by small-scale farmers in Malawi could be processed into powder in South Africa and consumed in Europe. A value chain map for Malawi paprika should therefore identify all the different actors involved in the global value chain.

It is important to note a distinction is made in the literature between **value chains** and **supply chains**. While the terms are often used inter-changeably and that a supply chain and a value chain are complementary, involving the same actors, a supply chain depicts a downstream flow of goods from the source to the final customer. A value chain, on the other hand, depicts a flow of value from the customer, in the form of demand, to the supplier. Thus, while supply chains focus upstream on integrating supplier and producer processes, improving efficiency and reducing waste, a value chain focus downstream, on creating value in the eyes of the customer (Technoserve and ICRISAT, 2009).

In any value chain there are independent and inter-related processes that occur from producers, suppliers and buyers within the marketplace, which define the parameters in which competitiveness can be gained (Technoserve and ICRISAT, 2009). In an agrifood value chain, these processes include production, processing, marketing and distribution of the food product. The value chain concept highlights the way in which players increase and add value to the product by considering the relationships between the production and consumption phases of the product.

### **8.1 Main Actors**

#### **8.1.1 Small-Scale Producers**

Paprika is mainly grown by small-scale producers in Malawi. The crop is mostly grown as rain-fed, although irrigated paprika is also increasingly being promoted. In particular, there has been an increase in the

volumes of paprika produced under irrigation in Mzimba, through Total Landcare initiative. The detailed characteristics of small-scale producers of chillies and paprika are presented in Chapter 6.

### **8.1.2 Large-Scale Producers**

The major large-scale producer of paprika in Malawi is Africa Invest Malawi (AIM) which operates its own five estates in Mangochi, Dowa and Mzimba. Apart from paprika another crop being grown in these farms is bird's eye chillies. Further, Africa Invest operates an outgrower programme aimed at encouraging people to grow a large quantity of high quality produce of paprika and bird's eye chillies. Through the outgrower scheme, AIM provides seeds and extension services to the outgrowers through AIM's extension workers.

### **8.1.3 Large-scale Traders and Processors**

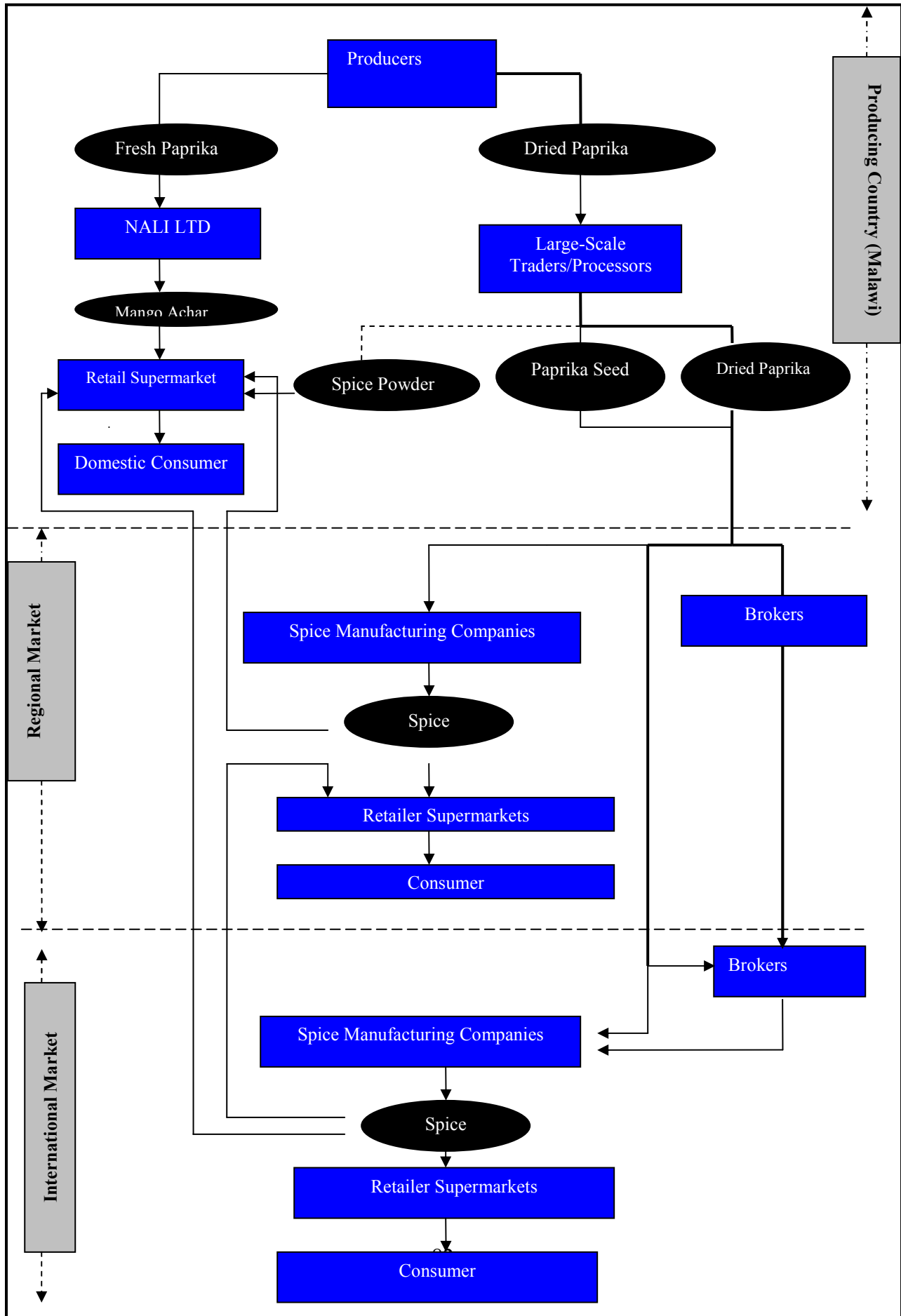
NALI LTD is the major buyer of fresh paprika in Malawi, which is an ingredient in the Mango Achar that NALI LTD produces. Most of the large-scale traders and processors of paprika deal with dried paprika. These include Cheetah Malawi, Africa Invest Malawi, Duconti. All these buyers are also involved in bird's eye chillies marketing, together with NALI LTD. A brief profile of the main buyers is provided in chapter 7.

## **8.2 The Malawi Paprika Value Chain Map**

Figure 8.1 presents the paprika value chain map, showing the main actors and the linkages between the different actors.

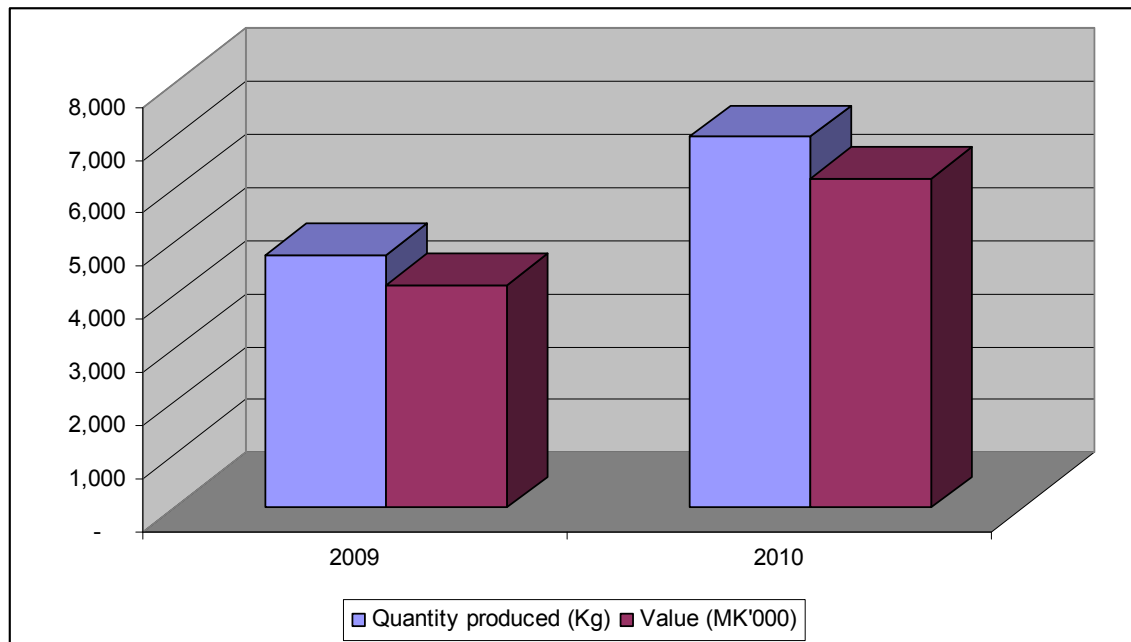
### **Figure 8.1: The Malawi Paprika Value Chain Map**

Value Chain Analysis for Paprika and Bird's Eye Chillies under SPICE Project. MAIN REPORT.



The Malawi paprika value chain map (figure 8.1) depicts the different activities that are carried out by the different actors in getting Paprika from the producer to the final consumer. Once paprika is produced by the farmers, both small-scale and large-scale, including paprika outgrowers, there are several marketing channels that the product goes through. First, fresh paprika is sold to NALI Ltd which uses the product as one of the ingredients in NALI's mango achar. It should be pointed out that only small volumes of paprika are sold fresh because NALI LTD is currently the only market for the product. As can be seen from Figure 8.2, production of Mango Achar is still low at around 4,700 Kg in 2009 and estimated at around 7,000 Kg in 2010. All the Mango achar is sold on the domestic market.

**Figure 8.2: Mango Achar Production by NALI LTD. (2009-2010)**



Source: Own compilation with data from NALI LTD.

The majority of the small-scale paprika farmers usually sell their product to the large-scale traders and processors. In the paprika sub-sector, there are a few regular buyers. These include Cheetah Malawi Ltd., Muona Investment, Africa Invest Malawi (AIM), and NASFAM. Details about these buyers are available in chapter 7. Most of the buyers purchase dried paprika direct from the farmers and it is transported into their respective warehouses. In 2009 marketing season, the average farm-gate price for paprika was MK140/Kg for grade A and MK75/Kg for grade B<sup>6</sup>.

<sup>6</sup> Prior to 2008, Malawi paprika was graded into four groups:  
Grade 1: Dark-purple (maroon pods) without blemish and with thick skins;

When the product reaches the warehouse, further processes are undertaken, such as fumigating and packaging. Paprika flake is usually packed in 50 or 100kg Hessian bales. According to PAMA (2003), **export packaging** for paprika is done in slat packs made out of soft wood. In particular, the two wooden slats trap the paprika in between them and they are then strapped by a metal strapping. The advantage of the slat packing is that it is airtight thereby stopping any oxidation.

In certain cases, the paprika bales are stored before being exported. The large-scale traders usually have **storage** facilities made up of clean dark sheds in which the paprika bales are put on raised poles to avoid moisture trap underneath the bales. The sheds are usually sprayed with chemicals (such as Gardona or Cislin) before the bales are stored to kill any beetles and ticks. Further, during the storage, the bales are regularly checked to ensure that the product is not being damaged by rats or through rotting.

From the **large-scale traders/processors**, the crop is exported mostly to the Republic of South Africa to brokers and spice manufacturing companies. For the export market, paprika is usually packed in a twenty-foot container, which takes around 18 tonne of paprika (i.e. 144 bales of 125 Kgs each). The paprika is usually transported by road to South Africa, and the average transportation cost US\$ 0.09/Kg (as of 2009). In South Africa, the product is sold either to **spice manufacturing companies** or to **brokers**, who in turn export the dried paprika to the United States of America, United Kingdom and other European countries, including Spain, the Netherlands and Germany. The average price for Malawi's paprika in these international crops ranged between US\$2.50-US\$3.00/Kg in 2009.

In both the regional and international markets, the **spice manufacturing companies** process the dried paprika into spice powder, which is then distributed to **retail supermarkets**, from where the final **consumers** buy the product.

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Grade 2: Dark-red/purple with thinner skin compared to that of grade 1

Grade 3: Dark-red with maximum of 25 % spots or blemishes

Grade 4: Reddish and orange in colour with spots.

However, Muona Enterprises that started its operations in the paprika sector in 2008 changed the grading from 4 to 2 (grade A and B). Most of the other buyers also followed suit. However, Africa Invest Malawi grades its paprika into 6 groups.

An alternative marketing channel depicted in Figure 8.1 is where the local processors/exporters sell the dried paprika straight to brokers and/or spice manufacturing companies on the international market, thereby by-passing the brokers on the regional markets. For example, Cheetah (Malawi) Ltd and Africa Invest Malawi sell some of their paprika straight to brokers or manufacturing companies in Europe. It is important to note that some of the processed spices from South Africa, Europe and other parts of the world come back to supermarkets in Malawi as imports.

### 8.3 The Malawi Bird's Eye Chillies Value Chain

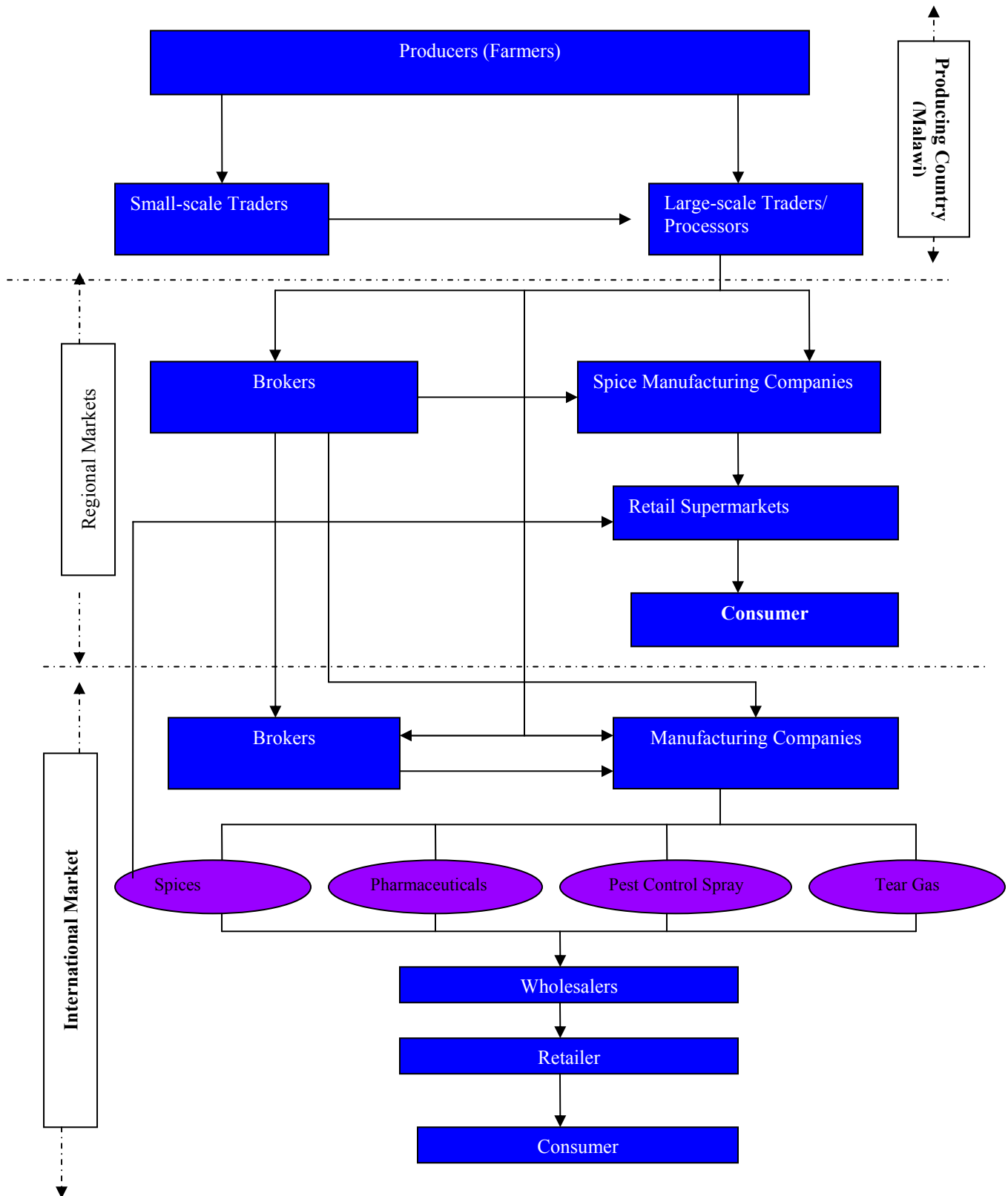
The bird's eye chillies value chain map (figure 8.3) shows the different players that participate in moving the product from the point of production to the final consumer. Like all basic agrifood chains, the bird's eye chillies value chain is characterised by a small number of participants<sup>7</sup>. Production is mostly done by smallholder farmers, with Africa Invest Malawi being the only commercial producer in the sub-sector (see section 8.1). Since most of the smallholder farmers are contracted by large-scale traders (though most of the contracts remain legally non-binding), the majority of the small producers sell the dried chillies to the large-scale traders. The large-scale traders that are currently in operation in the study areas include Africa Invest Malawi, Cheetah LTD, Mughona Enterprises, NALI LTD, and Duconti Produce. In rare cases, the farmers sell the bird's eye chillies to intermediate buyers who, in turn, sell to large-scale traders after some grading. For example, in 2009 marketing season, Transglobe Produce Exports (based in Limbe) bought around 100 tonnes from smallholder farmers at an average price of MK400/Kg, and after grading the product was sold to NALI LTD at MK450/Kg.

When the product gets to the warehouses of the traders. Several processes take place, including grading, fumigation, certification and packaging.

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<sup>7</sup> Basic agrifood value chains are characterized by low elasticity of demand, low levels of processing and trade is dominated by a small number of actors (Technoserve and ICRISAT, 2009).

Figure 8.3: Malawi Bird's Eye Chillies Value Chain



For companies like Africa Invest Malawi, the bird's eye chillies are graded as A grade, B grade and C grade and then packed in 18 Kg polypropylene bags. Cheetah LTD has two grades (A and B), and the chillies are packed in 20 Kg polypropylene bags. Unlike paprika whose exports are mainly destined for the regional market in South Africa, birds' eye chillies are largely exported to international markets in Europe, United States of America, the Middle East and some countries in Asia, such as Hong Kong. Small volumes are exported to South African brokers or spice manufacturing companies whose products are again imported into Malawi supermarkets.

When the chillies get to the manufacturing companies in Europe, USA and other international markets, it is put to several uses, including production of spices, pharmaceutical products, pest control spray and even tear gas. Some of these products are then imported back to supermarkets in the region and in the domestic supermarkets, from where domestic producers access the products.

#### **8.4 Governance of the Paprika and Bird's Eye Chillies' Value Chain**

In value chain terminology, **governance refers to the power that one player in the chain may exercise over the other players** (Technoserve and ICRISAT, 2009). In particular, one player within the value chain set standards for the product, including the quality and volumes, and inevitably prices. Both the Malawi paprika and bird's eye chillies' value chains are buyer-driven chains, like many agrifood value chains. The final buyer, who is at the apex of the chain dictates the quality of the product, thereby setting the standards of the products to be produced, and the conditions under which the paprika and the chillies are to be produced in Malawi. As seen in the paprika and chillies value chain maps (figure 8.1 and 8.3), most of the final buyers are located in the regional market (South Africa) and the international markets (Mainland Europe, United Kingdom and USA). For example, Malawian farmers have to adhere to strict post-harvest handling of the paprika in order to attain the required colour of the dried paprika and maintain high quality to meet the ASTA levels demanded by the final market. It is therefore, the final buyer who exerts influence on not only the quality of the product but also the prices that each player along the chain gets.

Table 8.1 provides a summary of the major players in the paprika and bird's eye chillies sub-sector.



**Table 8.1: Characteristics of the Major Players in the Paprika and Bird's Eye Chillies Sub-sector**

Characteristics	Cheetah (Mw) Ltd	Mughona Enterprises Ltd	Africa Invest (Malawi)	Nali Ltd	Duconti Produce
Years of experience	16	3	4	30	1
Crops exported (Paprika/chillies)	Paprika and Chillies	Paprika only	Paprika and Chillies	Chillies only	Chillies only
Volume of Paprika exported in 2009	-	42 tonnes <sup>1</sup>	278 tonnes	0	0
Volume of Chillies exported in 2009	-	0	80 tonnes	202 tonnes	5 tonnes

1. Out of the 42 tonnes, 14 tonnes were exported to South Africa in the form of paprika powder. However, the statistics for Mughona Enterprises Ltd. Were not verified by the management of the company who refused to participate in the study. Information from Cheetah Malawi LTD was also not provided by management.

It is important to note that the SPICE project, under which this study was commissioned, has Total LandCare Malawi, ASNAPP and Nali Ltd as implementing partners. Nali LTD was a natural choice among the different players in the paprika and bird's eye chillies sub-sector. As it can be seen from Table 8.1, Nali LTD has a vast experience in the export of raw bird's eye chillies, as well as the production and marketing of different sauces made from paprika and bird's eye chillies. On the international market, Nali LTD exports bird's eye chillies, hot sauce and pigeonpeas. Domestically, Nali LTD supplies hot sauces, mango achar, vinegar and honey.

### SUMMARY

The Malawi paprika value chain has a number of actors. Paprika is mostly grown by smallholder producers, with Africa Invest Malawi being the only commercial producer. Apart from NALI LTD that buys fresh paprika as an ingredient into its Mango Achar, most of the paprika is sold to large-scale traders/players as de-seeded pods. Most of the Malawi paprika is exported to spice manufacturing companies and brokers in South Africa. The brokers then export the product to Europe and USA, among other markets.

The governance of the Malawi paprika value chain rests with the final buyers. In this buyer-driven chain, the quality demanded by the international buyers is enforced through prices.

## 8.5 Vertical and Horizontal Linkages in the Paprika and Bird's Eye Chillies Value Chains

**Vertical linkages may be defined as the relationships among players at different levels of the value chain between input supply and distribution to the final market.** These vertical linkages are attained through cooperation between the different players or firms, and they have the benefits of transferring skills from one player to another as well as reducing transactions costs. Considering the paprika and the chillies value chains, vertical linkages may exist between the buyers and the smallholder producers, especially those involved in the outgrower scheme being run by Africa Invest Malawi. Under the outgrower scheme, Africa Invest Malawi (AIM) provides extension services to the farmers, who are organized into farmer clubs involving between 15 and 20 outgrowers. The clubs appoint a Lead Grower, who they believe to be the best farmer amongst them all. The role of the Lead Grower is to represent the Club's interest to AIM and he joins AIM's payroll. Through the farmer clubs and more especially the Lead Grower, the buyer is able to transfer the required agronomic skills to enable the farmers to grow paprika and chillies that meet the standards required by the international market. Further, under the outgrower initiative, AIM operates as a route to high-value international markets for the grower clubs' cash crops, including paprika and chillies.

Other potential vertical linkages could involve buyers/processors and supermarkets. As more value-adding takes place, processors who turn the paprika into powder ready for the market could cooperate with supermarkets for information relating to the quality demanded by the final consumers.

**Horizontal linkages are relationships among different players operating at the same level of a value chain.** For example, small-scale farmers of paprika and chillies may cooperate with a commercial producer of the same products, as is currently the case with Africa Invest Malawi. While operating the outgrower scheme, AIM also grows its own crops on a large scale commercial basis on its own farms to enable the outgrower farmers to improve their agronomic practices and make them more competitive. **However, inter-firm cooperation as the buyers/processor/exporter level is lacking.** The few buyers of paprika and chillies do not work together in identifying markets, meeting larger orders. As a result, they do not benefit from horizontal linkages that can help them generate economies of scale, which can improve their competitiveness and bargaining power.

## 8.6 Upgrading the Paprika and Bird's Eye Chillies Value Chains

Value chain upgrading may be defined as the acquisition of technological capabilities and market linkages that enable firms to improve their competitiveness and move into higher-value activities (Kaplinsky and Morris, 2001). Value chain upgrading mainly involves product development and improvements in production and marketing techniques and processes. According to Technoserve and ICRISAT (2009), value chain upgrading can take place in the following three forms:

- **Process upgrading** - involving increasing the efficiency of the internal processes to ensure that the processes become significantly better than for those of the other players along the chain.
- **Product upgrading** – attained by introducing new products or improving old products faster than rivals. In most cases, product upgrading involves innovation and changing new product development processes.
- **Functional upgrading** – concerned with increasing value added by changing the mix of activities conducted within the firm or moving the locus of activities to different links within the value chain.

In the case of paprika and bird's eye chillies competitiveness would be improved by **process upgrading**. In particular, process upgrading at the production level could significantly improve the competitiveness of the two products on the international markets. The upgrading could involve an increase in the production of irrigated paprika and bird's eye chillies. Studies have shown that gross margins per hectare for both paprika and bird's eye chillies are higher under irrigation than under rain-fed production (see table 4.3). Further, the 2008 horticultural marketing and food processing study was able to show that while daily returns to labour for both paprika (MK 15.20) and chillies (MK 65.00) were less than the daily rural wage rate (MK 105/day) in 2006/07 under rain-fed agriculture, the returns were higher than the rural wage rate under irrigated agriculture (MK110.00 and MK407.00, respectively). Thus, irrigated paprika and chillies could offer more returns to the producers.

Consultations with major players in the paprika and chillies sector have revealed that the sector is losing out from the fact that the two crops are largely produced under rain-fed agriculture. This means that the crops are available for exports only between May and October. As a result, Malawian exporters are not able to supply off-season, leading to loss of business contacts with international buyers who require consistency in the supply of the products. It is important to note that Total Landcare Malawi is already

making important strides in the promotion of irrigated paprika in Malawi. This type of process upgrading needs to be encouraged.

Process upgrading at the production level can also occur if paprika and chillies' farmers improve their **agronomic practices** to enable them to maximize their yields per hectare. When farmers use only certified seeds and follow the recommended nursery preparation and management, they get high quality seedlings for transplanting. Further, proper land preparation, crop management including recommended post-harvest handling would ensure that maximum yields with higher ASTA levels are attained. Studies have shown that well-managed bird's eye chillies farms are able to yield at least 300 grams of fresh chilli per plant per year (or 180 grams of dried chilli). At a density of 10,000 plants per hectare, this translates to 1.8 tonnes/ha of dried chillies (ADC, 2001). In the case of paprika, recommended yields are in the range of 2.0 tonnes/ha (dried paprika). These figures are far much higher than what the farmers are currently achieving – 0.48 tonnes/ha for chillies and 0.37 tonnes/ha for paprika (Malawi Government, 2008). Similar results have been obtained from the 2010 paprika and bird's eye chillies value chain study (see table 6. and 6.10).

**Product upgrading** would also improve the competitiveness of Malawi's paprika and bird's eye chillies. If Malawian traders and exporters undertake value-adding activities for their products, there could be new products available on the domestic, regional and international markets. It should be pointed out that some companies are already undertaking value-adding initiatives by introducing new products from the dried paprika (figure 8.4).

Figure 8.4: Ecorite Paprika Powder Available in Main Supermarkets in Malawi



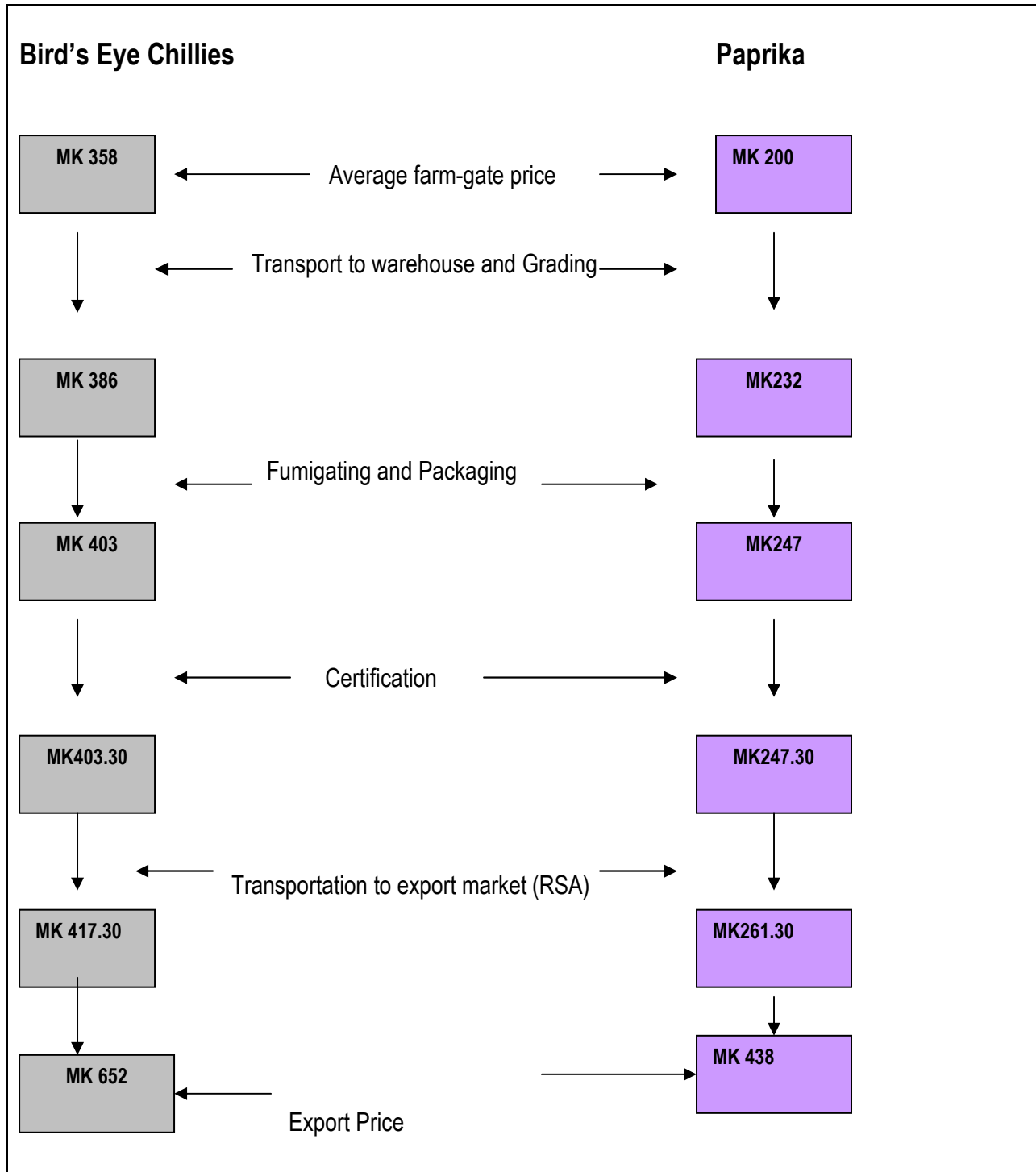
Source: Picture taken by authors

ECO Products Limited has been selling paprika powder in Malawian supermarkets since 2009. It has been pointed out by some industry commentators that **exporting paprika powder is at least 2.5 times more profitable than selling dried paprika**. For example, in 2009 a 14 tonne of Malawi paprika powder sold to South Africa fetched around MK 5 million, compared to 28 tonne of dried paprika (full pod) exported by the same company, which fetched only MK 4 million. This type of product upgrading needs to be promoted so that farmers, buyers, traders and exporters improve their competitiveness and graduate into higher-value activities along the value chains.

Figure 6.5 shows how a 1 Kg of paprika and chillies change its value as it moves all the different processes required to bring it to the regional buyer in South Africa. Using data from the leading buyers/exporters for 2009, the average farmgate price for chillies was MK358/Kg, while that of paprika was around MK200/Kg. From the farmgate the products are transported to warehouses, after which they are graded. Fumigating

and packaging are the other processes involved. Certification is usually done at the Malawi Bureau of Standards or at the Agricultural Research and Extension Trust (ARET). The products are transported by road to South Africa, and by the time the 1 Kg reaches South Africa it was valued at MK652.50 for chillies and MK438 for paprika. However, it is important to note that the figures used were obtained from the buyers and there was no mechanism of verifying their validity.

Figure 8.5: The Value of 1 Kg of Chillies and Paprika along the Marketing Chain in 2009



Source: Own compilation from Value Chain Study Data

## **CHAPTER 9: STRENGTHS AND WEAKNESSES TOWARDS THE PROMOTION OF MALAWI'S PAPRIKA AND BIRD'S EYE CHILLIES PRODUCTION AND MARKETING.**

### **9.0 Introduction**

A SWOT analysis (Strengths, Weaknesses, Opportunities and Threats) was conducted for the paprika and bird's eye chillies sector in Malawi to identify the major constraints that inhibit up-scaling of the spice production and marketing, as well as to identify the opportunities that can be exploited to promote the sub-sector. This information is highly relevant to TLC, as it implements the SPICE projects, which aims at linking small-scale spice producers to high-value markets and develop competitiveness of bird's eye chillies and paprika through commercial upgrading of the major players in their respective value chains.

### **9.1 Strengths of the Paprika and Bird's Eye Chillies Sector**

The major strengths of the spice sector identified from secondary data and consultations with farmers, buyers and exporters, as well as other stakeholders such as PAMA and the Government of Malawi include:

- i. **There are many areas in Malawi with the required climatic and agro-ecological conditions that are necessary for the production of chillies and paprika.** For example, all the tobacco growing areas of Lilongwe, Dowa, Mchinji, Ntchisi, Dedza and Kasungu are suitable for paprika production. The lakeshore areas of Salima, Nkhotakota, Nkhatabay, and Mangochi, and the Shire Highlands, among others, are all suitable for growing chillies.
- ii. **There is huge demand for both paprika and bird's eye chillies on the international market.** Unlike many agricultural crops that are characterized by lack of high-value markets, paprika and bird's eye chillies have markets both regionally (South Africa) and internationally (Europe, United States of America, Middle East and the Far East). The demand is so huge that Malawi could export all its chillies and paprika if they meet the quality and standards required by the international market.
- iii. **Bird's eye chillies from Malawi have been known to have very high quality,** measured by their ASTA levels compared to products from its competitors, such as Mozambique, Uganda, Kenya and Zimbabwe. For example, NALI LTD has been able to maintain its international buyers of chillies for over twenty years because of its reputation of offering high-quality chillies.



## 9.2 Weaknesses of the Paprika and Bird's Eye Chillies Sector

The major constraints facing the paprika and bird's eye chillies sector are grouped into three: production, marketing and support institutions. This section outlines the major weakness relating to these three groups.

### 9.2.1 Production Constraints

- i. **Production levels for both paprika and chillies are very low and yields are also unbearably low:** - This can be attributed to inadequate agronomic and technological knowledge on production. Further, **government agricultural extension services for paprika and chillies are very weak** to the extent that the majority of paprika and chillies' farmers rely on extension services provided by the major buyers. Moreover, **the majority of the farmers continue to use unimproved or recycled seeds**. The authenticity of some of the seeds that are supplied to farmers by the large-scale traders has not been verified. All these factors lead to low yields being realized.
- ii. **Education and literacy levels of smallholder farmers remain low:** - Horticultural production requires strict adherence to the recommended agronomic practices if farmers are to get maximum yields per hectare. However, because of their low education and literacy levels most farmers cannot manage paprika and chillies production without substantial capacity building and support from the extension workers.
- iii. **Lack of organized production among smallholder paprika and bird's eye chillies farmers:** - The majority of paprika and chillies farmers are operating as individual entities because of the current weak status of the Paprika Association of Malawi. As seen from Figure 5.2, PAMA membership has been going down over the past five years. Farmers are therefore not able to exploit the gains that accrue from farmer organizations, such as improved access to inputs and high-value markets.
- iv. **Seasonality in production due to high-reliance on rain-fed agriculture:** - The majority of both paprika and bird's eye chillies are being produced under rain-fed agriculture, leading to seasonality in production and prone to devastating impacts of drought. Studies have shown that yields, as well as the returns to both land and labour, are higher for both paprika and chillies under irrigation than under

rain-fed production. Irrigation facilities are limited, and government initiatives on irrigation agriculture, such as the Bingu Greenbelt Initiative puts strong emphasis on food crops and other main cash crops.

- v. **Limited financing and credit facilities:** - Smallholder farmers lack capital to intensify their production of paprika and bird's eye chillies. Their ability to access loans from commercial banks and other microfinance institution is seriously hampered by their lack of collateral. Until now, PAMA has not been able to assist its members to access any loans. Due to their lack of capital, **most farmers do not have adequate access to inputs**, such as fertilizers, pesticides and even farm machinery. Further, some of the inputs come in bulk packages that smallholders cannot afford.

### 9.2.2 Marketing Constraints

- i. **Poor understanding of the market forces of demand and supply among the producers:** - The majority of the paprika and bird's eye chillies' producers, being smallholder farmers have very limited knowledge of demand and supply and how these forces create markets.
- ii. **Low production levels of both paprika and chillies implies that traders and exporters do not enjoy economies of scale:** - Many of the exporters interviewed during the data collection process, such as NALI LTD, Africa Invest Malawi and Duconti Produce, indicated that they are not able to meet the quantity requirements of the international buyers for both paprika and chillies because production levels are very low. As a result, they do not benefit from the economies of scale that would accrue from the fixed costs associated with the marketing of larger quantities of the products, such as the costs of negotiating contracts, certification costs as well as other variable costs, such as fumigation and transportation costs.
- iii. **Low competition due to the limited number of local buyers in the paprika and chillies:** - There are very few buyers for both paprika and chillies in Malawi (see section 4.4.1), leading to a market with very little competition. As a result, producers continue to get low farmgate prices for their produce. Further, **access to credit among some of the buyers is a major challenge** to the extent that they become unable to buy the crops from the farmers, even though the farmers are 'contracted' to them. During the value chain data collection exercise, farmers reported cases where

large-scale traders provide them with paprika or chillies seed, with an agreement that farmers would sell to these particular buyers. However, at the onset of the marketing season, the buyers do not come to purchase the product.

- iv. **Non-binding contracts between producers and buyers:** - Although most of the paprika and chillies smallholder farmers enter into “contracts” with buyers at the onset of the growing season, the contracts are easily breached by either party because they tend not to be legally binding. Under the terms of the contracts, sometimes buyers provide paprika or bird's eye chillies seed to the producers with an understanding that the producers would sell their harvest to the buyer. At the marketing season, however, there are cases where the producers decide to an alternative buyer because of higher farm-gate prices. Sometimes the contracted buyer does not return to buy the crop, thereby inconveniencing the farmers.
- v. **Low domestic demand for paprika and chillies:-** Almost all the paprika and chillies grown in Malawi are destined for the export market.
- vi. **High transportation costs:-** As a land-locked country, costs of transporting paprika and chillies to the final consumers on the international markets are very high. Most of the competing countries on paprika and chillies, such as South Africa and Mozambique have easy access to the sea, thereby significantly lowering their transport costs.
- vii. **Highly fluctuating exchange rates:** - The susceptibility of the exchange rate continues to have a negative impact on the exporters of paprika and chillies, thereby reducing their profit levels. In particular, the buyers and exporters' prices offered to the producers are dictated by the prices on the international market. In situations where the local currency fluctuates after the farm-gate prices have already been set and transport arrangements to the international markets have already been finalized, the impact of the fluctuation is felt by the buyers through changes in profit margins.
- viii. **Poor market information:** - Several studies have highlighted the fact that the availability of market information for horticultural crops is limited in terms of coverage, timeliness and accessibility (Malawi Government, 2008). In particular, **information asymmetry between producers and**

**buyers relating to grading and pricing** is a major problem limiting the growth of the paprika and bird's eye chillies sector. Buyers know more about what the final market demands in terms of quality and volumes than the producers. As a result, buyers sometimes exploit the farmers by buying the produce at a grade that is lower than is supposed to be.

- ix. **Limited investment into value-adding processing technologies:** - Almost all the paprika and bird's eye chillies is sold without any value-adding due to lack of processing technologies and inadequate skills and knowledge in the different value-adding techniques.

### 9.2.3 Constraints Affecting Support Institutions

- i. The policy and regulatory environment is currently not conducive to promote paprika and chillies in Malawi, as **the Ministry of Agriculture and Food Security has no horticultural policy or any horticultural development strategy**. As the main supporting institution, the lack of legislative and institutional frameworks limit the ability of the Ministry of Agriculture and its major stakeholders from putting in place initiatives to promote horticulture in Malawi in general and paprika and chillies, in particular. Further, **the Department of Agricultural Extension Services (DAES) within the Ministry of Agriculture has not yet intensified in the provision of extension services for paprika and chillies**. The Department of Agricultural Research Services (DARS) within the Ministry of Agriculture and Food Security is poorly funded and, as a result, **there is very little research into paprika and bird's eye chillies**.
- ii. **The Paprika Association of Malawi (PAMA) is currently weak and poorly funded**. Membership into PAMA has been going down over the years, and currently no buyer is a member of PAMA. It is therefore difficult for PAMA to negotiate for better prices for its members. Further, in its current state it would be difficult for PAMA to assist its farmers to access loans from commercial banks and other microfinance institutions.
- iii. **Commercial banks and other lending institutions offer loans at high interest rates**. Most of the smallholder farmers lack access to loans to boost their production of paprika and chillies because of high interest rates and the need for collateral, which the majority of the farmers lack. Further, some of the buyers fail to export to the international markets, even after markets have

been identified because they lack access to loans to enable them to buy the product from the farmers and export it.

### 9.3 Opportunities

There are a number of opportunities, which could promote paprika and bird's eye chillies production and marketing. These include:

- i. **There are a number of regional trading opportunities that can be exploited.** The regional trading blocs, including **SADC and COMESA** offer excellent opportunities to promote regional trade in paprika and chillies. Further, Malawi is already exporting agricultural products to the United States of America under the **African Growth and Opportunities Act (AGOA)**. Under AGOA, Malawi's agricultural exports to the USA rose from US\$16.9 million in 2008 to US\$44.9 million in 2009 (AGOA.info, 2010). This initiative, therefore, provides a good opportunity to promote Malawi's exports of paprika and chillies to the USA.
- ii. **Persistent problems in tobacco marketing offer an opportunity for smallholder farmers to switch from tobacco to paprika and chillies.** For the past five years, tobacco marketing has been characterized by low prices being offered to farmers and poor leaf quality, both of which make farmers to realize low returns from tobacco production. If paprika and chillies farmgate prices increase substantially, it could lead to many tobacco producers abandoning their crop in favour of paprika and chillies.
- iii. **Government's commitment to promote irrigation agriculture is an excellent opportunity to boost the production of paprika, chillies and other horticultural crops.** The Malawi Growth and Development Strategy (MGDS, 2006-2011) emphasizes on the promotion of irrigation agriculture to promote food security and raise smallholder farmers' incomes. Since studies have already shown that spices grown under irrigation are more profitable than those grown under rain-fed agriculture, the promotion of irrigation offers a great opportunity to boost production and promote the marketing of the two crops.

- iv. **The Agricultural Sector-wide Approach (ASWAp) of 2009, which is a priority investment programme for the agricultural sector based on the agricultural elements of the MGDS, puts a strong emphasis on commercial agriculture, agro-processing and market development.** As such, agro-processing for value addition is a priority programme within the Ministry of Agriculture. This is another opportunity to promote value-adding for paprika and chillies and increase their export volumes.
- v. **The Government of Malawi, through the Marketing and Trade Section in the Ministry of Agriculture, recently drafted a standard contract agreement form to be used in contract farming.** The document, which will be legally binding, will promote paprika and bird's eye chillies production under contract farming.
- vi. **Government's agricultural research stations and institutions of higher learning offer excellent opportunities to promote research into high-yielding and disease-resistant varieties of paprika and chillies.** Currently, Bunda College of Agriculture, one of the five University of Malawi's constituent colleges, offers undergraduate and postgraduate training in horticulture. This provides an opportunity to provide specialized training in horticultural crops, which would then be used to promote the availability of extension services for the paprika and chillies' farmers.

#### 9.4 Threats

- i. **Persistently low farmgate prices for paprika and chillies will continue to drive smallholder farmers from spice production into tobacco production** because the areas that are favourable for growing these two crops are also suitable for tobacco production.
- ii. **Paprika and bird's eye chillies buyers may cooperate to offer very low prices to farmers.** Since the buyers are very few, they may collude to buy paprika and chillies at very low prices by manipulating the grading system of the two crops to their advantage.

## **CHAPTER 10: RECOMMENDATIONS**

### **10.0 Introduction**

Based on the SWOT Analysis, several strategies to address the weaknesses and minimize the threats, while capitalizing on the strengths and the opportunities are presented. The recommendations relate to production, marketing and support services.

### **10.1 Production**

In order to improve the paprika and bird's eye chillies sector in Malawi, there is an urgent need to improve production levels. There are several strategies that can be used to promote production and improve the yields of paprika and chillies:-

- i. **Improving the paprika and bird's eye chillies seed system:** - Farmers need to have access to certified paprika and bird's eye chillies seed. The role of the Seed Services Unit, based at Chitedze Agricultural Research Station in ensuring that buyers and other seed suppliers are providing the farmers with certified seed needs to be enhanced.
- ii. **Improving farmer's agronomic practices, through the provision of quality agricultural extension services.** The Department of Agricultural Extension Services (DASE) should take a leading role in providing such services, with the extension staff from the different buyers, NGOs and other institutions working in the spice sector providing complementary services. This would boost both production and yields. In particular, sound extension services would reduce post-harvest losses while promoting the quality of the product that would be available on the market.
- iii. **Improve the organization of farmers into groups.** Effective farmer organizations would be in a position to bargain for better prices for their paprika and chillies, which would in turn, improve the volumes of paprika and chillies produced.

## 10.2 Marketing

To promote marketing of paprika and bird's eye chillies so that incomes for all the players along the value chain improve, several strategies need to be in place:

- i. **Promote legally-binding contracts between producers and buyers.** The Ministry of Agriculture should intensify its efforts of formalizing all contractual arrangements between farmers and buyers.
- ii. **Promote value-adding activities and processes so that different players experience value chain upgrading.** For example, small-scale processing plants where farmer groups could turn their paprika into paprika powder would add value to the product while improving the incomes that they receive from paprika production.
- iii. **Promote domestic demand for chillies and paprika.** Currently, many Malawians use imported spices into their cooking. If the local players introduce high-quality paprika and chillies products on the domestic market, as substitutes for the imported spices, the domestic demand would improve.
- iv. **Promote vertical linkages among the buyers of paprika and chillies.** Cooperation among the different companies that buy and export paprika and chillies, relating to market identification and meeting large orders, among others could help them realize economies of scale, thereby improving their competitiveness and the ability to bargain for better prices on the international market.
- v. **Improve the quality, timeliness and utilization of market information.** Market information on paprika and chillies is vital for all the players along the respective value chains. Market information increases knowledge about market opportunities and risks to all market participants (Malawi Government, 2008). The flow of information relating to prices, quality and volumes required should be available to all the actors along the paprika and bird's eye chillies' chains.

## 10.3 Support Institutions

The following strategies also need to be undertaken by the support institutions to promote the production and marketing of chillies and paprika:

- i. **The Ministry of Agriculture should create an enabling policy and regulatory environment for the promotion of paprika and chillies.** In particular, it should review and revise the Malawi



Horticultural Development Strategy. Further, a horticultural policy in Malawi needs to be put in place to guide the development of the horticultural sector in Malawi.

- ii. **Strengthen PAMA to enable the institution promote the welfare and incomes of paprika farmers.** PAMA needs sufficient funding to boost its operations, including bargaining for better prices for its farmers. When PAMA becomes effective, it would be in a position to assist its members to access loan from commercial banks and other lending institutions.
- iii. **The Department of Agricultural Research Services (DARS) should prioritize its research into paprika and chillies to develop high-yielding, disease-resistant and high-ASTA varieties of paprika and chillies.**

#### **10.4 Challenges Encountered and Major Limitations**

There are several challenges that were encountered during the study. First, most the buyers were unwilling to provide any information relating to their selling prices and profits. However, a few players, such as Nali LTD and Duconti Produce were able to provide the research team with all the information that was required. Second, the study locations were restricted to only five districts where TLC is implementing the SPICE project. As a result, some of the major chillies producing areas, particularly in the south were not part of the study. Consequently, the results of the study may not be representative of the situation in Malawi, as a whole. While all the major players in the marketing of paprika and chillies were consulted, the smallholder farmers outside the study areas

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information: [sanderdonker@cheetah.malawi.net](mailto:sanderdonker@cheetah.malawi.net)

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Annex 1:

**TERMS OF REFERENCE FOR THE VALUE CHAIN ANALYSIS IN PAPRIKA AND BIRD'S EYE CHILLIES UNDER SPICE PROJECT**

The terms of reference for the value chain study included:

- A review of literature on paprika and bird's eye chillies sector in Malawi;
- Carry out a qualitative and quantitative analysis of paprika and bird's eye chillies production in Malawi and isolate for the impact districts for the past five years;
- Review and assess paprika and bird's eye chillies processing, processing technologies and utilization in Malawi and isolate for the project impact areas;
- Establish the current market structure/chain and market prices for unprocessed and processed paprika and bird's eye chillies;
- Analyze the policy environment and institutional framework of the sub-sector;
- Produce a trade flow of paprika and bird's eye chillies at national level;
- Provide concrete constraints and opportunities for the sub-sector;
- Report comprehensively on the paprika and bird's eye chillies value chain with special findings on:
  - Factors affecting value chain upgrading;
  - Main actors in the paprika and bird's eye chillies value chain and their roles and functions;
  - Investment opportunities among the value chain;
  - Marketing strategies and linkages among various players in the value chain;
  - Business and enabling environment;
  - Vertical and horizontal linkages;
  - Supporting markets and services;
  - Inter-firm cooperation and competition;
  - Transfer of information and learning between firms;
  - End markets.

**Annex II:**

**LIST OF STAKEHOLDERS CONSULTED**

1. Mr. Brand Mbale, Total Landcare Malawi.
2. Mr. Phillip Tembo, Total Landcare Malawi.
3. Mr. Richard Museka, Total Landcare Malawi.
4. Mrs. Manyungwa, Ministry of Agriculture.
5. Mr. Issac Chirwa, Ministry of Agriculture.
6. Mr. Fred Msiska, Ministry of Agriculture.
7. Mr. Latif Nyambi, Africa Invest Malawi.
8. Mr. Kambadya, Africa Invest Malawi.
9. Mrs. Parker, Duconti Produce.
10. Mr. Sander Donker, Cheetah (Malawi) LTD.
11. Mr. Edward Kholomana, Nali LTD
12. Mr. Chosani Mtawali, Nali LTD.
13. Mr. Manda, Nali LTD.
14. Mr. Wise Chauluka, Mulli Brothers
15. Mr. Andrew Kwilimbe, Transglobe Produce Exports
16. Mr. Lawrence Chikhasu, Paprika Association of Malawi (PAMA)
17. Mr. Borax Kamakanda, Paprika Association of Malawi (PAMA)
18. Mr. Richard Kachule, University of Malawi, Centre for Agricultural Research and Development
19. Mr. Foster Nyirenda, Malawi Export Promotion Council
20. Mr. Victor Mhoni, CISANET
21. Mr. Lovemore Kapalepale Phiri, Zikometso Smallholder Farmers' Association
22. Mrs. Juliana Chawawa Chitera, Zikometso Smallholder Farmers' Association

**Annex III:  
Producers' Questionnaire**