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A Preliminary Assessment of the Agricultural Marketing System in Nagaland, India

by

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Abstract

Nagaland is a small mountainous state located in Northeast India. As the largest economic sector in the state, agriculture is an integral component of the economic lives of farmers. An assessment of the agricultural marketing situation in Nagaland was done in cooperation with the second phase of the Nagaland Empowerment of People through Economic Development (NEPED) project. The NEPED project is an initiative undertaken by the Government of Nagaland, the International Development Research Centre and the India Canada Environment Facility to encourage Naga farmers to plant trees in their jhum fields. The success of the project prompted the introduction of a second phase concerned with the incorporation of shade-loving cash crops. Rapid Rural Appraisal techniques were used to identify, document and analyse the agricultural marketing situation in Nagaland. It is hoped that the results of the study will be used to assist farmers in future agricultural marketing activities.

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All things are impermanent – especially personal failure and success.

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Chapter 1 – Introduction

1.1.0. Introduction

An emphasis on agricultural marketing should be an integral part of any economic development scheme. The development of agricultural markets and the facilitation of agricultural marketing processes are necessary strategies to achieving economic growth and development in predominantly rural societies. For a country in the early stages of development, agriculture is usually the largest sector from which labour and resources may be drawn, and it is important that agriculture is not neglected or managed primarily as a resource base for industry. Productivity gains in agriculture without marketing improvements are not enough to stimulate sustainable development in rural communities, and agricultural industries should be supported through expansions and improvements in agricultural markets and marketing processes.

This study is concerned with examining, documenting and analyzing the agricultural marketing system of a small mountainous state in the remote Northeast region of India called Nagaland. Geographically isolated and plagued by political turmoil, the state is struggling to develop its predominantly agricultural industries. Agricultural marketing in Nagaland has been described as disorganized, and the overall consensus is that agricultural marketing has been neglected. With an estimated 72.36% of the population engaged in farming or farm related activities, Nagaland's economic progress is closely tied to developments in agriculture (Government of Nagaland, 1991). A preliminary examination of Nagaland's agricultural marketing system will identify inefficiencies and opportunities that can be addressed by government officials in making improvements to Nagaland's agricultural markets.

In this chapter, a brief summary of Nagaland and the Nagaland Empowerment of People through Economic Development (NEPED) project will be presented. Following this information, a discussion of the nature and scope of the problem as well as the study's research objectives will be outlined. Finally, the nature and format of the thesis will be discussed.

1.2.0. Background Information

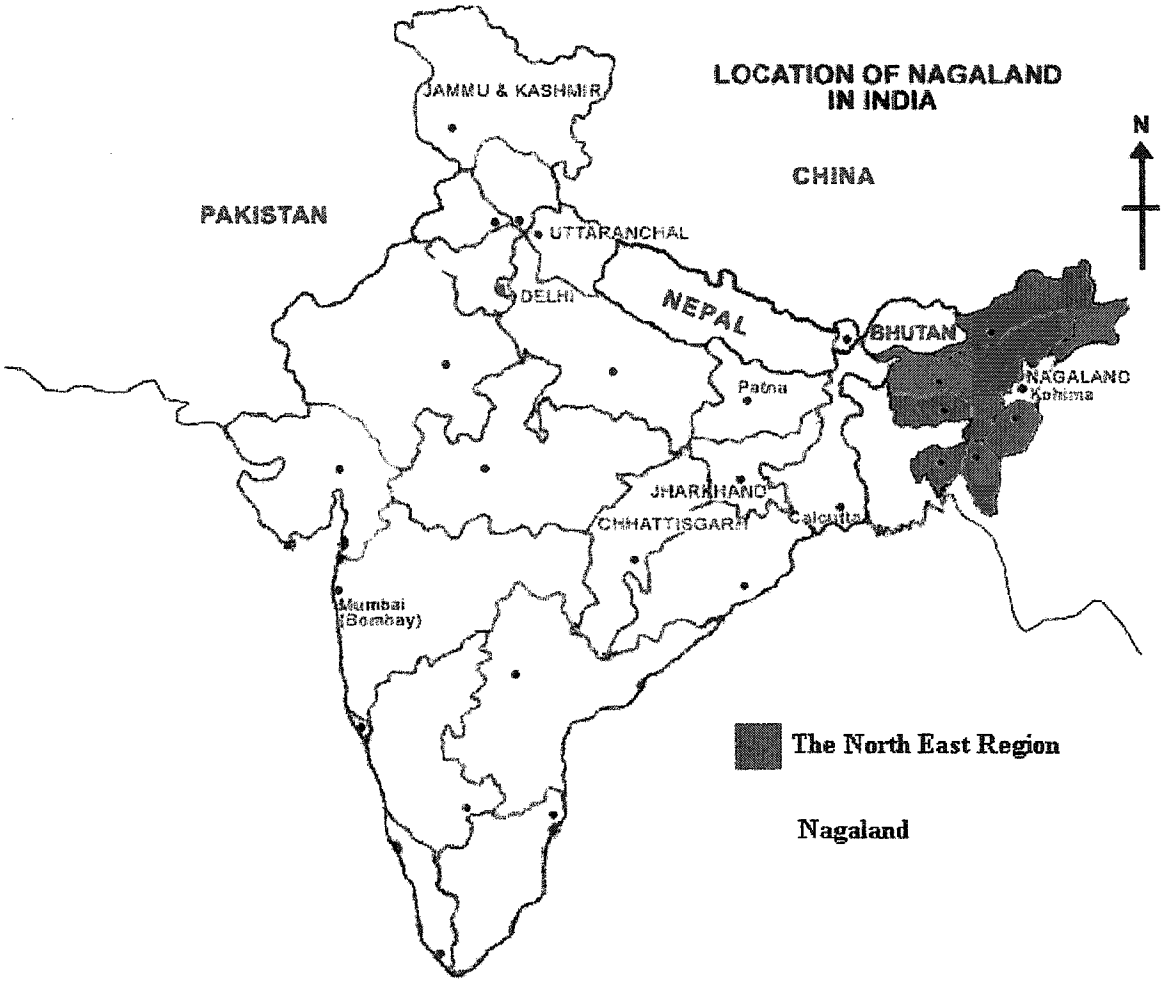
As the second smallest state in the Indian Union, Nagaland along with Arunachal Pradesh, Assam, Meghalaya, Manipur, Mizoram and Tripura are known as the Seven Sisters of the Northeast. Approximately one fourth of the Northeast region is composed of tribal groups, but in Arunachal Pradesh, Megahalaya, Mizoram, and Nagaland, the majority of the population is tribal (North Eastern Development Finance Corporation, 2002). This region of India is troubled by tribal nationalism that began before Indian Independence in 1947, and it has been a barrier to economic, social and political development in the region. Although all seven states are experiencing a quantum leap from a subsistence economy to a monetized economy, agriculture and forest resources still play a significant role in the economic lives of the people (Mitra, 1998; North Eastern Development Finance Corporation, 2002). Refer to Figure 1 on the following page for a map of the location of Nagaland and the Northeast Region in India.

Blessed with luxuriant rolling hills of sub-tropical forests, Nagaland's primary economic sector is agriculture and the majority of Naga farmers are subsistence producers who grow only enough food for consumption (IDRC, 1999). Commercial production is rare, despite the Government of Nagaland's diligent attempts at promoting cash cropping. Practicing a form of swidden agriculture called "jhum" in local dialects, Naga farmers slash and burn large tracts of cultivable land each year. Swidden agriculture is sustainable when land is abundant and the population is low; however, a high birth rate has resulted in an explosion of the rural population in Nagaland. Soil erosion, environmental degradation, and compromised water resources have become more significant in Nagaland as swidden cycles have fallen dramatically. There is a growing concern among farmers and government officials that Nagaland's rich stores of plant and animal biodiversity is being compromised by the expansion of agricultural activities in the state.

A project that attempts to mitigate the environmental impacts of deforestation and agricultural expansion is the Nagaland Empowerment of People through Economic Development (NEPED) project, formerly known as the Nagaland Environmental Protection and Economic Development (NEPED) project. Initiated and funded by the Government of Nagaland, the International Development Research Centre (IDRC) and

the Canadian International Development Agency (CIDA) through the India Canada Environment Facility (ICEF), the NEPED project began in February 1995. The NEPED project is designed to stimulate agroforestry development by modifying existing farming systems, while conforming to ecosystem properties (Faminow and POU, 1999). This project emphasizes participatory development by incorporating indigenous knowledge in the development of local-based technologies (Faminow and POU, 1999).

Figure 1. A map of Nagaland and the Northeast Region of India



Source: Adapted from "Location of Nagaland in India" from the Maps of India, 2002.

The initial focus of the NEPED project was to encourage farmers to plant trees in their fallow fields, and after five years, the popularity of tree planting among Naga farmers has been an encouraging experience for project coordinators. A second phase of the project is currently being implemented and it focuses on income-generating opportunities associated with both timber and non-timber forest products. The NEPED team is concentrating on introducing shade-loving species like ginger, large cardamom, turmeric, black pepper, and passionfruit.

The introduction of cash cropping by the NEPED project is an attempt to move Naga farmers away from subsistence jhum production to more sustainable forms of agroforestry. In order for agroforestry to be attractive to farmers, it must be a profitable alternative to shifting cultivation (Tomich et al. 1998). Farmers "should be in a position to estimate their direct and indirect benefits in terms of cash even before they initiate [agroforestry] activity" (Hedge, 1987). Given the success of the NEPED project, it is evident that farmers associate some positive benefits, whether environmental or economic, with tree planting.

This research study is undertaken with the cooperation of the NEPED project team. An assessment of the agricultural marketing situation in Nagaland, both at the state level and at the district level, is necessary to ensure that the second phase of the project is successful at introducing farmers to positive experiences in cash cropping and marketing. The results obtained in this study will be used by the NEPED team to assist farmers in the marketing of agroforestry products, and it is hoped that the policy recommendations suggested in this thesis will be implemented by the Government of Nagaland in making marketing improvements.

1.3.0. Nature and Scope of Problem

There is overwhelming consensus among government officials, market experts, academics and farmers that agricultural markets and marketing processes in Nagaland are in the early stages of development and progressing at a relatively slow pace. However, there is considerable debate over the causes of this severe underdevelopment. The three major arguments that have been made to explain why Nagaland is lagging behind neighbouring states like Megahalaya and Assam are: (i) inadequate infrastructure, (ii) the

persistence of traditional subsistence jhum production and (iii) insurgency and anti-social activities.

It has been argued that farmers are reluctant to engage in commercial production because of poorly organized district and state markets that are incapable of absorbing the resultant surplus. Farmers who do engage in cash cropping are inevitably discouraged when they cannot sell their produce in the market. These poorly organized markets have been attributed to inadequate infrastructure in communications and transportation, as well as unreliable and incomplete government schemes designed to encourage commercial production.

Another common argument is that farmers are content with practicing traditional jhum production, and they are not interested in increasing agricultural surpluses. The experts who believe this argument feel that the low surplus produced by farmers create unfavorable market conditions for traders, and discourage further developments in agricultural marketing. This argument is made by the Tribal Co-operative Marketing Development Federation of India (TRIFED) and the North Eastern Regional Agricultural Marketing Corporation (NERAMAC). Both organizations are commercial initiatives of the Central Government of India, and their main goal is to provide marketing assistance to tribal farmers in the case of TRIFED and Northeastern farmers in the case of NERAMAC.

The final argument is that insurgency and anti-social activities in the state have hampered the ability of farmers and traders to engage in marketing activities. In order for markets to function efficiently, an atmosphere of peace and security must exist for participants to enter the market and negotiate freely. In the presence of insurgency, fear and anxiety often prevent people from entering the marketplace at certain times of the day, thus limiting a firm's hours of business. Coercion and extortion are additional tactics used by underground rebels to intimidate farmers and traders, thus fostering a hostile atmosphere to trade and commerce. Although government mechanisms exist to protect market participants from anti-social activities, the threat of violence is often too great a risk for some individuals.

1.4.0. Research Goals and Objectives

Examining the marketing situation in Nagaland at the state level and at the district level are the main goals of the research project, and consequently the main research objective is to explore, document and analyze the overall marketing situation in the state and provide a case study of the marketing situation in one representative district of Nagaland. The district of Mokokchung is chosen as the area of study because it is an ideal location for studying inter-district trade and interstate trade with Assam. An examination of how the farmers in Mokokchung currently access agricultural marketing channels is essential to identifying marketing difficulties and developing new strategies for marketing.

In order to achieve the main research objective, the following specific objectives must be accomplished:

- To describe traditional subsistence jhum production and identify its impacts on agricultural marketing
- To describe the agroforestry techniques being introduced through NEPED and identify their impacts on agricultural marketing
- To describe the social-political environment of Nagaland and identify its impact on agricultural marketing
- To describe current government policy on agricultural production and marketing and provide policy recommendations for agricultural marketing improvements
- To document the flow of agricultural products from the point of production to the point of final consumption
- To discuss the role of the farmer as a producer and a marketing agent
- To identify and document the marketing techniques used by farmers to sell their products
- To identify the marketing intermediaries involved in the flow of agricultural products from the producer to the final consumer, and document their roles and functions

1.5.0. Background and Format of the Study

Fieldwork for the study was conducted in Assam, Megahalaya and Nagaland India from October 2000 until April 2001. The research base for the study was in Guwahati, Assam and field trips were made to Megahalaya and Nagaland. One trip, approximately two days in duration, was made to Shillong, Megahalaya, while three trips were made to Nagaland, ranging from six days to twenty-two days. Four districts in Nagaland were covered in the study: Dimapur, Kohima, Mokokchung, and Phek. Focus group discussions were held in three villages, Viswema, Khuzame and Pfutsero, while formal questionnaires were conducted in Sungratsu, Khensa, Ungma, and Longsa.

Rapid Rural Appraisal techniques were used to collect data at the state and district level, while formal questionnaires were used to collect data at the individual farm level. Data collection was focused on primary sources rather than secondary sources, owing to a lack of statistical documentation in Nagaland and the Northeast region. Key informant interviews were conducted with government officials, market experts, academics, and farmers in Nagaland.

The thesis is presented in the following format. In Chapter 2, the role of agricultural marketing in economic development is summarized, and concepts in agricultural marketing are defined. A brief discussion on the development of agricultural markets is also presented in Chapter 2, along with specific definitions of markets and exchange processes. A summary of the geographical, social, political and economic history of Nagaland is presented in Chapter 3, while the methodology of the research study is outlined in Chapter 4. The results of the study will be summarized and discussed in Chapter 5, Chapter 6, Chapter 7 and Chapter 8. Finally, conclusions will be presented in Chapter 9.

Chapter 2 – Agricultural Marketing and Markets

2.1.0. Introduction

As rural communities undergo the process of modernization, agricultural marketing becomes more essential to the economic lives of farmers. A discussion on agricultural marketing and its effects on the process of development, and the development of agricultural markets in rural communities will be discussed in this chapter. Since Nagaland's agricultural markets are in the early stages of development, the concepts of primitive and peasant markets will be examined. It is also important to define key concepts in agricultural marketing, and examine the types of agricultural markets and exchange processes that may exist within a community.

2.2.0 Agricultural Marketing and Development

The growth effects of agricultural development are primarily realized through the act of marketing. Productivity gains in agriculture are worthless without a functioning marketing system in place to bring food from areas of relative abundance to areas of relative scarcity. The development of an efficient marketing system is important for countries under all conditions and at every stage of development, and the pace of economic development is quickened as marketing activity intensifies (Abbott, 1958).

The process of marketing is an integral part of agricultural development as it encourages farmers to specialize in food production for commercial sale rather than produce food only to meet subsistence requirements. The specialization of production results in increased yields, as farmers are able to use improved cultivation and harvesting techniques for specific crops (FAO, 1962). The existence of marketing facilities permits farmers to concentrate on the most appropriate and financially rewarding crops, whose subsequent sale will permit the purchase of a variety of subsistence and consumer goods that are produced more efficiently elsewhere (Abbott, 1958). The economic gains from marketing will also provide farmers with resources such as seeds, fertilizers and pesticides for agricultural expansion and intensification (FAO, 1962).

Besides increasing the supply of food, agricultural marketing manages food supplies through both the physical movement of food and the transmission of price

signals between producers and consumers (Ellis, 1992). Inadequate transportation and communication systems increase the cost of food marketing, thus resulting in high urban food prices. Because food is a wage good where 50 to 60 percent of income is devoted to its purchase, upward pressures on urban wages can have severe growth retarding consequences as fewer savings are reinvested (Johnston and Mellor, 1961). For urban food prices to remain low, an efficient marketing system is necessary to facilitate the physical movement of food from rural areas to urban areas.

Agricultural products demanded in the international market are highly specific, and the process of agricultural marketing organizes the harvest of a season's crops into appropriate grades and standards (Abbott, 1958). For a nation that is intent on developing agricultural exports, an efficient marketing system should send farmers economic signals about what to produce and how to produce, so that the products may be sold abroad for valuable foreign exchange. For a nation whose main goal is self-sufficiency in food production, a developed agricultural marketing system will assist in the production of substitutions for imports, thus saving valuable foreign exchange dollars for industrial development (Abbott, 1992).

Agricultural marketing provides non-agricultural employment in rural and urban areas and removes the pressure on industry to absorb the full extent of surplus labour in agriculture (Staatz and Eicher, 1998). The creation of small-scale employment opportunities in the arbitrage of vegetables and fruits or large-scale employment opportunities in industrial fruit and vegetable processing indicates that marketing is an important multiplier of economic development (Drucker, 1958). Marketing employment in rural areas may also stem the flow of migrants into urban areas, and prevent overcrowding and urban unemployment (Staatz and Eicher, 1998).

Some of the benefits of an efficient marketing system are increased farm incomes and higher standards of living for the rural poor. Higher income levels allow farmers to increase their consumption of domestically manufactured goods, thus providing a ready market for new industries (Abbott, 1987). Farmers may also choose to save the extra earnings they make through increased productivity, and contribute to capital accumulation if the money is invested in the banking system in the form of a savings account. It is historically proven that the savings and investment rates that foster

economic growth in an underdeveloped country can only be reached when the agricultural sector makes significant contributions (Johnston and Mellor, 1961). Finally, the taxation of the agricultural sector as a means of capturing productivity gains will be less severe if they are accompanied by marketing improvements and infrastructure. Investments in transportation, communication and electricity should facilitate both agricultural marketing and industrial development.

Agricultural marketing should be incorporated in all rural development schemes. It is not enough to increase the output of specific food crops without a clear plan of where and how to sell the increased surplus. Export quality products are not grown haphazardly, rather they are the result of conscious care and effort by knowledgeable farmers receiving accurate market signals or market oriented training. Regardless of the advances in production technology and inputs, agriculture cannot make a significant contribution to economic growth and development unless an efficient marketing system is in place to organize and distribute the productivity gains.

2.2.1. Development of Markets and Agricultural Marketing

An agricultural market, and the agricultural marketing system that supports it, is born out of the need to facilitate and improve the exchange of marketable surplus among producers and consumers (Kohls and Uhl, 1998). History has shown that as individual family units begin to grow and develop into communities, the specialization of agricultural production becomes possible. This specialization of production means that households typically produce more than they can consume of an item in which they have a competitive advantage, and it becomes necessary for them to engage in the process of exchange to fulfill subsistence requirements and satisfy individual wants.

An agricultural market is created to reduce the number of decentralized exchanges within a community and improve the efficiency of the exchange process. A decentralized exchange is a transaction that occurs at the production point between the producers of two specific items, and therefore, an individual who wishes to trade a bundle of wheat for a basket of eggs must seek out the egg producer on his farm and vice versa (Stern and El-Ansary, 1992). The process of exchange can become extremely complex and time consuming if the individual must physically go to each specialized producer and

negotiate a transaction. Even in a fully monetized economy, the complexity of the exchange process would not be reduced unless a central market exists where buyers and sellers can meet for the process of exchange.

The marketing process is further developed and enhanced with the introduction of marketing intermediaries. These individuals allow producers to concentrate on production, and they reduce the complexity of the exchange system by facilitating market transactions (Stern and El-Ansary, 1992). The emergence of marketing intermediaries is attributed to the need for exchange and exchange efficiency, minimization of assortment discrepancies between producers and consumers, routinization of transactions, and the facilitation of search procedures (Stern and El-Ansary, 1992). An agricultural marketing system is the result of networks of marketing intermediaries working in collaboration to bring output from areas of abundance to areas of scarcity.

2.3.0. Definition of Market

A market can be defined as "an arena for organizing and facilitating business activities and for answering the basic economic questions: what to produce, how much to produce, how to produce, and how to distribute production" (Kohls and Uhl, 1998). There are four dimensions to the word market: (i) location, (ii) product, (iii) time and (iv) institutional level. A market may refer to the physical location where buyers and sellers meet for the process of exchange, or it may refer to a specific product such as wheat or rice. Markets can also be defined in terms of time such as seasonal fruit markets or they can be defined in terms of institutional level such as retail or wholesale markets.

The primary role of any market is to facilitate the efficient allocation of resources in an industry, and to assist the exchange of products and money between buyers and sellers (Kohls and Uhl, 1998). Through the forces of supply and demand, markets should accurately determine the prices of goods, and place values on economic activities (Kohls and Uhl, 1998). Finally, markets create value and efficiency in the economy through competition (Kohls and Uhl, 1998).

2.3.1. Market Exchange

The word market can also refer to the act of selling or trading, and economic anthropologists have used it to describe a type of exchange (Nash, 1966). In modern economic systems, the concept of buying and selling goods for an equivalent amount of currency is inherent and it is the primary mode of exchange. In primitive and peasant societies, where the household produces a majority of its own food and consumer goods, the process of exchange only becomes necessary when the production of perishable foods is in surplus of the household's subsistence requirements (Stern and El-Ansary, 1992). Households engage in simple exchanges to prevent spoilage and to obtain goods which they are incapable of producing, or goods which they cannot produce efficiently. Many of these exchanges are examples of reciprocity; culturally defined, non-replicable exchanges that involve unlike goods and services (Ellis, 1988). Reciprocal exchanges usually occur in a society with equal income distribution, as the balance of exchanges among households is easier to maintain (Nash, 1966).

Primitive and peasant societies are also characterized by redistributive exchanges. The process of redistribution involves a political or economic centre, which mobilizes goods or services and redistributes them among poor community members (Nash, 1966). Redistribution is a form of reciprocity but it is unbalanced and it implies social differentiation (Nash, 1966). Although redistribution exists because of inequalities in power and prestige in a community, its main goal is to minimize the economic gaps, and replace them with more honorific and ceremonial gaps (Nash, 1966).

The concept of reciprocity and redistribution all refer to a "moral economy" (Scott, 1976) or an "economy of affection" (Hyden, 1980). Although modern economic systems have various aspects of reciprocity and redistribution, they are not the dominant modes of exchange. Instead, they are present to the same limited extent as market exchanges are present in the primitive and peasant society. Through the process of social and economic development, reciprocal and redistributive exchanges become less prominent as "structural differentiation" occurs, and individuals look beyond the family unit for specialized activities and services (Smelser, 1963; Dalton, 1971). Market exchanges become more important, and contractual relationships displace local

dependence on kin and status (Dalton, 1971). New dependency relationships begin to emerge external to the family and the village (Dalton, 1971).

2.4.0. Primitive and Peasant Markets

Primitive and peasant markets are characterized by a lack of integration between them and a larger economy, whether a national or international markets. Primitive-tribal markets are typically isolated and self-sufficient, and they are dominated by non-economic exchanges based on ceremony and social status (Dalton, 1971). Primitive producers gear their production towards the satisfaction of their own needs and their kinship obligations, rather than towards exchange (Wolf, 1966). Peasant markets are partially integrated and represent a transition between the primitive tribal market and the modern industrial market (Wolf, 1966). Peasant producers are growing food for their own subsistence, and exchanging the surplus in the local market. The partial integration of peasant markets into the larger national or international market may be attributed to market imperfections such as poor transportation and communications (Ellis, 1992).

Unlike the primitive market, which is rarely exposed to outside market forces, the inputs and outputs in a peasant market are subjected to external valuation, which may result in adverse price trends and unequal market power (Ellis, 1992). The concept of subordination is often used to describe the relationship of the peasant market to the larger external market. There are three aspects of subordination in peasant society: (i) non-market coercion, (ii) the exercise of unequal economic power in imperfect markets, and (iii) the adverse results of price trends originating in competitive wider markets (Ellis, 1992). It is important to note that subordination does not only occur between the peasantry and the external society but also within the peasantry itself.

In both the primitive and peasant market, the main economic unit is the household (Ellis, 1992). As a production unit, the household is undifferentiated and multipurpose (Nash, 1966). Household production decisions are motivated by the needs of the family, rather than the amount of profit that can be made (Dalton, 1971). Production is not entirely for consumption, as households produce for exchange so that they may trade for what they need. A primitive and peasant market is characterized by material insecurity due to poor technology, physical isolation, the absence of market organization, and the

absence of secure livelihoods aside from agriculture, hunting or gathering (Dalton, 1971). This material insecurity induces many households to use traditional practices to mitigate the threat of starvation, which may not result in profit maximization (Dalton, 1971).

Although production is usually undertaken by the members of the immediate household, additional labour may be recruited from the extended family or neighbours. The practice of hiring in or out labour is not a common practice and no real labour market exists (Nash, 1966). The recruitment of workers is based on existing social relations and the customary wage may be accompanied by social prerequisites such as dining with the employer, kinship terms of address or pay given in the form of a gift (Nash, 1966). Various aspects of the production process may also occur collectively at the village level as part of an individual's responsibility to their community (Sahlins, 1971). This type of labour is usually forced volunteerism.

In some primitive and peasant societies, the concept of buying and selling for a profit is considered socially unacceptable, and individuals who are considered strangers to the community often assume these economic roles (Nash, 1966). Because a stranger is not bound by kinship relationships or the codes and customs of the community, he or she is able to perform the marketing functions of arbitrage without censure (Nash, 1966). The economic roles open to strangers in a primitive or peasant market are moneylender, merchant, middleman, or labour-gang boss (Nash, 1966).

2.4.1. Agricultural Marketing in Primitive and Peasant Markets

The extent of agricultural marketing that occurs in a primitive or peasant society is minimal as most farmers are subsistence producers with very low surplus. The majority of small-scale agricultural marketing occurs at rural assembly markets where individual farmers bring in small quantities of produce for sale (FAO, 1986). These rural assembly markets are beneficial to both the farmer and the trader, because it attracts a large number of buyers and sellers. Traders are able to amass large quantities of produce without incurring the search costs associated with locating and contacting farmers, while farmers are able to negotiate higher prices for their produce with more buyers (FAO, 1986).

The rural assembly market in a village or in a town is usually the first contact point that farmers have with an agricultural marketing channel, and the efficiency of the market will directly affect farm income and the farmer's incentive to produce (FAO, 1986). Although some farmers sell produce on the farm or along the roadside, the rural assembly market is the main place where farmers are exposed to the larger agricultural marketing system. The rural market fulfills three primary marketing functions: the selling of local products within the area, the distribution of products from other areas, and the assembling of local products for sale in other areas (FAO, 1986). The importance of a rural assembly market to a farmer declines as the volume of sales increases, because a trader may be able to purchase bigger lots at lower unit cost at the farm (FAO, 1986). In this case, the farmer may just visit the rural market for pricing information or for the purchase of other consumer goods.

2.5.0. Definition of Agricultural Marketing

Agricultural marketing is defined as the "business activities associated with the flow of goods and services from production to consumption" (Abbott, 1958, 1987). For agricultural products, the marketing process begins on the farm as production plans tailored to meet specific demands or market prospects (Abbott, 1987; Kohls and Uhl, 1998). Once the products have been grown and harvested, the marketing process may include a variety of intermediate stages of sale and resale, but ultimately ends with the sale of the fresh or processed product to the final consumer. Agricultural marketing is not a mechanical process; it involves management decision-making and the quality of the resultant decisions influence the cost and efficiency of the whole marketing system (Kohls and Uhl, 1998). The supply of fertilizers and other production inputs is also encompassed by agricultural marketing (Abbott, 1987).

The marketing process transforms a product in three ways according to time, space and form (Ellis, 1992). Although farmers are considered the ultimate producers in the marketing process, marketing intermediaries also create utility through value addition (Kohls and Uhl, 1998). Consumers may enjoy four types of utilities as a result of marketing: (i) form utility, (ii) place utility, (iii) time utility and (iv) possession utility.

To understand how the marketing process can result in additional utility to the consumer, a simple commodity such as wheat will be used as an example. Through the process of milling, wheat can be transformed into flour for sale. This treatment of the wheat by a mill operator is an example of form utility. The physical movement of the wheat to another location for consumption is regarded as place utility, while the storage of wheat in a silo for future use is an example of time utility. Advertisements that inform the consumer about where and how to purchase the wheat are examples of possession utility.

There are two essential characteristics of the marketing process: sequence and coordination (Kohls and Uhl, 1998). Each agricultural product that is grown and sold by farmers must undergo a series of actions and events that occur in sequence, and due to the perishable nature of most agricultural products, these actions and events must also occur in coordination to ensure the timely movement of products from producer to consumer. It is important to note that the nature and form of a product when it enters the marketing process influences the organization and operation of the marketing system (Kohls and Uhl, 1998). The sequence and coordination of events will differ for products with varying degrees of perishability or for products at different stages of processing.

2.5.1. Definition of Marketing Channels

A marketing channel is a "set of interdependent organizations involved in the process of making a product or service available for use or consumption" (Stern and El-Ansary, 1992). It is a specific path that a product or services takes to move from the producer to the consumer, and such channels are designed to both satisfy and stimulate demand. The individuals, institutions and agencies involved in the channel are called marketing intermediaries, and some of the marketing functions that they perform are: (i) finding a buyer and transferring ownership, (ii) assembling and storing, (iii) sorting, packing, and processing, (iv) providing finance for marketing and risk-taking, (v) assorting and presenting to consumers, and (vi) extending credit to consumers (Abbott, 1987; Stern and El-Ansary, 1992). Marketing functions performed in a particular channel cannot be eliminated, even when the marketing intermediaries who performed them are no longer present. When a marketing intermediary is eliminated, their function is shifted

forward or backward in the marketing channel and performed by other members (Stern and El-Ansary, 1992).

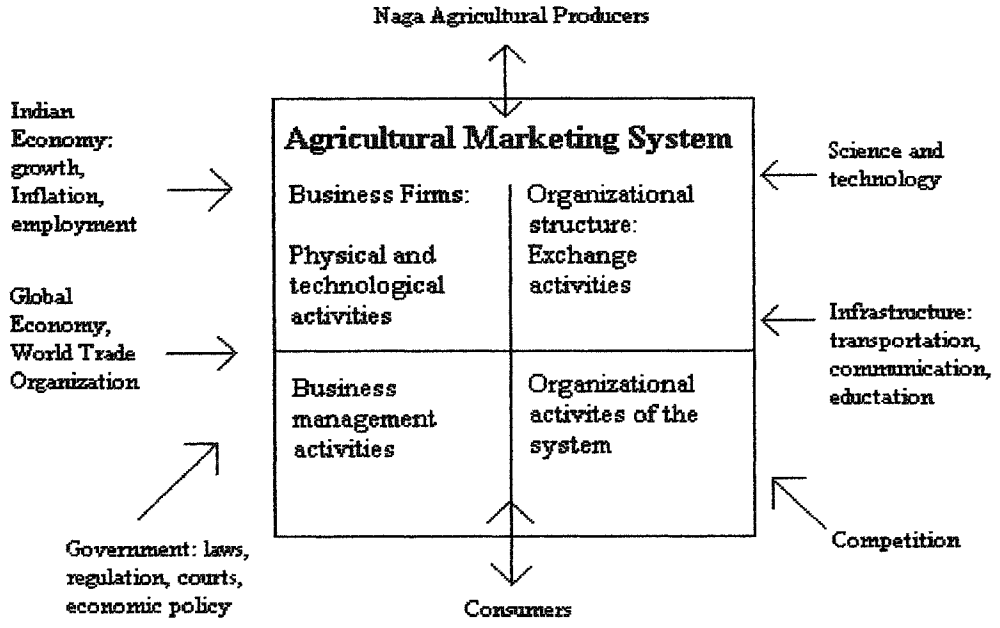
A marketing channel can be regarded as a system of interrelated and interdependent components with geographic, economic, and human boundaries (Stern and El-Ansary, 1992). It is a subsystem within a network of marketing channels that make up an economy's distribution structure, and this structure is influenced by economic, social, political, physical and technological factors in the national and international economy (Stern and El-Ansary, 1992; Kohls and Uhl, 1998). Operating within a dynamic framework, marketing channels are continually evolving and changing.

2.5.2. Agricultural Marketing System

A nation's agricultural marketing system is comprised of a network of marketing channels for different agricultural products produced and imported by the country. It is a complex system of business firms and organizational structures interacting to achieve competent management decisions, contractual agreements, agricultural prices, and transparent procedures and regulations that facilitate the flow of agricultural goods and services (Kohls and Uhl, 1998). Figure 2 depicts the various dimensions of a country's or in this case, the state of Nagaland's agricultural marketing system and the external influences on its structure and operation.

As an integral part of the national economy, the agricultural marketing system is affected by macroeconomic trends of growth, employment, inflation and interest rates (Kohls and Uhl, 1998). Global economic factors, influenced by world markets and the World Trade Organization, also affect a nation's agricultural marketing system. Even competition within the system among producers and marketing intermediaries affect the structure and operation of the system. As each participant tries to gain the competitive edge by increasing profits and consumer satisfaction through the development of production techniques and market innovations, the marketing channels for their products are continually changing, thus altering the whole agricultural marketing system (Kohls and Uhl, 1998).

Figure 2. Dimensions of the Agricultural Marketing System in Nagaland



Source: Adapted from "Figure 1.3. Dimensions of the Food marketing process", Marketing of Agricultural Products, fourth edition, Kohls and Uhl, 1998.

Another external influence on the agricultural marketing system is science and technology (Kohls and Uhl, 1998). New discoveries that result in a productivity gain for a certain product will not be realized if the agricultural marketing system does not change or grow to accommodate the increased supply. Marketing improvements such as the development of new packaging technology or a new processing technique will also change the channel structure for certain products as some marketing intermediaries may be eliminated.

The path of influence between the producer and consumer is not one-way. Changes in consumer preferences will affect the production of certain products and alter the activities involved in the marketing process (Kohls and Uhl, 1998). As an economy

advances, food production becomes more consumer-driven and market research becomes more necessary to predict and anticipate the needs and wants of the consumer (Kohls and Uhl, 1998).

The most significant factor that develops and changes an agricultural marketing system is "social capital" or infrastructure (Kohls and Uhl, 1998). The concept of social capital refers to the resources created by society for its own use (Kohls and Uhl, 1998). Transportation and communication systems are forms of social capital that are necessary to facilitate the development of an efficient marketing system, while the provision of universal education creates capable market participants. The role of government is to regulate and facilitate the agricultural marketing system through the creation, interpretation and enforcement of laws and policies. As a regulatory body, the government must address economic issues of competition, fair trade, contractual agreements and extortion, as well as the social rules, customs, and ethics that influence these business practices within a society (Kohl and Uhl, 1998).

Chapter 3 – Nagaland

3.1.0. Introduction

Nagaland is a small tribal state in Northeast India. The process of modernization did not occur in Nagaland until after World War II, even though American Baptist Missionaries were operating in Nagaland before that time. A brief history of Nagaland's geographic, economic, social and political history will be presented in the following chapter.

3.2.0. Physical Description of the State

Located in the remote Northeast Region, Nagaland is the second smallest state in India with a land area of 16, 579 square km (Government of Nagaland, 1997). Geographically, the state lies between 25°06' and 27°04' N latitude and 93°020' and 95°015' E longitude (Government of Nagaland, 1997). It is bordered by the state of Manipur to the south, Arunachal Pradesh to the north, Assam to the west and the country of Myanmar to the east. Refer to Figure 3 on the following page for a map of the location of Nagaland in the Northeast Region.

Picturesque with rolling evergreen mountains, the state is rich in subtropical biodiversity and has been called the "Switzerland of the East" (Maitra, 1998). Running parallel to the left bank of the Brahmaputra River, Nagaland is a hilly state of spurs and ridges (Government of Nagaland, 1997). There are very few plains in the state, and the most notable are the plains of Dimapur, Naginimara, and Tijit area (Sen, 1987). With varying altitudes between 194 metres and 3,048 metres above sea level, the highest mountain peak is Mount Saramati in Tuensang District, situated on the Myanmar-Nagaland border (Sen, 1987; Government of Nagaland, 1997). The average village in Nagaland is located 1,000 to 2,000 metres high, as Nagas prefer to build their homes on hill-tops for strategic advantage over their enemies (Sen, 1987; Government of Nagaland, 1997).

Dense forests cover the hills of Nagaland with indigenous varieties of trees, which have both medicinal and commercial timber value, while wild flowers such as rare and exotic orchids, ferns, herbs, and medicinal plants and grasses make up the rest of the

state's unique flora (Singh, 1981; Maitra, 1998). Game animals such as elephants, tigers, bears, leopards, and many other subtropical fauna can also be found in the forests. Nagas consider all animals and birds edible, and as a result, they are frequent and effective hunters (Maitra, 1998). Indiscriminate hunting is causing a rapid depletion of animal biodiversity, while the expansion of agricultural operations is having similar negative consequences on the plant biodiversity in the state.

Figure 3. A map of Nagaland in the Northeast Region of India

Source: North East Regional Databank, North Eastern Finance Development Corporation, 2002.

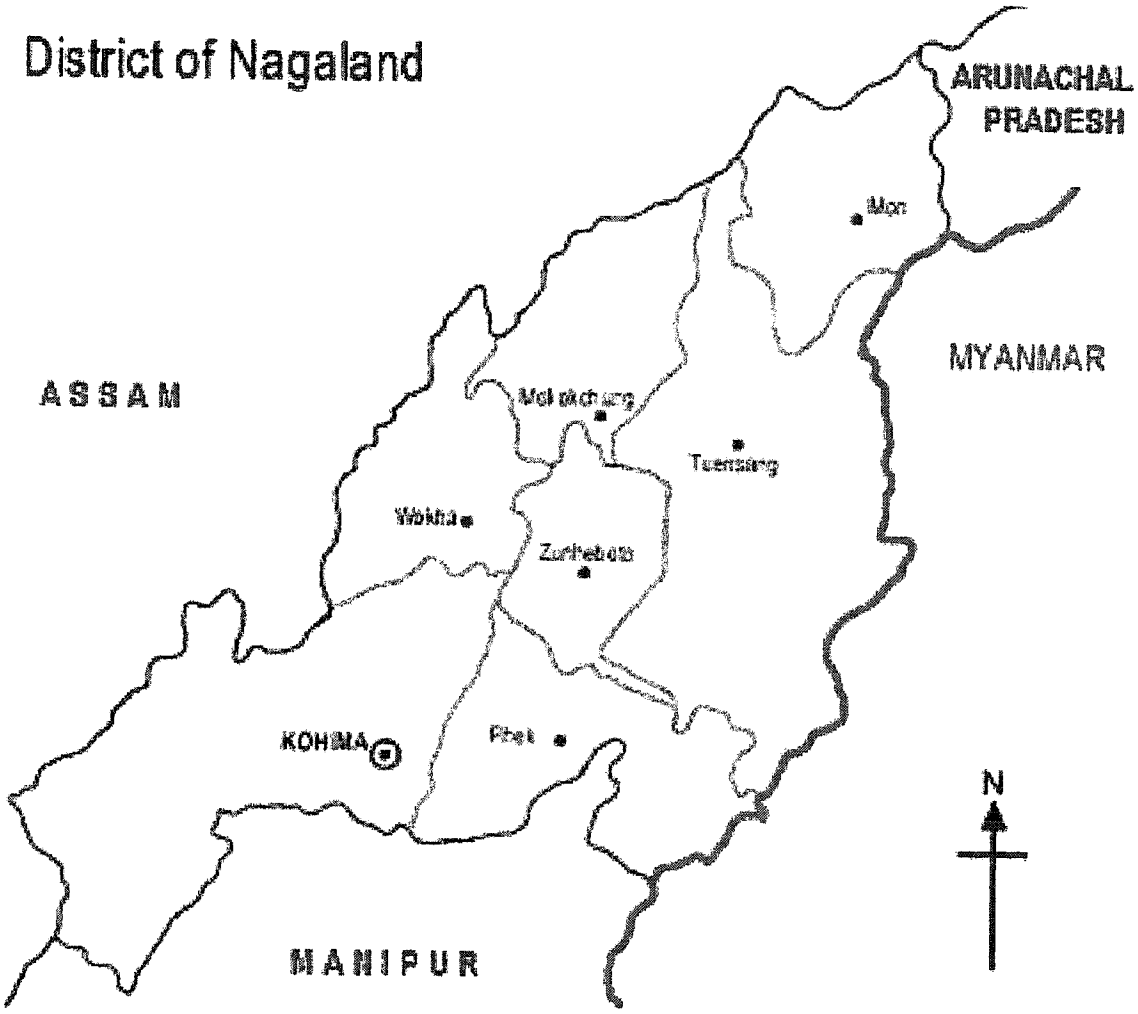
Nagaland is blessed with a mild climate, and unlike the rest of India, which experiences three seasons – winter, summer and monsoon, Nagaland only experiences winter and monsoon (Singh, 1981). The monsoon season begins in April and continues until October with an equitable distribution of rainfall throughout the state (Yonuo, 1974; Singh, 1981). The heaviest rains are recorded in June-July and the average rainfall in the state is 177.8 cm to 254.0 cm (Maitra, 1998). During the monsoon season, severe rains may cause the flooding of rivers and streams, and result in washed out roads and jungle footpaths (Singh, 1981). Little rain is experienced during the winter season, but variable winds and low average temperatures, around 3°, result in cold winter days and nights (Singh, 1981).

3.2.1. Basic Facts about the State

The state of Nagaland is divided into eight districts: Kohima, Mokokchung, Tuensang, Wokha, Zunheboto, Phek, Mon and Dimapur. The state capital of Nagaland is Kohima town located in Kohima District. Chosen for its historical significance, Kohima is the site of a famous World War II battle between the Allied Forces and the invading Japanese. The Kohima War Cemetery is a memorial constructed at the battle site to commemorate the dead, mainly Nagas and Indian soldiers (Maitra, 1998). Refer to the following page for Figure 4 for a map of Nagaland.

Nagaland is a tribal society composed of sixteen main tribes. Each has its own distinctive dialect, customs and traditions (NEPED, 1999). Although there is movement and migration of the Naga tribes, there are groups that are geographically specific to certain districts. The most notable tribes are the Angamis in Kohima, the Aos in Mokokchung, the Semas in Zunheboto, the Lothas in Wokha and the Konyaks in Mon (Maitra, 1998). As each tribe speaks its own dialect, Nagas communicate in English or Nagamese, a lingua franca, which is a mixture of Assamese, Bengali and Hindi (Maitra, 1998). The official language in Nagaland is English (Maitra, 1998).

Figure 4. A map of Nagaland



Source: North East Regional Databank, North Eastern Finance Development Corporation, 2002.

The people of Nagaland belong to an Indo-Mongolian racial group that is believed to have migrated into India in the tenth century B.C (Singh, 1981). The ancestry of the Naga people has been traced to the non-Chinese Chinang Tribes from Central Asia (Singh, 1981). These nomadic tribes first came to the northwest borders of China, and spread over to Indonesia, Philippines, Bhutan, Myanmar, and Nagaland (Singh, 1981). The Nagas bear physical features and cultural traits characteristic of the Tibeto-Burman group of the Indo-Mongolian people (Sen, 1987). With broad foreheads and high

cheekbones, the Nagas have dark hair and eyes. Their complexion ranges from light to black with a yellowish tinge. Physically solid and sturdy, the Nagas have athletic frames and robust constitutions conditioned by hard work and jovial positivity (Yonou, 1974; Sen, 1987).

There has been considerable debate over the origin of the word "Naga", and the two most popular explanations are from the Sanskrit "Nanga" meaning naked and from the Sanskrit "Nag" meaning snake (Singh, 1981). Each explanation is supported by local myths or semi-truths. In the past, the Nagas wore little to no clothes, and the plains people of Assam may have begun calling them Naga, a deformed version of Nanga (Singh, 1981; Sen, 1987). Some scholars believe the word Naga is based on the Sanskrit word Nag, which suggests that the Naga people are descendents of snake spirits narrated in the Vedic Chronicles (Yonuo, 1974; Maitra, 1998). Most scholars believe the former explanation, rather than the later, as the Nagas themselves do not believe they are descended from snakes (Singh, 1981). Some Naga tales and legends speak of their birth from a Stone at Kherkenoma or a spontaneous emergence from a lake (Singh, 1981). These tales are based on religious belief and folklore.

The Nagas are predominantly Christian; however, they are recent converts. Before the American Baptist Missionaries arrived in Nagaland in the nineteen century, the Nagas were animists. They believed in a benevolent Creator God that made all things, including the earth, humans, animals, trees and insects (Yonuo, 1974). The Nagas had their own code of morals that was followed by each individual, and it was akin to the Ten Commandments of the Bible (Yonou, 1974). Although the Naga moral code did not condone murder or killing, the Nagas were fierce warriors and often engaged in head hunting wars with other tribes (Yonou, 1974). The spread of Christianity helped establish peace among the Naga tribes, and gradually, the head hunting practice vanished and was subsequently abolished (Sen, 1987). The population of Nagaland is predominantly Baptist Christian with a few Catholic and Pentecostal denominations (Sen, 1987). The non-Nagas who reside in the state are mainly Buddhist, Jain, Hindu, Muslim or Sikh (Sen, 1987).

As one of the fastest growing states in the Indian Union, Nagaland's population has been growing steadily for the past 30 years due to migration and increasing birth

rates. Based on the 1991 Census, the population of Nagaland is 1,215,573, which is a 56.86% increase from 1981 (Government of Nagaland, 1991). The main economic activity in the state is Agriculture, and 72.36% of the population is engaged in agricultural employment (Government of Nagaland, 1991). More than 80% of the population of Nagaland lives in rural communities, and there are only four urban centres with more than 20,000 people - Kohima, Mokokchung, Tuensang, and Dimapur. Nagaland has one of the highest literacy rates in India; approximately 61.65% of the population is literate (Government of Nagaland, 1991).

3.3.0. Political History of the State

On December 1, 1963, Nagaland became the sixteenth state in the Indian Union (Government of India, 1997). Prior to Indian Independence in 1947, the Naga Hills district was managed by the Governor of Assam as an "Excluded Area" under section 311 of the Government of India Act, 1935 (Singh, 1981). The administration of the Naga Hills district was kept separate by the British in an effort to isolate the Nagas from the rising nationalism that was occurring in mainland India. The freedom movement led by Mahatma Gandhi was gaining momentum in the plains areas, and the British wanted to curb any similar freedom movements in the hills. As it became increasing evident that India would be granted independence, the people of the Naga Hills district began to assert their own desire for self-government. The isolationist policy adopted by the British in regards to Nagaland misled many Nagas into believing they would be free to choose their own path separate from India after the British withdrawal.

Formed in February, 1946, the Naga National Council (NNC) was a political organization responsible for the welfare of the Naga Tribes (Yonuo, 1974; Sen, 1987). The NNC was established from the remains of the abolished Naga Hills District Tribal Council, created by C.R. Pawsey, the Deputy Commissioner of the Naga Hills in 1945 (Sen, 1987). Before Indian Independence, the NNC sent a memorandum to the British Government demanding an interim government in Nagaland for a period of ten years at the end of which the Naga people would be free to choose what form of Government under which to live (Maitra, 1998). Although the memorandum was ignored, an

agreement called the Hydari Agreement was reached between the NNC and the Governor of Assam, Sir Akbar Hydari in June, 1947 (Yonuo, 1974).

The agreement contained nine points that expressed the Naga peoples right to self-government in matters of law, land use, taxation, boundaries, and arms. The provision of a ten year interim government was included as the ninth point in the agreement, but Sir Hydari made it clear that it was not an overt promise of a sovereign Nagaland. His interpretation of the agreement was that after ten years, the Naga people would be able to change their administrative pattern within the framework of the Indian Union. A refusal to join India would be considered a display of force, and the Government of India would use aggressive action to ensure Naga compliance.

The dissension between moderate and extreme members of the NNC over the meaning of the ninth article in the Hydrai Agreement prevented it from being implemented into law. The moderates in the NNC agreed with Sir Hydari, while the extreme members interpreted the ninth point as the liberty to demand complete separation from India after ten years. Without unanimous consensus from both moderates and extremists over the ninth article, the agreement could not be enacted. The Indian leaders could not risk losing the Naga Hills as it would jeopardize the safety and security of India's Himalayan borders, and as a result, the agreement was invalidated on November 9, 1949 (Yonou, 1974; Singh, 1998).

Without the Hydari Agreement, the Naga Hills became a hill district within the state of Assam upon Indian Independence. As an excluded, tribal area, the Naga Hills were placed in Article 244 of the Indian Constitution drafted in 1950 (Yonou, 1974; Sen, 1987). Article 244 makes up the Fifth and Sixth Schedules of the Constitution, and the Sixth Schedule deals specifically with the administration and control of the tribal areas of Assam. Through an administrative body called the District Council, the hill districts of Assam were granted autonomy for the protection of their culture, religion and economic interests (Singh, 1981). Comprising no more than 24 members, the selection of the District Council was based on democratic principles and three fourths of the organization was to be elected on the basis of adult franchise (Singh, 1981).

Although the District Council was given legislative authority over local matters without the interference of the Assam Government, discretionary powers were given to

the Governor, whose assent was necessary for the enactment of any law (Yonou, 1974, Singh, 1981). Among the Governor's discretionary powers was the ability to annul or suspend an act or a resolution of the District Council if he believes it endangers the safety of India, as well as the ability to dissolve the District Council and call for new elections (Singh, 1981). Additionally, the Governor is responsible for appointing representatives from the hill districts to address tribal affairs and other issues of governance in the Assam Legislative Assembly (Singh, 1981).

For many Nagas, both extremist and moderate, the provisions set out in the Indian Constitution for self-government in local matters were far from being satisfactory. The extremists were unrelenting in their demand for an independent Naga nation, while the moderates were only willing to participate with the Indian government if the constitution provided for a separate government as stated in the Hydari Agreement. Both extremist and moderate Nagas successfully created an anti-Indian feeling within the Naga populace, and as a result, the District Council election in 1952 was boycotted by all Nagas (Singh, 1981). No Naga representative was elected to the District Council of the Naga Hills or the Assam Legislative Assembly and the Indian Parliament.

The underground movement in Nagaland was a manifestation of increasingly hostile feelings towards India propagated by over-ambitious extremists. The majority of illiterate Nagas were not aware of the details of the Sixth Schedule and its provisions for Naga self-government in local affairs. The success of the 1952 General Elections boycott was largely attributed to Zapu Phizo and his followers (Singh, 1981). Phizo was a champion of Naga independence, who was not opposed to using violent means to achieve his goals. Elected as the president of the Naga National Council in 1950, Phizo used the organization to fulfill his own political ambitions (Maitra, 1998).

Prior to 1953, Phizo was open to achieving independence through peaceful negotiation, and in July, 1947, he met with Mahatma Gandhi in Delhi as part of a nine member delegation sent to inform the Father of India of Nagaland's struggle for independence (Yonuo, 1974; Maitra, 1998). A lover of peace and non-violence, Mahatma Gandhi did not believe that Nagaland should be forced into joining the Indian Union, and he re-affirmed the Naga peoples right to independence. Although he was supportive, he advised the delegation to attain their goal through peaceful means. Gandhi

was assassinated in January, 1948, and with his death, the support for Naga independence was also lost (Yonou, 1974). Had he lived, the Naga independence movement might have been characteristically different under his guidance and wisdom.

Phizo encouraged Nagas to participate in a non-cooperation movement, and he forbade Nagas from paying taxes or taking part in any government functions or processes (Singh, 1981; Maitra, 1998). Phizo's supporters were called Phizoite extremists, and in 1953, they vowed to achieve their goal of independence through armed revolution and violent methods (Maitra, 1998). Guerrilla attacks were initiated by the Phizoite extremists on Indian Forces, and a training camp was established in the Patkoi area of the Eastern Naga Hills to teach the extremists how to engage in modern warfare (Maitra, 1998). As a sign of further defiance, Phizo's underground Nagas formed their own government in March, 1956 called the Naga Federal Government with its own constitution and its own mandate for an independent Naga nation (Singh, 1981).

The violence used by Phizo's followers was not directed solely at the Indian Army, and Nagas who were loyal to the Indian Government were kidnapped and killed. Moderates who did not support Phizo's cause were also targets, and the Naga Hills were turbulent with violence and bloodshed from 1953-1957 (Singh, 1981). The Naga Hills were declared a disturbed area in July, 1955, and the Assam Government ordered the abolishment of Tribal Councils and enforced Section 144 of the India Constitution in Kohima, which banned the assembly of more than five persons (Singh, 1981).

By 1957, the Naga people were tired of living in fear, and began to associate their future well-being and prosperity with India and not an independent Naga nation. In February, 1957, moderate Nagas began a dialogue with the Government of India to negotiate and finalize a settlement of self-government separate from Assam but within the framework of the Indian Union (Singh, 1981). Many Naga leaders were committed to restoring peace and order in the Naga Hills, and they were willing to abandon the idea of an independent Naga nation to achieve it. The Government of India also realized that the administration of the Naga Hills as part of Assam was not an ideal solution. As both parties began to concede and adjust to a new goal of securing the Naga Hills as a state within India, the process of constitutional and administrative changes in Nagaland was initiated. After seven years of negotiations, Nagaland officially became a state in 1963.

The creation of Nagaland as a state did not immediately restore peace and order. The underground Nagas were not willing to abandon the idea of an independent Naga nation, nor were they willing to abandon the path of violence. The underground movement was kept strong by two nations hostile to India, China and Pakistan. Weapons such as light and medium machine-guns, rifles, and rocket launchers were supplied by the Chinese, while military training and financial assistance were provided by the Pakistanis (Singh, 1981). Both nations wanted to weaken India economically and militarily, and in 1964, rebel activities in Nagaland were increased significantly as a result of foreign assistance (Singh, 1981). The underground Nagas wanted to show that the creation of a Naga state was not a satisfactory solution to the Naga problem.

Prior to 1968, the underground movement was relatively stable without any major riffs among the rebels; however, tribal tensions and ideological differences began to surface and cause irreparable damages to unity. The forced exile of Zapu Phizo to London, England created a power vacuum within the Naga Federal Government, and loyal Phizoite extremists met opposition from rivals who felt they were not receiving the appropriate amount of power and recognition. The foreign assistance received from countries like China and Pakistan also resulted in changes in the ideology of many underground rebels. Rebels trained in the Chinese military training camps were being indoctrinated in Maoist philosophy, and it was inevitable that the underground movement would be destabilized by internal tribal conflicts and ideological differences. In 1968, the underground movement separated into three factions (Singh, 1981).

The underground rebels were considerably weakened by the separation in 1968, as the lack of unity among rebel factions produced no clear objectives or means to achieving independence. For many rebels, living the life of armed revolution in the jungles was becoming increasingly unbearable, and many were demoralized by social and economic hardships inflicted on the Naga people as a result of their actions. The underground movement also suffered considerable setbacks when the Indian Army successfully sealed its border with China, thus preventing the rebels from escaping or returning to Nagaland. These three factors contributed significantly to the decline in hostile activities in Nagaland from 1968-1975, and real peace came to Nagaland on November 11, 1975, after the signing of the Shillong Accord (Singh, 1981).

The Shillong Accord contained three points: (i) the voluntary acceptance of the Constitution of India by all representatives of the underground organizations, (ii) the disarmament of the underground organizations, and (iii) the provision of additional time for the underground organizations to formulate issues for discussions in the final peace settlement (Singh, 1981). The Shillong Accord was respected and upheld until the mid-1980's when the National Socialist Council of Nagaland (NSCN) renewed its violent activities. A ceasefire was called in August, 1997 after the Indian government completed talks with the NSCN (Nagaland State Government, 2002). Currently, the ceasefire and peace talks are still ongoing.

3.4.0. Economic History of the State

Subsistence Agriculture

Agriculture and animal husbandry are integral components of the economic lives of most Nagas and even wealthy, educated Nagas engage in some form of farming either through a home garden or through a family farm. Commercial production is rare and the majority of agricultural activity is subsistence based. The ability to grow one's own food is considered noble and many Nagas feel pride in consuming their own rice and produce (Yonou, 1974). The prevalence of agriculture has caused many Nagas to live in thousands of villages scattered across hilltops (Yonou, 1974). The majority of these villages are self-sufficient in food production.

The main crops grown in Nagaland for subsistence are rice, maize, and millet. However, supplementary crops such as job's tears, legumes, beans, oilseeds, root crops and vegetables are also grown (NEPED, 1999). Prior to modernization, Naga families produced agricultural crops collectively and shared the surplus with close kin and neighbours (Yonou, 1974). The act of agricultural marketing was a foreign concept for many Nagas, and Nagaland's economic system was described as family communism with close kin and rude capitalism with strangers (Yonou, 1974). The system of barter has rarely been found in Nagaland (Yonou, 1974).

The collective sharing of food and resources ensured that all members of the community survived during times of hardship, and as a result, there has been economic uniformity among villagers. A small bourgeois class has emerged in Nagaland, mainly in

urban centres, after the introduction of modern capitalism following the conclusion of World War II (Yonou, 1974). Nagaland's per capita income at current prices has been steadily increasing each year, and it has been higher than the All India per capita income since 1990. In 1996-1997, the per capita income for Nagaland was Rs. 11,368 in comparison to the All India per capita income, Rs. 11,601 (Government of India, 2002)

Land Ownership

Land is the most valuable resource to the people of Nagaland and forest resources are tied to the ownership of land. In most tribes, land is privately owned through the individual, but the uncultivated common wasteland is collectively owned through the clan or tribal chief (Yonou, 1974). The ownership of land and forests is based on primitive capitalism, where land rights are granted to whomever has put in labour to prepare the land or forest for cultivation or planting (Yonou, 1974). This method of land appropriation ensures that previously cultivated land is safeguarded, and that the remaining lands are left open for other members of the clan or village for use and occupation (Yonuo, 1974). Appropriated land cannot be sold to an outsider without the consent of the clan, and all available land must be offered to members of the clan before negotiations with an outside party is possible. With the exception of some Nepalis who have settled long ago, non-Nagas are not allowed to purchase and own land in the state (Maitra, 1998).

In recent years, the process of individual land ownership has been creating economic differentiation among the Naga populace (Yonou, 1974). Although there are few households that do not have access to individual or clan land, there is a class of landless poor. In most cases, the landless households rent the land from other villagers and pay a portion of their harvest as rent. Land ownership is very important in Naga society, and the absence of land is considered a disgrace (Yonou, 1974).

Other Employment

Although agriculture is the most important economic activity, some other traditional occupations include bamboo and cane weaving, spear making, blacksmithing, and handloom and handicraft production. These activities are usually done to supplement a household's income during the off-season and are rarely done on a commercial scale

(Government of Nagaland, 1991). As the younger generation of Nagas become more educated, occupations in such fields as hospitality, public administration, legal affairs, finance, banking and insurance, real estate, transportation and communication are made available.

Approximately 29.03% of Nagaland's Net State Domestic Product (NSDP) at Current Prices for the period, 1980-1981 to 1996-1997 is attributed to agriculture (Government of Nagaland, 2002). Despite the subsistence nature of agricultural production, agriculture is still the largest industry in Nagaland, and the primary sector makes up 32.55% of NSDP (Government of Nagaland, 2002). The largest sector in Nagaland is the tertiary or service sector at 56.40% of NSDP, while the secondary sector, mainly composed of traditional village industries based on local forest products is the smallest sector with 11.05% of NSDP (Government of Nagaland, 2002). During the period between 1990-1991 to 1996-1997, the agricultural sector experienced a growth rate of 18.59%, while manufacturing experienced a growth rate of 9.93% (Government of Nagaland, 2002).

Industrial Development

The process of industrialization has been slow in Nagaland, and infrastructure bottlenecks have been a major problem for the state. Drafted in 1995, the State Industrial Policy outlines Nagaland's plans for Rapid Industrialization. However, due to financial constraints, the policy was never implemented. Some of the highlights of the policy are discussed in the following section. Under the policy, the Government of Nagaland would facilitate the growth of industries by introducing the following measures: (i) the creation of a nodal agency to simplify procedural formalities such as licenses, permission, registration of charges, mortgage of assets and other documentation, (ii) the privatization of "Public Sector Undertakings", (iii) the introduction of industrial zones for the optimization of resource use, the facilitation of infrastructure development, marketing support and the efficient administration of industrialization process (iv) the introduction of foreign investment from outside the state and outside India, and (v) an emphasis on priority industries such as tourism and hotel, floriculture and biotechnology, agro-based industries, horticulture, sericulture, aqua culture, wood cane, bamboo and forestry based

units, handloom and handicrafts (North Eastern Development Finance Corporation, 2002).

Industrial zones have been identified in four areas of Nagaland - Dimapur, Baghty, Tuli and Tizet. The Government of Nagaland plans to declare tourism an industry, and it hopes to formulate policy objectives for tourism development in the state. Improvements in biotechnology and the modernization of agriculture have been on the government's agenda for some time, and the Government of Nagaland plans to take concrete steps in the implementation of this policy. A policy on infrastructure facilities has also been drafted and the sectors that are emphasized are power, transport, water, communication and market networks.

Industrial estates are located in Dimapur, Kohima, and Tuensang. These estates offer services in power and water supply (North Eastern Development Finance Corporation, 2002). Seven large to medium sized industrial plants have been established by the Government of Nagaland in Dimpar, Kohima, Mokokchung, Mon and Wokha, and they include: (i) sugar mill, (ii) pulp and paper mill, (iii) citronella oil factory, (iv) pineapple fibre mill, (v) plywood factory, (vi) mechanized brick plant, and (vii) fruit and vegetable plant (North Eastern Development Finance Corporation, 2002). There are 365 small-scale industries operating within Nagaland, and these units range from processing and manufacturing to job work and servicing (North Eastern Development Finance Corporation, 2002).

Mineral and Fossil Fuel Resources

The possibility of mineral and fossil fuel exploration exists in Nagaland. Geological surveys have been done by the State Geology and Mining Department, and three Central Government Agencies - Geological Survey of India, Oil and Natural Gas Corporation, and Atomic Minerals Division and Central Water Board. Some possible resource based industries that may be developed are petroleum and natural gas; coal; minerals such as nickel, cobalt, and chromium-bearing magnetite; high-grade limestone; and dimensional and decorative marble. These industries have not been able to fully develop because of the remoteness of resource rich areas, which are inaccessible as result of poor infrastructure and a lack of capital investment.

Effect of Insurgency on Development

Economic development in the state has been severely compromised by the insurgency perpetrated by the Underground Nagas. Roads and communication networks have been targeted, and all developmental works were postponed due to the disturbances (Singh, 1981). Outside investment in the state has been minimal, as life and property was under constant threat. Curfews imposed by the Government and by rebels have limited the hours of business for individual shopkeepers, and have placed restrictions on the population in regards to social functions and intimate interactions. The state's economic and social progress has been retarded by the insurgency (Singh, 1981).

The ceasefire called in August 1997 has allowed the state to begin some of its developmental works; however, budgetary constraints within the state government have impeded the progress of these projects. A policy departure for Nagaland and other states in the Northeast region has been the encouragement of foreign investment, but this investment option may not be feasible until peace and security is guaranteed in the state. The promotion of trade and commerce between Nagaland and Myanmar is a policy that the Government of Nagaland has set out in its State Industrial Policy, and it may be more feasible than trade with the rest of India as insurgency in Assam and other states in the Northeast region affect the flow of Naga products to mainland India. The greatest contribution to economic and industrial development in Nagaland would be improvements in infrastructure and the establishment of peace and security.

Chapter 4 – Methodology and Implementation

4.1.0. Introduction

The methodology used in this research study was chosen with Nagaland's geographical and political constraints in mind. After consultation with the NEPED project team, it was decided that a Rapid Rural Appraisal would be the best method of data collection in the state. Rapid Rural Appraisal techniques were used during the state level and the district level assessment, while formal questionnaires were used for the farm level assessment in the villages. Observational methods were employed to observe the market in Dimapur, Kohima and Mokokchung. Secondary sources of data were used to cross check all the information obtained through key informant interviews and focus group discussions.

A brief definition and history of Rapid Rural Appraisal and Participatory Rural Appraisal will be presented in this chapter. The rationale for the selection of a Rapid Rural Appraisal will be outlined and discussed. Finally, the exact methodology and implementation of the study will be outlined and explained.

4.2.0. Rapid Rural Appraisal

The family of methods and techniques, known as Rapid Rural Appraisals or RRAs, was first introduced in rural development literature in the late 1970's (Chambers, 1992). It has been defined by the International Institute of Environment and Development (IIED) as "a systematic, but semi-structured, activity carried out in the field by a multidisciplinary team and designed to quickly acquire new information on, and new hypotheses for, rural development" (Mohammad, 1990). Initially criticized for being a "quick and dirty approach", the RRA has gained considerable prestige over the past thirty years, and with the inclusion of participatory techniques to engage the local community, it has become more relevant and appropriate for assessing development needs and issues in rural areas (Messerschmidt, 1995).

A paradigm shift in rural development began to occur in the 1970's and 1980's. Disillusioned and frustrated by unfulfilled goals and objectives in rural projects, development professionals began to search for and develop alternative ways of

approaching rural development issues. Adopting a "bottom up" approach that utilizes indigenous knowledge, development planners began to play more careful attention to understanding the conditions of rural life (Mohammad, 1990; Chambers, 1992). The aim of this new approach was to learn from the local diversity, and create projects that are location and community specific. A new body of techniques and methods called the Rapid Rural Appraisal method was created, and three reasons have been cited for its development: (i) a dissatisfaction with project biases that work against the poor, (ii) a disillusionment with the process of questionnaire surveys and their results, and (iii) a need for more cost effective methods of learning (Chambers, 1992).

The techniques and methods used in RRA's are drawn from the work and results found in activist participatory research, agroecosystem analysis, applied anthropology and field research on farming systems (Chambers, 1992). All these disciplines made conceptual, as well as technical and methodological contributions, to RRAs. In the 1980's, the concept of participatory RRAs was introduced, and was further developed into Participatory Rural Appraisal in the 1990's. A PRA is a "family of approaches and methods [that] enable rural people to share, enhance, and analyse their knowledge of life and conditions, [and] to plan and to act" (Chambers, 1992). Innovations by nongovernmental organizations in India and Kenya were pivotal to the development of PRAs (Chambers, 1992).

The main difference between a RRA and a PRA is the objective beyond their implementation. A Rapid Rural Appraisal is an extractive process that draws on local people's knowledge to create plans, projects and publications (Chambers, 1992). An outsider uses the information obtained through various techniques to formulate an appropriate development strategy for the people. A Participatory Rural Appraisal is a facilitating and participatory process that empowers the local people to create sustainable action and institutions (Chambers, 1992). Instead of an outsider creating plans and projects, the local people are encouraged to formulate their own development strategy.

There are six main principles shared by RRAs and PRAs (Chambers, 1992):

(i) A reversal of learning where development planners learn from rural people and gain local physical, technical and social knowledge through face-to-face contact directly on the site.

(ii) The adherence to a form of rapid and progressive learning that is flexible and adaptable. It is a conscious exploration of local needs and issues through the use of opportunism, improvisation, iteration, and crosschecking.

(iii) Offsetting biases by listening and seeking out opinions of the extremely poor and marginalized individuals of the community. Monitoring behaviour so as to create a relaxed atmosphere where topics can be probed and discussed freely in an unimposing manner.

(iv) Optimizing tradeoffs in information gathering between quantity, relevance, accuracy and timeliness.

(v) Triangulating or using a range of methods (sometimes three) for information gathering, or a range of investigators and/or disciplines to crosscheck information.

(vi) Seeking diversity or "maximizing the diversity and richness of information" (Dunn and McMillan, 1995). This principle involves sampling in a non-statistical sense, and it goes beyond crosschecking of triangulation. It deliberately looks for, notices and investigates contradictions and anomalies.

The menu of methods used in both RRA and PRA is long and extensive. Some techniques that are worth mentioning are:

(i) Secondary sources – information that can be obtained from files, reports, maps, aerial photographs, articles and books

(ii) Key informants – enquiring who are the experts and consulting them for information

(iii) Semi-structured interviews – regarded as the core of a good RRA (Grandstaff and Grandstaff, 1987), it is a form of questioning that is open-ended and flexible, but the interviewer has a mental or written checklist

(iv) Short simple questionnaires – used to fill dummy tables of information that is known to be needed

(v) Groups – interviews and activities with various kinds of groups such as causal, specialist/focus, deliberately structured, community/neighbourhood

(vi) Transect walks – systematically walking with informants through an area and observing, asking, listening, discussing, identifying different problems, solutions and opportunities

(vii) Scoring and Ranking – using matrices and seeds to compare different methods or agricultural techniques, etc.

(viii) Estimates and quantifications – the use of local measures, judgements and materials to describe resources, can be accompanied by participatory maps and models.

Direct observation is another method that may be used in a RRA or a PRA. For collecting behavioural data or information about individuals, things or situations that cannot be articulated in interviews or conversations, direct observation may be the only option available (Aaker et al. 1998). Observing market transactions or the interactions among villagers may provide more insight than verbal descriptions of these activities. Direct observation may be highly structured or unstructured (Aaker et. al. 1998). Highly structured observations involve detailed recordings of each observation, while unstructured observations are less specific and are done to obtain a general impression of the situation.

Direct observation can be casual or systematic (Aaker et al. 1998). As an exploratory method, the practice of casual observation may involve being aware of specific variables of well being in a village such as water access, electricity and communication. The purpose of casual observation is to identify problems and opportunities (Aaker et al. 1998). Systematic observation is used to supplement other methods of data collection. An example of systematic observation would be consciously noting the type, condition, and size of a respondent's residence during a personal interview (Aaker et al. 1998).

A more sophisticated method of observation is participation observation. Borrowed from cultural anthropology, participant observation is a social science method that can be used in combination with RRAs and PRAs to gain insight into the social norms and rules that influence a community's reaction to development schemes. Participant observation is a "qualitative style in which a researcher directly observes and participates in small-scale social settings in the present time and in the researcher's home

culture" (Neuman, 2000). Also known as ethnography, participant observation is more effective and accurate after a prolonged period of interaction, because the researcher needs time to penetrate and learn about the host community (Neuman, 2000). The limited availability of time is usually the reason why a RRA is chosen, and the use of local researchers may decrease the time needed for penetration and learning.

4.2.1. Applications of Rapid Rural Appraisals

Rapid rural appraisals can be used for research, planning, monitoring and evaluation in rural development projects (Messerschmidt, 1995). They can be applied to virtually all development sectors, and may have applications in urban and industrial research, as well as the study of bureaucratic systems (Messerschmidt, 1995). Some topics examined under a RRA include the design and evaluation of location specific farming systems, the feasibility of certain income generating activities, the observation and analysis of specific resource uses, and the design of community involvement programs.

The multidisciplinary aspect of RRAs allows information to be gathered and analysed holistically. Biological information can be combined with sociological information to create powerful insights for policy makers and project planners. Rapid rural appraisals enable researchers "to blend perspectives, methods, diagnostic tools and analytical techniques of many disciplines" to obtain the most complete and efficient body of information (Messerschmidt, 1995). It also has the advantage of satisfying the objectives of a diverse audience of development planners or project coordinators.

4.3.0. Methodology

Rapid rural appraisals have been used in the past to collect marketing information, and Holtzman (1993) used RRA techniques to obtain vegetable seed marketing information in Nepal. Holtzman's study used key informant interviews; prepared structured interview guides for different categories of informants; undertook direct observation of vegetable seed production, processing and sales; and held group interviews with farmers and seed dealers. The RRA was successful in obtaining a wide range of information, insights and recommendations for vegetable seed marketing in

Nepal; however, the investigators did acknowledge several shortcomings of the technique and made recommendations for future use.

The use of a RRA in agricultural marketing research is to obtain a "snapshot of how the current marketing system is organized, how it operates, and how it is performing in accordance with criteria such as technical efficiency, operational efficiency, pricing efficiency, progressiveness, equity and wholesomeness/nutritional quality of the food supplied to consumer" (Holtzman, 1993). Besides understanding the current marketing situation, the focus of a RRA in marketing should be on the forces of change and productivity, which means identifying and seeking out successful and creative participants in the marketing system (Holtzman, 1993). The information obtained from progressive market participants should provide insight into better organization, management, information and technology.

A Rapid Rural Appraisal is used to assess the agricultural marketing situation in Nagaland, both at the state level and at the village level. This methodology was chosen because of its ability to provide timely and accurate information in a cost effective manner. During the time of data collection, a permit was required to enter the state of Nagaland because of the political turmoil in the state. The average tourist received a period of 10 days, but three months was granted for the completion of the study. Given the time constraints and other logistical complications because of the remoteness of the region, the use of a RRA was deemed appropriate by key informants, who were consulted before the commencement of data collection.

Given the social and political conditions present in the state, key informants advised that the use of formal questionnaires would be too intrusive for the average Naga. After an initial field test, a formal questionnaire with modifications that allowed it to be flexible was used to interview farmers at the village level. Key informant interviews were conducted with academics, government officials and market experts in the states of Nagaland, Assam and Megahalaya, while formal semi-structured interviews were conducted with traders in Mokokchung. Other data collection methods used were secondary sources of data, focus group discussions, transect walks, direct observation, and direct participation. Prior to the commencement of field research, the research

methodology was evaluated and approved by the Human Ethics Review Committee of the Faculty of Agriculture, Forestry and Home Economics.

4.4.0. Implementation

The research project was divided into two phases. The first phase of the project was devoted to understanding the overall marketing situation in the state of Nagaland. This task was accomplished by implementing three focus group discussions with farmers in Kohima district and Phek district. Informal interviews with government officials, academics, market experts, and traders were also conducted. The information obtained from the focus group discussions was crosschecked with the information obtained from key informants. Secondary sources of information were also sought to crosscheck the information obtained from key informants and group discussions.

The second phase of the project was focused on documenting the marketing activity of farmers in four villages of Mokokchung district in Nagaland. The four villages in the study were Sungratsu, Khensa, Ungma, and Longsa. This phase was completed through the use of formal questionnaires, formal semi-structured interviews, transect walks, direct observation and direct participation in the villages. Secondary sources of information were sought from government departments to crosscheck the information obtained from the village level research.

4.4.1. Key Informant Interviews, Focus Groups and Market Observation

For the first phase of the project, the majority of data collection was done through informal surveys applied to traders, government officials, academics and market experts in three states - Assam, Megahalaya and Nagaland. The key informants were chosen for their knowledge of agricultural marketing in Nagaland and the Northeast region. An informal semi-structured survey was used, because it has the advantage of being open-ended and flexible. It is not a spontaneous conversation, because the interviewer is responsible for subtly guiding the interviewee towards topics on a checklist. Refer to Table 1 for the checklist of topics. All interviews were arranged and conducted with a translator who was fluent in Nagamese, Hindi, Ao and English. One translator was used throughout the data collection process for consistency, and the researcher was present at every interview.

Table 1. Checklist of interview topics

1. Organizational Information
• Name, Purpose of the organization
• Position, Role
• Description of daily operations of the organization
• Description of organization's role in agricultural marketing
• Description of organization's assistance for farmers
2. Marketing Information
• Overall impression of marketing situation in the state of Nagaland
• Overall impression of agricultural production in Nagaland
• Problems and constraints faced by farmers in marketing
• Cash crops, products with increasing demand, current products
• Storage, transportation, processing and value addition, packaging
• Opportunities for Nagaland farmers
• Movement of products from and into Nagaland
• Responsibility of Marketing
3. Political and Social Information
• Insurgency and Army presence - its effect on trade
• Political unrest, corruption
• Demographic changes, population growth rate
• Community dynamics, changing social value
• Infrastructure and government regulation, schemes, departments, and funding
4. Civil Organizations
• NGO's
• Farmers cooperatives – production or marketing
• Women's groups
• Youth or Church groups

During the first phase, direct observations were made of the main market in Kohima town, a wholesale market in Dimapur town and a roadside market in Pherima village. Some of the details that were observed were: (i) sex and approximate age of the vendor, (ii) ethnicity of the vendor, (iii) type of products sold, (iv) the variety of products sold, (v) physical characteristics of the market, and (vi) relative flow of the market. Small informal interviews were conducted with market participants in Dimapur town and

Pherima village, while no interviews were conducted in Kohima town market due to time constraints.

A focus group discussion is a qualitative research method that is used to obtain possible ideas or solutions to a marketing problem from a group of respondents (Aaker et al. 1998). It is believed that the group interaction generates meaningful comments, and provokes candor and spontaneity (Aaker et al. 1998). Focus groups discussions fall under the category of group interviews and activities in the list of RRA methods. In this study, the focus group discussions were used as an exploratory technique to highlight the main issues in agricultural marketing in Nagaland. The results from the focus group discussions were used to design the formal questionnaires in the second phase.

The focus group discussions were organized by the host institution, the Nagaland Empowerment of People through Economic Development (NEPED). Focus group discussions were conducted in two districts, Kohima and Phek district. The district officers for Kohima and Phek, made initial contact with the villages and arranged for a one day visit. The role of the district officer during the village visit was as a translator, community liaison and group discussion facilitator. As each district speaks its own dialect, the district officer was necessary to bridge the language gap. Focus group discussions were held in the village of Viswema and Khuzame in Kohima district, and in the town of Pfutsero in Phek district. The participants in the Pfutsero discussion were from the following villages – Pomba, Enhulumi, and Hekromi. There were approximately 5 to 7 participants in each focus group discussion.

The focus group discussions proceeded in the following manner: (i) introductions and recording of names, (ii) purpose of the visit explained, (iii) sought participant involvement, (iii) discussion, and (iv) tea and snacks. The introduction of discussion topics was not systematic, rather, the broad issues of agricultural marketing and production were introduced, and subsequent topics were discussed as they came up. The researcher and the district officer were both free to pursue any line of questioning. The researcher did have a checklist of topics that was referred to when there was a lull in the discussion. Refer to Table 2 for the checklist of topics prepared for the group discussion.

Table 2. Checklist of focus group discussions topics

Broad Issues	Specific issues	
Agricultural Marketing	Seasonality	Storage and Sorting
	Value addition	Distribution
	Transportation	Information
	Pricing	Methods of marketing
	Buyers	Specific Products
	Government support	
Production	Type of agricultural fields	Planting materials
	Tree planting	Seasonality
	Land issues	Extension services
	Government support	

The district officer translated each participant's comments immediately after they had been spoken and the researcher recorded all responses. The discussion may have been hampered by the language barrier between the researcher and the participants, however, the district officer was able maintain the flow of the discussion and at times, chose to translate after many participants had spoken to get an overall impression of the farmers' attitudes. The researcher established eye contact with each participant who spoke to encourage further comments and to acknowledge that their comments were important to the study.

4.4.2. Formal Questionnaires

For the second phase of the project, formal interviews were conducted in four villages in the district of Mokokchung. After consultation with the host institution, this district was chosen because of its central location, which provides it with access to markets in other districts of Nagaland and Assam. Safety and accessibility were also factors that made Mokokchung an ideal location for the study. Six villages in Mokokchung were approached and visited. During each visit, a village meeting was arranged and a presentation explaining the purpose of the study was given. Permission was requested of the village council, village elders and villagers.

Along with the assistance of the district officer and the Deputy Commissioner of Mokokchung district, the four villages chosen were Sungratsu, Khensa, Ungma and Longsa. The criteria used to select these villages were based on the following: (i) former or present participation of the village in the NEPED project, (ii) accessibility and safety

of the villages, (iii) approval of the Deputy Commissioner, (iv) the willingness of the villagers to participate in the project, and (v) Mokokchung town as the final market outlet. Sungratsu, Ungma and Longsa were all chosen to participate in the second phase of the NEPED project. Khensa had participated in the first phase, but was not chosen to participate in the second phase.

After permission was granted from all four villages, food and accommodations were arranged when an extended stay in the village was necessary. A two nights stay in each of the villages of Sungratsu and Longsa was necessary. Approximately three days were spent in each village conducting surveys. Compensation of Rs. 400 was provided to the host family for food and lodging, and a gift basket of baked goods was also provided. A guide was requested in every village, and the individual was compensated with Rs. 150 per day. Each respondent was compensated with Rs. 50 for participating in the study. The respondents were chosen by the village council, based on the following criteria: (i) extent of marketing activity, (ii) availability, and (iii) willingness to participate.

For the villages of Sungratsu and Longsa, travel to the villages was arranged through the Village Development Board (VDB) Bus. A private car was used to commute between Mokokchung town and the villages of Khensa and Ungma. On the first day in every village, a meeting was arranged with some of the following individuals: the Village Council Chairman, the Village Head, the guide, distinguished elders, and important members of the village such as the pastor or the VDB chairman. Some of these individuals were asked to complete the village development survey, which included questions about village demographics and village statistics. Appendix 2 is an example of the village development survey used.

The formal interview is a combination of structured, semi-structured and open-ended discussion questions. The purpose of the interview is to obtain information about production and marketing of agroforestry products in Nagaland at the village level. The first portion of the survey is concerned with tree planting, and the questions are designed to obtain both quantitative and qualitative information. The survey divides the respondents into three groups: (i) those who have planted trees, (ii) those who plan to plant trees, and (iii) those who have no plans to plant trees. Part A of the survey is completed by those respondents who have planted trees, while Part B of the survey is

completed by those respondents who have plans to plant trees. The questions in Part A and B are designed to obtain information about tree planting decisions. The last group completes Part C, which is concerned with understanding why farmers choose not to plant trees. Each respondent is required to complete only Part A, B or C.

After completing the tree-planting portion of the survey, all the respondents are asked to complete the section on the marketing of agroforestry products. The questions in this section are qualitative, and they are designed to encourage the respondent to speak freely and discuss marketing issues. Farmers are asked to list all the agroforestry products that they sell and process. Some of the issues discussed are where and how they market their produce, their motivation for selling, their experimentation with cash crop production, and their willingness to abandon subsistence production for commercial production.

Appendix 1 is an example of the formal questionnaire with modifications. After it was tested on two respondents, the questionnaire was shortened and modified. Long ranking questions were removed due to fatigue and lack of comprehension experienced by the respondents. Five questions were added after obtaining feedback from the test respondents and the interviewer, and numerous questions were combined or reworded. Because of costs constraints and limited access to reliable technology, the modifications to each questionnaire were made by hand in the field.

Despite the warnings by key informants regarding the unwillingness of villagers to participate in formal questionnaires, all households that were approached completed the survey with little reluctance. Interviews were conducted in the homes of the respondents, mostly early in the morning between 5:00 am to 10:30 am and in the evenings from 5:00 pm to 11:00 pm. During the day, most farmers worked in their fields. Compensation was provided for the interviewees because the surveys were conducted during February and March, the months when Naga farmers slash, burn, and sow the fields for the next season. Some farmers were asked to stay behind during days of sowing to participate in the survey. The amount of Rs. 50 was provided because it is equivalent to half a day's wage for men and a full day's wage for women.

An attempt was made to interview each household with both the male and the female representative present, but this was impossible within the time constraints of the

study. All interviews were conducted in Ao, the local dialect in Mokokchung district. The translator asked all the questions in Ao and translated the responses in English. All surveys were transcribed by the researcher. Respondents were asked to sign a consent form that acknowledged their understanding of the study and their willingness to allow the information collected to be used in documents prepared for academia. Refer to Appendix 3 for a copy of the consent form used in the study. All interviews lasted approximately 45 minutes to 1 hour.

Direct observations were made of the daily market in Mokokchung town, and photographs were taken as supplementary documentation of the final market outlet for the farmers in the survey. A transect walk through the market was done with the translator, and direct participation was used to collect data on the workings of the market. Two types of traders were interviewed using semi-structured interviews, a vegetable wholesale vendor and a vegetable shopkeeper. This method of questioning was used on the traders, because unlike the farmers, they are less willing to speak freely. The open structure of the interview enabled the interviewer to establish a rapport with the trader, and gain insights and opinions not readily shared (Aaker et al. 1998). All interviews were conducted in Hindi with the assistance of the translator, and written consent was requested prior to the commencement of the interviews.

Chapter 5 – Results and Discussion, Key Informant Interviews, Focus Group Discussions, and Market Observation

5.1.0. Introduction

The first phase of the study was devoted to understanding the overall marketing situation in the state. The use of key informant interviews, focus group discussions and observational methods provided a summary of the agricultural marketing system during the time of data collection. In this chapter, organizational frameworks for documenting and analyzing agricultural marketing in developing countries will be outlined and a specific method will be used to describe the agricultural marketing system in Nagaland. An institutional approach was adopted, and each type of market participant will be identified and described. A brief discussion about the industrial organization of agricultural markets in Nagaland and an analytical framework, the Structure-Conduct-Performance (SCP) methodology, will be presented. An adapted SCP will be applied to the agricultural markets in Nagaland.

5.2.0. The Study of Agricultural Systems

Even in the early stages of development, the act of documenting and analyzing agricultural marketing systems in developing countries can be a complex and difficult process. An organizational framework is required to classify and interpret market observations, thoughts and judgments. There are three approaches available to studying agricultural marketing systems. The first approach, the functional approach, classifies the specialized activities in the marketing process into functions, and analyzes the efficiencies of these functions in the marketing system (Kohls and Uhl, 1998). The second approach, the institutional approach, identifies and studies the various agencies and business structures that perform marketing activities, while the last approach, the behavioural approach, is concerned with understanding and predicting major changes in the marketing system (Kohls and Uhl, 1998).

An institutional approach will be used to describe the agricultural marketing system in Nagaland. This approach was chosen because the agricultural marketing system in Nagaland is composed of distinct groups of producers and traders. These

distinct groups are culturally defined, and they determine which tasks are performed in the marketing process. An institutional approach may provide valuable insights into why certain groups perform certain marketing tasks better than others.

5.3.0. Identifying Marketing Participants

The agricultural marketing system in Nagaland is in the early stages of development, and the marketing channels for most products are short and simple. Nagaland's network of agricultural marketing channels is mainly confined to the state, and for a majority of the products, the marketing channels are limited to the district headquarters. There are some products like ginger, large cardamom, squash, pears, and oranges where the marketing channels extend beyond the state and filter into the national economy. At most, there are four or five market intermediaries in between the producer and the final consumer. Table 3 outlines the possible marketing channels for an agricultural crop such as chillies. There are four categories of marketing intermediaries: (i) local middlemen, (ii) non-local middlemen, (iii) processing units, and (iv) facilitative organizations. Each category of participants performs a set of unique functions in the marketing channel for agricultural products, and their roles will be identified and discussed in the following section. The role of the farmer will be examined in Chapter 6.

Table 3. Possible marketing channels for chillies

Producer sells to:	Intermediaries in the Marketing Channels
Final Consumer	Producer - Final Consumer
Local Retailer	Producer - Local Retailer - Final Consumer
Non-local Wholesaler	Producer – Non-local Wholesaler – Final Consumer Producer – Non-local Wholesaler – Out of State Buyers – (Processing Unit) - Final Consumer
Village Middlemen	Producer – Village Middlemen – Non-local Wholesaler – Out of State Buyer – (Processing Unit) - Final Consumer Producer – Village Middlemen – Out of State Buyer – (Processing Unit) - Final Consumer

5.4.0. The Role of the Middlemen

A middleman is defined as an individual or business that specializes in performing the various marketing functions involved in the movement of goods from the producer to the final consumer (Kohls and Uhl, 1998). He or she is a trader who buys commodities from the producer and sells them to another market intermediary or the final consumer (FAO, 1986). The middleman provides an essential service, and in some cases, the interaction that a farmer has with a middleman is the first experience the farmer has in the money economy (FAO, 1986).

Middlemen are often regarded with suspicion and disdain in developing economies (FAO, 1986). A common misconception that producers and government officials have is the belief that middlemen are monopolistic or that they engage in collusion to cheat farmers out of a fair price. In reality, middlemen must compete with each other for supplies, and given the geographical characteristics of Nagaland where travel and communication is difficult, the low prices offered by middlemen may be a result of logistical difficulties rather than evidence of monopoly power. Middlemen face the same constraints as producers in financing and storage space, and in Nagaland, there are very few large merchants who have the ability to influence supply and demand conditions.

There are two types of middlemen in Nagaland, local and non-local. A local middleman is defined as an entrepreneur of Naga descent who engages in the arbitrage of local produce. A non-local middleman is defined as an out of state entrepreneur who engages in the arbitrage of local and non-local produce. The majority of non-local middlemen are from the states of Bihar, Uttar Pradesh or Assam. The movement of agricultural products into Nagaland from Assam and the rest of India is usually managed by non-local middlemen. The movement of agricultural products out of Nagaland is managed by both local and non-local middlemen; however, the majority of the outbound produce is managed by non-locals.

5.4.1. Local Middlemen

For a typical producer in Nagaland, the opportunities to sell can be found in the village or in the district headquarters. In the village, the opportunities for selling are mainly limited to the final consumer. Although some villages have local middlemen who purchase surplus production for resale in the town market or distant markets, these villages are usually exceptions and not the norm. In the absence of non-local middlemen in the district headquarters, a farmer can choose to sell to the final consumer or to a local retailer in the town market.

The village middleman may be a farmer or an entrepreneur who collects produce from farmers in the village and surrounding villages for resale to final consumers, retailers or wholesalers in the market. The majority of the village middlemen in Nagaland are agent middlemen, specifically commission agents, because they do not purchase the produce from other farmers (Abbott, 1958; Kohls and Uhl, 1998). Although commission agents are responsible for the physical handling of the produce, they do not own the products, and instead, they receive a percentage of the price of the product (Abbott, 1958). The village middlemen who participated in the focus group discussions usually take 10% of the negotiated price, and they are usually experienced farmers who have taken an interest in providing marketing channels for other farmers.

The majority of the village middlemen are engaged in both production and marketing, but there are some individuals who only collect surplus production from others to market as a way of living. Although most village middlemen are men, some women do assume this role. In the village of Longsa in Mokokchung district, one female trader serves as a commission agent for the members of her village and the members of various villages in the neighbouring state of Zunheboto. This trader receives a 25% commission for selling agricultural produce, handicraft items, clothing, and baskets collected from other villagers. Her transactions are not all in cash, and occasionally, she barters food items for clothing or handicrafts.

Village middlemen perform the marketing tasks of assembling, storing, sorting, negotiating and market intelligence. Through the construction of crude storage facilities on their fields or the storage of produce in their homes, village middlemen amass individual surpluses from other farmers to sell in wholesale to buyers in the district

headquarter or neighbouring states. The storage technology is not sophisticated and a lack of aeration in damp conditions causes excessive spoilage if the produce is not sold quickly. Sorting is not done for all produce, but some of the products that are sorted according to size are potato and ginger. The village middlemen are responsible for scouting out buyers for the produce, and negotiating the final sale and transport.

Village middlemen are faced with financial and informational constraints, and they often complain of the difficulty in locating buyers for their produce. The lack of market information and available contacts is a result of poor communication services and social-cultural barriers, as most farmers are distrustful of non-local middlemen. Perishability often forces the middlemen into distress selling, and poor road conditions increase the cost of transportation for buyers resulting in depressed prices.

Unlike the village middlemen, local retailers in the district headquarters are merchant middlemen who take title to goods and physically own the products that they sell. All local retailers are residents of the urban centre in which they sell, and a majority of them are housewives who are trying to earn additional income for their families. In the Daily market in the town of Mokokchung, marketing stalls are sold to the women for a one-time fee of Rs. 750, and the retailer is responsible for the upkeep of the stall. The stalls are approximately one metre by one metre with compartments for storage. Similar stalls are available in the Kohima market and in the village of Pherima.

Local retailers purchase produce daily at 8:30 am from farmers arriving from villages on Village Development Buses. The retailers approach the farmers as they come off the buses and purchase the produce at the most affordable prices. Purchases are made from different farmers each day, and the mix of produce bought and sold changes daily. The local retailer spends approximately Rs. 500 per day on purchasing, and the products that they sell include many indigenous vegetables, leaves, spices, fruits and meats. All produce is repackaged in larger or smaller bundles for resale. Some women possess fruits and meats, and sell these value added items at their stalls. Taking a 10-15% price margin on all products, the women earn a net average of Rs. 200 per day. These women perform the marketing functions of buying, selling, sorting, assorting, packaging, and processing. Their presence allows farmers to concentrate on production, rather than on direct sales to the final consumer.

5.4.2. Non-local Middlemen

Non-local middlemen facilitate the flow of agricultural produce both into and out of the state of Nagaland. Because of their out of state origins, non-local middlemen have an advantage over locals. Knowledge about marketing channels and marketing outlets beyond the state of Nagaland is more easily obtained by these traders from known contacts and associates in other states. Non-local middlemen are the main source of market information for farmers, and their access to this information enables them to control the negotiation process during purchasing. All non-local middlemen perform the marketing functions of wholesalers, retailers or both.

Located in the southwest corner of Nagaland, Dimapur is a district headquarters and the commercial capital of Nagaland. The geographical characteristics of the area and its easy accessibility to Assam, make it an ideal location for trade and a large percentage of the agricultural products from Kohima, Wokha and Phek districts flow through the town. Cash cropping of rice paddy and other crops are prevalent, because the land is flat and suitable for monoculture. Many of the farmers are sharecroppers from Bangladesh and Nepal, while the landowners are wealthy Nagas.

Within the town, there is a large wholesale market where it was observed that 30 to 40 wholesalers are in operation. Based on key informant interviews with non-local traders in Dimapur, there are approximately 12 wholesalers who are operating on a large scale, and are responsible for bringing in products from other states in India as well as shipping Naga products out. Dimapur is the only Naga town with a large wholesale market, and the majority of the wholesalers are merchant wholesalers. They are independently owned and operated businesses that purchase goods for their own accounts, and store them until they can be reshipped (Stern and El-Ansary, 1992). These wholesalers will usually have their own warehousing facilities where they can receive and take title to goods.

The storage space available for collection is usually a 3 by 3 metre enclosure, with a tin roof and concrete walls. Less prosperous wholesalers will have wooden or thatched walls, and a storage space that is approximately half of the average space. The wholesalers are equipped with a large scale for measuring, a wheelbarrow or a cart for

unloading, and sacks for storage and transportation. Trucks used to transport goods outside of Nagaland are hired when necessary.

The wholesalers in Dimapur do not sell in significant quantities to the final consumer. Instead, they regularly sell 20 to 60 kg of produce to vegetable vendors and vegetable cart vendors. Some of the wholesalers sell large quantities of cabbage and squash, 100 to 150 kg, to Churches and Schools. For products transported out of Nagaland, particularly ginger to New Delhi and Calcutta, the wholesalers hire commission agents to sell the products. The commission agents receive 10% of the negotiated price.

Wholesalers perform the tasks of sorting and accumulation (Stern and El-Ansary, 1992). Although farmers are capable of sorting their own produce, it was observed that many farmers are reluctant to do so. When the farmer sells his produce without sorting, he is able to include the damaged and rotten items in a bulk shipment. When the produce has been sorted, it is difficult for the farmer to sell the damaged goods and consequently, he absorbs the loss. Wholesalers can accumulate a large quantity of goods even without adequate storage space on their own facilities. Many wholesalers arrange to store their products with other wholesalers or on the property of their suppliers until transportation for shipping can be arranged.

The wholesalers in Dimapur collect products from farmers within the district and from surrounding districts. For the supplies within the district, business relationships are initiated by the suppliers. For supply received from outside the district, some scouting is required. A wholesale supply scout is an individual who is funded by his colleagues to recruit farmers. He serves as an intermediary to prospective suppliers for other wholesalers. After an extensive period of intelligence gathering from farmers and other wholesalers, the scout will embark on a trip to recruit farmers from certain areas in Nagaland and Manipur. A typical scouting trip lasts from 2-7 days. The scout's transportation is paid for by his colleagues, and his accommodations are provided by village contacts. The scout travels 30 to 40 days within a year, using public transportation as his method of travel. He collects a margin of 50 paise per kg for all the products that he collects.

The non-local middlemen in less commercial urban centres perform the marketing functions of both wholesalers and retailers. In the Daily Market in the town of Mokokchung, the majority of non-local middlemen sell produce to the final consumer and export Naga produce outside of the state. Based on market observations and key informant interviews, non-local middlemen perform the marketing functions of buying, selling, storing, transporting, financing, and risk bearing.

The purchasing of produce usually occurs on a weekly or bi-weekly basis. Non-local middlemen import large quantities of tomato, potato, onion, chilli, carrot, peas, radish, turnip, cauliflower and cabbage from Assam and other areas of India. Local produce that is purchased and resold in the town market include tomato, cucumber, green chilli, ginger, bitter gourd, bottle gourd, bitter bringal and pumpkin. During the summer season when local production is the most abundant, non-local businessmen experience a decline in business, as consumers purchase from local retailers or farmers. Some non-local middlemen purchase local production for the sole purpose of exporting it out of the state. For these traders, the summer season is the busiest time because the products with the highest demand are in season.

Some merchants own or lease shop space or market space in the Daily Market. The cost of rental space ranges from Rs. 17-500 per month. In the daily market where the wholesale vegetable vendors are located, produce is displayed along the outer edge of constructed platforms. The vegetable vendors sit behind their produce in the inner portion of the platforms. An average space along the outer edge is approximately 2 metres in length. Shopkeepers have the ability to store produce in their shops, while vegetable vendors have limited storage space in the market area. Both types of merchants can arrange to store produce on the property of their suppliers.

On average, both types of traders earn a gross amount of Rs. 3000 per month, and 5-20% of these earnings are realized as profit. A business license is required to conduct business in Mokokchung, and a fee of Rs. 70 is paid every three months for the renewal of the license. All non-local traders are required to obtain an inner line permit for their stay in Nagaland.

Many of the non-local traders in the Mokokchung market are operating on a small scale, and additional labour is usually supplied by family members, rather than by hired

labour. The main operating costs for non-local middlemen are transportation and purchasing. Transportation costs associated with the purchase of produce are absorbed by the non-local traders, while transportation costs associated with the sale of produce are absorbed by the out of state buyers. An additional cost associated with transportation is the cost of hiring labour to load transport trucks.

Given Nagaland's geographical isolation and the political unrest in the northeast region, non-local traders must accept a certain level of risk when they import and export products. Transportation delays, which are a result of poor infrastructure or anti-social activity, increase both the physical risk of product deterioration and the market risk of changing product value. Financing by the non-local trader is required to store products along the channel in the event of transportation delays.

Landslides and monsoon have been mentioned by the non-local traders as the greatest interruptions to the flow of agricultural produce coming in and out of Nagaland. During the rainy season, non-local traders may experience a 50% loss in sales due to obstructed roads. The delays from inadequate transportation cause 5-30% of produce to spoil, while low surplus production exacerbates transportation costs. The political situation in Assam affects the inward supply of agricultural produce to Nagaland, as state-wide "bandhs" or protest days, may be called at any time, and non-local traders are cautious about their future plans in Nagaland.

5.4.3. Food Processing Units

Farmers may sell their produce to small home processing units or the government operated processing plant in Dimapur and the private processing plant in Mokokchung. Although the act of processing is a form changing activity and not a marketing function, it is still important to include food processors as a category of market intermediaries (Kohls and Uhl, 1998). Their activities are an integral part of any developing marketing channel, and in some cases, the act of processing extends and creates new marketing channels in the food system.

In Nagaland, value addition at the industrial level occurs on a seasonal basis at the government-operated processing plants, while home processing units operated by individual households run sporadically throughout the year. The products that are

processed in the government-operated plants include pineapple, bamboo shoots, passionfruit, lemon/lime, guava, and plum. The state government plays an active role in marketing these processed items, often displaying them at trade shows and food fairs in New Delhi and abroad. Home processing units produce items like pickles, juices, jams and dried fruits, vegetables and herbs. These products are sold in the local markets, to family and friends and to clients in the major towns of Nagaland.

Food processors transform perishable fruit and vegetable items into products with a longer shelf life, thus extending the product's availability for convenient consumption. The Government Fruit and Vegetable Processing Plant in Dimapur purchases large quantities of pineapple, orange, plum, passionfruit, and bamboo shoots from local farmers and from farmers in other districts like Kohima, Phek and Wokha. In operation since 1993, the processing plant is not fully commercial and it is dependent on government funding to meet operating costs.

Home processing units have been set up by non-governmental organizations (NGO's) and by private entrepreneurs. Surprisingly, the majority of home processing units are owned and operated by women. In the village of Viswema, a local NGO called the Kekhrie Welfare Society and the India Canada Cooperation Office (ICCO) worked in collaboration to establish a home processing unit. Operated by a group of ten women, mainly housewives, the processing venture is designed to earn additional income and to provide practical business experience for the women. The home processing unit produces meat pickles, jams, squashes (fruit juices) and fruit wines. The raw materials are obtained from their own home gardens or purchased from other villagers. The women collectively purchase and process the meats and fruits, and then package them into recycled bottles or containers. The products are sold in a small roadside store in the village and through home-to-home sales or telephone orders.

In Pfulsero town, a young female entrepreneur acquired a small-scale drying unit as a free grant from the Department of Science and Technology, and uses the machine to process large cardamom and fruits. The Exotaste Fruit Processing Unit purchases fresh cardamom from 130 farmers in surrounding villages at a rate of Rs. 8 per kg. In the village of Enhulumie, the town council has set a fixed price for fresh cardamom at Rs. 8. This price is based on the government rates for fresh cardamom. Cardamom did not have

a value before the processing unit began operating, and farmers rely on the government to supply them with free seedlings.

In operation since 1996, the drying machine produces 10 kg of dried cardamom daily. The conversion rate is 6 kg of fresh cardamom for 1 kg of dried cardamom. Four hours is required for the drying process to be complete, and ideally, if electricity was reliable, more cardamom can be dried in a day. The electricity in the town will only run for 4 hours. The unit hires an average of three workers at a daily wage of Rs.75 for female workers and Rs. 100-120 for male workers. The additional labour is required to cut off the stems of the cardamom before drying. During the peak season, the unit hires 5 workers for two days of the week to work from 7 am to 4 pm. The cardamom is packaged in plastic bags that are manually sealed with a candle.

In the past three years, the processor has been selling the dried cardamom to non-local traders in Dimapur. When she began selling in 1996, she did not have any pricing information on the market value of dried cardamom, and consequently, she sold the cardamom for Rs. 25 per kg, more than five times below the market value of dried cardamom. In 2000, she was informed that the market value of cardamom was Rs. 400 per kg in Sikkim. With this pricing information, she is able to negotiate a better price for her cardamom in 2001.

The government processing plants and the home processing units face similar constraints in packaging and labelling. The packaging technology used in the government plants is too costly and of poor quality, while the home processing units use recycled bottles and containers that disrupt the homogeneity of their product. There is no standardization of home processing units, which is necessary for commercial sale outside of Nagaland. The standardization of processed products is done by the Indian Standards Institute.

5.4.4. Facilitative Organizations

Facilitative organizations do not directly participate in the marketing process. However, their activities may include the provision of storage facilities or market areas where buyers and sellers can meet (Kohls and Uhl, 1998). In some cases, the facilitative organizations establish the "rules of the game" and they set such regulations as the hours

of trade and the terms of sale (Kohls and Uhl, 1998). Facilitative organizations receive income from fees and assessments collected from traders who use their facilities or services. Some examples of facilitative organizations are stockyard companies, grain exchanges, auction houses, and trade associations (Kohls and Uhl, 1998).

In the Daily Market in Mokokchung town, an example of a facilitative organization is the town committee, which sets all rules and regulations in the market area. The town committee collects platform rental fees from vegetable wholesalers and the organization is responsible for selling marketing stalls to local retailers. They are responsible for the maintenance of water and electricity in the market area, and they manage the construction of shelters and marketing stalls.

In Phek district, an administrative body that is akin to a facilitative organization is the Phek District Farmers' Union. Established in 1996 and recognized in 1998, it was created to handle the political and economic affairs of Phek farmers. The Farmers' Union has approximately 1000 members, who pay a one-time fee of Rs. 200. In November 2000, the Farmers' Union created a separate marketing office to assist farmers in marketing agricultural produce in the town of Kohima. The marketing office hires supply agents in various villages to procure agricultural produce from farmers. These supply agents are essentially village middlemen selected by the Village Council. Once the supply agents secure the produce, they send it on the village bus to Kohima. The produce is collected by employees of the marketing office, and sales agents are commissioned to sell the produce in the Kohima market. The supply agents use their own funds to purchase produce and every 15 days, the marketing office reimburses them for their expenses.

The marketing office is a profit-oriented business, but it was initially financed by prominent members of the Phek District Farmers' Union as a facilitative marketing service for the farmers of Phek District. The business hopes to expand, and raise a nursery to provide farmers with important economic seedlings. The marketing office is attempting to process items like tree tomato, mustard leaves, cabbage and chillies, and consequently, it hopes to establish its own processing unit.

5.5.0. Industrial Organization

The concept of "industrial organization" is concerned with the order and operation of capitalist or enterprise markets (Bain, 1968). A capitalist market is described as having a multitude of privately owned and managed firms that influence the nature of the economic activity in a market. These firms are independent and motivated by self-interest to develop and assemble natural resources, construct facilities for production, and manage and employ labour forces (Bain, 1968). Although the firms interact with other decision-making bodies and public institutions, they are the main participants in the market, and their individual performance often determines the performance of the entire economy.

The two main determinants of market performance that have been observed in practice and formulated in theory are market structure and market conduct. Understanding the structure and conduct of a market is the first step to understanding and evaluating the performance of a market. This type of analysis is called the Structure-Conduct-Performance methodology and it has been the standard tool for evaluating market performance in the United States and the United Kingdom.

A simplified adaptation of the Structure-Conduct-Performance methodology will be applied to the agricultural markets in Nagaland. Because of imperfect market conditions and incomplete statistical data, a full Structure-Conduct-Performance analysis is not possible. A brief discussion of the general performance of agricultural markets in Nagaland will be presented in the following section.

5.5.1. An Adapted Structure-Conduct-Performance Analysis

Market Structure

Market Structure is concerned with the organizational characteristics of a market that strategically influence the nature of competition and pricing within the market (Bain, 1968). There are four dimensions of market structure: (i) the degree of seller concentration, (ii) the degree of buyer concentration, (iii) the degree of product differentiation, and (iv) the condition of entry to the market (Bain, 1968). The degree of buyer and seller concentration refers to the number and size distribution of buyers and sellers in the market, while the degree of product differentiation refers to the outputs

produced by sellers and the extent to which their products are viewed as being non-identical to buyers. The condition of entry describes the relative ease or difficulty experienced by new sellers as they enter the market, and it is determined by the advantages that existing sellers have over new entrants.

In general, the concentration of sellers in the agricultural markets of Nagaland is atomistic. For the purposes of this analysis, sellers will be defined as individual farm households. Because Naga farmers are subsistence producers, there are no large farmers who control the supply of agricultural products. Each farmer is a small participant in the market, and therefore, no farmer has the market power to influence the selling price of produce. There are no significant entry barriers and farmers are free to market in the village or in the neighbouring town. In some cases, a small fee is paid to the town council before farmers are able to retail produce, but wholesale selling in the town market does not involve marketing fees.

There is some degree of product differentiation in the agricultural markets of Nagaland; however, agricultural production is fairly homogenous and there is no evidence of price premiums in the market. Naga farmers sell a variety of agricultural produce, but certain villages are renowned for the quality of specific crops. Based on the results of formal questionnaires and key informant surveys, it was found that each of the four villages surveyed were recognized as exceptional growers in certain crops: (i) Sungrastu – yams and processed yam leaves, (ii) Khensa – cucumbers, (iii) Ungma – mustard leaves, and (iv) Longsa – maize and chillies. The recognition of specific crops with specific villages and the quality implications that are drawn from this knowledge is akin to brand labelling. Despite the marketing advantages associated with brand recognition, farmers in these villages continue to practice mixed cropping and grow a variety of produce rather than concentrating on one crop. The continued practice of mixed cropping can be attributed to deeply entrenched traditional values, but another explanation may be the fact that there are no price premiums in the market for products grown in specific villages. Although recognized products from these four villages sell out more readily than the same products from other villages, there is still no evidence of price premiums being received.

Buyers in the agricultural markets of Nagaland will be defined as local and non-local retailers, non-local wholesalers, processing units and final consumers. The buyers in Nagaland range from being oligopsonistic to atomistic industries. Local and non-local retailers and final consumers are atomistic, because they purchase in small quantities and they do not have the ability to control prices. Non-local wholesalers and processing units may have the ability to control prices because they purchase large quantities of produce. The number of non-local wholesalers and processing units in the market is small, and new entrants must overcome shortages in capital investment and market information before they can fully participate in the market.

Market Conduct

Market conduct is the observed pattern of behaviour that firms follow in adapting to the changes in the market environment in which they sell their products (Bain, 1968). The concept of market conduct includes the price forming policies of firms and the interaction of firms with competitors. An examination of market conduct involves a careful analysis of the following dimensions: (i) the objectives of firms and the methods by which they obtain these objectives, (ii) the product policy of firms, (iii) the sales promotion policy of firms, and (iv) the means of coordination and cross adaptation of price, product, and sales promotion policies of competing firms (Bain, 1968).

The majority of Naga farmers are small-scale producers, and consequently, profit maximization does not appear to be their main objective. As subsistence seems to be the main goal of the family farm, Naga households do not engage in marketing activity unless a physical surplus exists. However, based on key informant interviews and focus group discussions, there appears to be increasing market awareness among farmers, and as a result, the product policy of Naga households may slowly be changing. Agricultural production in the past 20 years may have a larger market orientation than previously believed. Naga farmers do not employ any price setting strategies or sales promotion policies, because the market place is fairly competitive and farmers are forced to accept the prices offered by buyers.

Market Performance

Market performance refers to the final outcomes in the dimensions of price, output, and production that result from market structure and market conduct (Bain, 1968). Market performance can be examined using price series data to evaluate competition in the following methods: (i) intermarket price correlations to indicate the degree of market integration, (ii) the relationship of transport costs and intermarket price difference to indicate competitiveness of interrelational trade, (iii) the relationship between seasonal price fluctuations and storage costs to indicate market competitiveness through time, as well as calculations of annual and longer term moving averages to investigate longer period cyclical changes in the price level (Harris, 1979). Evaluating the market performance of agricultural producers in Nagaland through the use of price analysis is currently not possible, as there is a lack of reliable statistical documentation in the state. Although a price analysis has not been done, some inferences about market performance can be made based on the market structure and market conduct results observed.

The agricultural markets in Nagaland can be classified under two broad categories, markets for locally demanded products and markets for commercially demanded products. Locally demand products include: indigenous varieties of herbs, vegetables and fruits, non-timber forest products, local varieties of spices and staple crops. Commercially demanded products, crops with outside state demand, include: chillies, squash, pears, oranges, ginger, large cardamom and turmeric. Some commercially demand products, large cardamom and turmeric, have no local demand in the market place. To make inferences about the market performance of both types of markets, the following market performance criteria need to be examined: (i) the efficiency of production relative to firm size, (ii) the size of profits, (iii) the relation between production costs and marketing costs, and (iv) the progressiveness in industrial innovation (Harris-White, 1996).

Based on key informant interviews and focus group discussions with farmers, the following inferences can be made about the efficiency of production relative to farm size: (i) Naga farmers can increase production by intensifying the use of labour resources, while keeping the land resource fixed, (ii) Naga farmers can increase their output if they abandon organic farming, and incorporate the use of fertilizers, pesticides and improved

varieties of seeds, and (iii) Naga farmers can increase the efficiency of production through crop specialization. These efficiency improvements have been difficult to implement, and the state government has been encouraging farmers to specialize production and use modern inputs such as fertilizers, pesticides, and genetically improved seeds. With an average of two agricultural workers per household, the typical family farm in Nagaland is constrained by labour resources. There is no labour force available within the village, and a typical Naga household does not have the financial resources to hire additional labour.

When Naga farmers sell directly to the final consumer, they receive the full consumer price of the product. It is unclear how much of the consumer price farmers receive when they choose to sell in wholesale to non-local traders and local retailers; however, traders have stated in key informant interviews that their profit margin is approximately 10%. As farmers adopt cash crops such as large cardamom and turmeric, which have no local demand, one inference that can be made is that there will be a positive relationship between production costs and marketing costs. Farmers will incur higher production costs to adopt cash cropping, while also incurring high marketing costs to ensure the successful marketing of the crops.

During focus group discussions and key informant interviews, farmers have expressed satisfaction in receiving cash for agricultural products that were previously thought to be valueless. An example of such a crop is large cardamom, which had no local demand but became valuable after the establishment of a local processing unit. Industrial innovation by one entrepreneur created a market for large cardamom. The introduction of government sponsored processing units have also created a demand for products like pineapple, passionfruit, pears, and oranges.

A full Structure-Conduct-Performance analysis is needed before definitive conclusions about the performance of agricultural markets in Nagaland can be made, but they appear to be operating freely and competitively. The markets for locally demanded products are operating according to supply and demand principles, and market prices seem to accurately represent the scarcity of products in the market. For commercially demanded products, there appears to be evidence that market prices are distorted and do not accurately reflect the supply and demand conditions in the market. The cause of

these price distortions is unclear. Although non-local traders and processing units are oligopsonistic buyers, no evidence of collusion or price fixing was observed in the market. The distorted prices of commercially demand products may be a result of inadequacies in the transportation and communication system.

5.6.0. Conclusion

The agricultural marketing system in Nagland is still developing, and the marketing channels for most products are limited to the state. An analytical framework, called the institutional approach, was used to describe and document the agricultural market system in Nagaland, and four major categories of marketing intermediaries were identified and discussed in this chapter. An adapted Structure-Conduct-Performance analysis was applied to Nagaland. The results from the first half of the study indicate that the efficiency of the current production system can still be improved, while low surplus production discourages marketing activity. Industrial innovation by entrepreneurs and government departments are creating markets for agricultural crops with low or nonexistent demand. Despite some price and production inefficiencies, Nagaland's agricultural markets are performing adequately to meet to the needs of the Naga populace.

Chapter 6 – Results and Discussion, Formal Questionnaires

6.1.0. Introduction

The second phase of the study focused on Naga farmers, and their role as producers and marketing agents. A farm level assessment was completed with the aid of formal questionnaires conducted in four villages in the district of Mokokchung. Farmers were interviewed on various topics about tree planting, production and marketing. A brief description of the district of Mokokchung, the Mokokchung Daily market and the four villages – Sungratsu, Khensa, Ungma, and Longsa – will be given. The production and marketing results of the formal questionnaires will be presented and discussed.

6.2.0. Description of Mokokchung

The district of Mokokchung borders the state of Assam to the west, the district of Wokha to the southwest, and the districts of Zunheboto and Tuensang to the southeast. Its location provides it with a strategic advantage in terms of interstate and inter-district trade. A quick appraisal of the Daily market in the town of Mokokchung will reveal products from Wokha, Zunheboto, Kohima, and Jorhat, Assam. Mokokchung was chosen as the area of study, because of its convenient location and its relative safety.

Mokokchung district is 1,615 km^2. Approximately 17.94% of the district is covered in forests, and the main method of agricultural production is jhum cultivation (North Eastern Development Finance Corporation, 2002). The town of Mokokchung is the district headquarters and the distance between it and the state capital of Kohima is 152 km. Mokokchung town is located 1,326 m above sea level, and it is one of the largest urban centres in the state.

There are 107 villages in Mokokchung district, and according to the 1991 Census, the population of the district is 158,374. A majority of the population, 86.34%, lives in rural areas, while 15.66% of the population lives in urban centres (Government of Nagaland, 1991). Mokokchung has the highest literacy rate in the state of Nagaland with approximately 77.85% of its population literate (Government of Nagaland, 1991). The percentage of the population that engages in cultivation or agricultural labour is 27.71%,

while 61.36% of the district's population are classified as non-workers (Government of Nagaland, 1991).

The district is rich in crude oil and coal; however, the lack of infrastructure in the state has prevented these resources from being fully explored and exploited. Major plantation crops in the state are tea and rubber. There are no industrial estates in the district, but there are two government sponsored industrial projects – a facility for citronella oil production and a pulp and paper mill. The district is also the location of a private fruit processing plant.

6.2.1. Description of the Mokokchung Market

Mokokchung town is the largest commercial centre within the district, and the population of the town is 24,803 (Government of Nagaland, 1991). For the purposes of the study, Mokokchung town is considered the main marketing outlet for all the farmers interviewed. In the centre of town, there is one main market called the Daily market. Although minor markets are scattered throughout the town, a majority of the consumers and traders congregate in the Daily market.

The market area is a large complex of permanent shops, wooden marketing stalls, wooden marketing platforms and sheltered marketing areas for cobblers, and village fruit and vegetable sellers. A large portion of the market is provided with adequate shelter; however, when the market is crowded with village sellers, there is not enough space under the village marketing shed. Many village sellers lay a tarp on the ground to display their products. For these sellers, there is no adequate shelter when it rains.

The entrance of the marketing complex is protected by metal gates, which are opened during operating hours from 5:00 am to 4:30 pm. Upon entering the complex, there are two rows of wooden stalls occupied by local and non-local fruit vendors. A majority of the local fruit vendors sell locally grown fruits such as bananas and papayas, while the non-local vendors sell fruits brought in from outside the state. Fruits such as grapes and apples, as well as processed products such as dried coconuts, raisins, figs and dates are sold by the non-local vendors.

Figure 5. Photo of non-local vendors in Mokokchung Daily Market

Along the left and the right sides of the complex are rows of permanent shops, which sell pastries, clothing, stationary and other consumer goods. Wooden platforms are constructed for wholesale vegetable vendors in the far left corner of the market. Produce is piled along the edge of the platforms and the vendors sit behind. All the traders in this section are non-local and male. They typically sell chillies, cabbage, cauliflower, beans, onion, garlic, potato and tomato. In the far right corner of the market, there is another row of wooden marketing stalls occupied by local vegetable vendors. These vendors are mainly women and they sell local produce such as indigenous herbs, leaves, and fruits. Some of these vendors also sell home processed items of dried fruits, bottled juices and pickles.

Figure 6. Photo of local vegetable vendors in municipal marketing stalls

Behind the local vegetable vendors in an area not enclosed by the marketing complex, there is a row of cobblers. These men are not provided with a closed working space, but shelter is available under shed like structures. To the left of the cobblers is an area of permanent shops, which sell dried fish, consumer goods and clothing. The village marketing shed is also located in this section of the market. The marketing complex has two floors, and there are more permanent shops on the upper level, as well as temporary booths for clothing vendors.

There is no charge for villagers to market in the village marketing shed. However, space is limited and those individuals who are unable to find a space in the shed may lay a tarp on the ground and sell their products. On busy marketing days, usually Wednesdays or Saturdays, the market area may be too crowded and permanent shopkeepers have the right to ask villagers who are squatting in front of their shops to leave. Mainly occupied by local townspeople, the wooden marketing stalls can be

Figure 7. Photo of the village sellers in the Mokokchung Daily Market

Figure 8. Photo of female farmers in the Mokokchung Daily market

purchased from the town committee for a fee of Rs. 750. The maintenance of the stalls is the responsibility of the owner. The marketing platforms used by the wholesale vegetable vendors are rented for Rs. 17 per month.

There is no access to running water in the market for drinking or for washing, and in certain sections of the market, the lighting is very poor. Toilet facilities are available, but a small fee is charged. The market area is fairly spacious, and each marketing section is spaced at an adequate distance from each other to prevent overcrowding except on busy marketing days. Another aspect of the market is the presence of the Indian Army, which frequently patrol the complex.

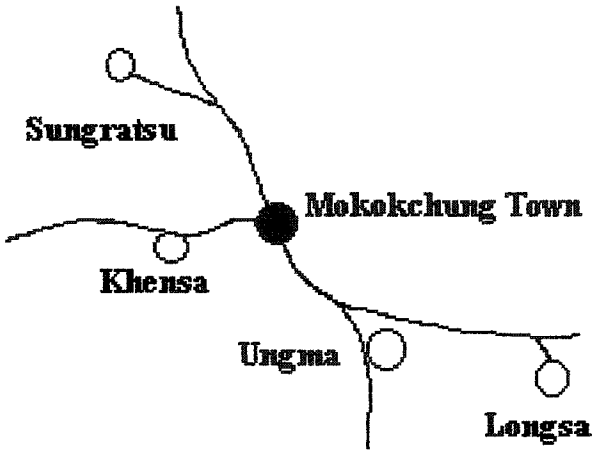
The final consumers for the non-local traders, the local retailers and the village marketing agents are townspeople or villagers. These consumers are usually households, but some non-local traders sell in wholesale to schools, churches, and Police and Army camps. Consumers seem to have a preference for locally grown produce, and despite the higher prices, usually Rs. 5 more than the non-local produce, locally grown production will sell out more readily than non-local production. The items that are promptly sold each day are potatoes, tomatoes and chillies.

For most traders, the busiest time of the day is between 10:00 am and 1:00 pm, and the busiest marketing days are Wednesdays and Saturdays. Traders usually experience the greatest amount of business the first ten days of every month as most wage workers are paid monthly. The Christmas season is usually the busiest time for all traders.

6.3.0. Villages in the Study

The largest village in the study and in the district of Mokokchung is Ungma with 1422 households. The other three villages are fairly uniform in size and the average number of households for the villages of Sungratsu, Khensa, and Longsa is 616 households. Sungratsu and Longsa are the farthest away from Mokokchung with a distance of 18 km and 28 km respectively. Khensa and Ungma are only 6 km and 9 km away from Mokokchung town. All four villages have regular daily bus service to Mokokchung town; however, the frequency of the bus service is dependent on the distance between the village and town.

Figure 9. A map of the four study villages in Mokokchung District



The predominant tribe in Mokokchung district is the Ao tribe, and all four villages surveyed were Ao villages. The administration of law and order within the village is the responsibility of the Village Council. This administrative body is comprised of Gaon-burras (GBs), who are Chieftain representatives of each clan, as well as selected representatives of various clans and sub-clans in the village (Odyuo, 1999). The Village Council is led by an elected Village Council Chairman, who is the official leader of the village; however, some villages also have a symbolic leader known as the Village Headman, which is an inherited title that may be rotated among the predominant clans in the village. All field visits were pre-approved by the Village Council.

As part of the administration of most villages in Nagaland, a Village Development Board (VDB) is an autonomous local body that disburses state development funds (Faminow and POU, 1999). It is responsible for the day-to-day management of development activities in the village (Odyuo, 1999). The VDB finances small-scale projects such as the purchase of village buses, the establishment of processing units or the building of infrastructure within the village. The VDB is accountable and answerable to the Village Council, and is funded by the state government through the Department of Rural Development. The financial resources allotted for each village is determined by the number of households per village, and this amount is publicly declared (Odyuo, 1999). Annual plans for development activities are decided in general meetings with resolutions being passed as per majority (Odyuo, 1999). The VDB has a facilitating

role to play in the second phase of the NEPED project. It is hoped that the VDB will assist farmers in the purchase of seedlings for shade loving cash crops such as ginger, large cardamom, and black pepper.

6.4.0. Results of Formal Questionnaire

The results of the survey reveal that Naga farmers fulfill two important roles in the marketing channel. Both as producers and marketing agents, Naga farmers have full control of the marketing process for locally demanded products. For cash crops such as ginger and large cardamom, the marketing channels are less accessible and most farmers are forced to sell these products in wholesale to non-local traders or village middleman. Farmers may also be processors in the channel for agricultural produce, and products such as chillies, gooseberries and yam leaves are processed and sold by farm households.

6.4.1. The Role of Farmers as Producers

The main role that Naga farmers play in the marketing channel for agricultural produce is as the producers in the channel. Surplus production is low and many farmers in Nagaland are subsistence producers, growing only enough food to meet household consumption needs. In the state of Mokokchung, the most widely practiced form of agriculture is an indigenous agricultural practice called *Jhum* cultivation. The prevalence of this production system is due to the lower altitudes and the lack of water resources, which make it difficult to introduce terrace rice cultivation (Faminow and POU, 1999).

Every year, Naga farmers slash and burn a field of land designated by the village elders. Unlike other forms of swidden agriculture where the whole tract of land is slashed and burned, various trees and shrubs are left unburned for their medicinal or non-timber use values. Depending on the tribe, the length of the fallow period will vary. In Mokokchung, where the predominant tribe is Ao, the fallow period is nine years. Ao farmers will farm one jhum field for two years and leave it fallow for nine years.

All aspects of jhum cultivation are determined by the village elders. The selection of the land area and the time of slashing, burning and sowing are all decided by the village elders and the village council. For the Ao tribe, March is the designated month for slashing and burning. Some villages will pass a resolution that calls on all able-bodied men and women to be in the field on a certain day to communally prepare the

fields. Slashing and burning of fields is usually done communally, whereas, the clearing and sowing of fields is done by each individual household.

Because the area of jhumming is selected by the village elders and the village council, the ownership status of the land will change for some households on a year to year basis. If the area of jhumming includes the farmers' own land or clan land, then he or she does not need to lease land for the year. For farmers whose own land or clan land falls outside the area of jhumming, it may be necessary for them to lease land from another farmer.

Approximately 49.1% of the farmers interviewed reported that they cultivated their own land, while 14.5% of the farmers claimed they cultivated clan land. The percentage of the farmers, who said that the ownership of land varies from clan land to their own land depending on the year, is 29.1%. Only 7.3% of the farmers said that they leased land. The method of payment for the land is usually a given amount of the rice harvest, ranging from 3 to 7 tins, or a cash payment of Rs. 250 to 350. The average jhum plot is 1.5 hectares, and each farm household owns an average of 1.5 plots.

Another form of agriculture practiced by Naga farmers is Wet Rice Cultivation (WRC). In areas where rainfall is abundant or irrigation is available, WRC is being encouraged by the Government of Nagaland. Crops such as rice, potato, garlic, and cabbage can be grown in these types of fields. Some farmers in Mokokchung have adopted this form of agriculture, but the majority of the farmers interviewed practiced jhum cultivation.

For many Naga households, a home garden is grown to meet the household's kitchen needs. A wide variety of fruits, vegetables and other food crops are grown through out the year. The home garden is usually located close to the household's dwelling and may be accompanied by a livestock farm or plant nursery.

There are two planting seasons in Nagaland called kharif (summer) and rabi (winter) (NEPED, 1999). Occurring between June and October, kharif is the main planting season, and most crops grown in Nagaland are sown and harvested during this season. Winter cropping has been a recent practice among Naga farmers, and the State Government has been introducing non-traditional crops such as wheat, barley, and pea (NEPED, 1999). All four villages in the study practiced winter cropping and their rabi

crops include wheat, oilseeds, potato, radish, pea, beans, mustard leaves, cabbage, chives, ginger, garlic and peanuts. The main staple crops for the four villages in the study are rice paddy, maize, millet, yam, tapioca, chillies, tomato, cucumber and pumpkin.

6.4.2. Rice Cultivation

The majority of the farmers interviewed grow all or a portion of the rice consumed by their household. Only 14.5% of the households interviewed chose to abandon rice cultivation completely. The average yearly harvest for farm households that grow rice is 1507 kg, and the average duration this rice will sustain the family is 9.4 months. The percentage of households that reported they were self-sufficient in rice production is 47.3%, while 52.7% of all the households interviewed said that they purchased rice to meet daily subsistence needs. The average amount of rice purchased by a household per month was 51.2 kg.

Although most of the farmers interviewed were just subsistence producers in rice, a small percentage, 21.3%, did sell rice commercially. Of the households that claimed they sold rice commercially, 40% of them practiced wet rice cultivation. When asked if they were willing to abandon rice cultivation, half of the farmers who sold rice commercially said that they would abandon rice cultivation for cash cropping. The total percentage of all the farmers who are currently growing rice and who are willing to abandon rice cultivation for cash cropping is 41.8%.

6.4.3. Mixed Cropping and Marketing

Traditionally, jhum cultivation incorporates the practice of mixed cropping, and a typical Naga jhum field will have approximately 15 to 60 different species of crops (NEPED, 1999). The items produced and sold from a jhum field are numerous, ranging from rice and maize to papayas and bananas. Approximately 72.7% of the respondents sold products from their jhum fields. Because farmers are planting so many different crops, the surplus production of any one crop is low. Approximately 47.3% of the farmers interviewed do devote a field or a section of a field to specific crops, but the majority of farmers interviewed intercrop all species. The most common crops to be planted separately in a single field are chillies and yams.

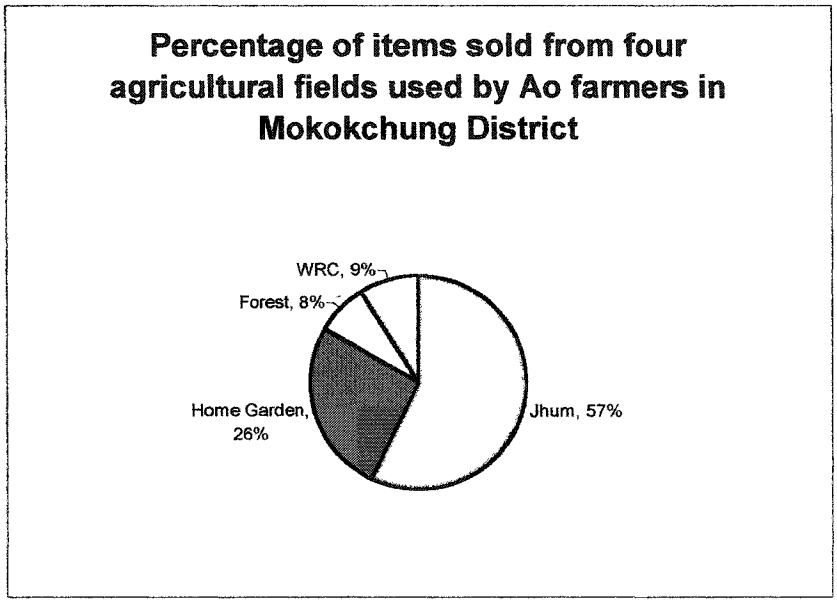
Naga farmers also sell products from their home gardens and wet rice cultivation fields. The main purpose of a home garden is for meeting the household's kitchen needs, but for some households the home garden is the main type of agricultural field from which they sell products. Approximately 61.8% and 14.5% of the respondents interviewed sold products from their home gardens and wet rice cultivation fields, respectively. The collection and marketing of non-timber forest products from clan forests or private forests is another way that Naga farmers supplement their income. Of all the respondents interviewed, 30.9% of the farmers said they sold products from the forest. Table 4 is a summary of the marketing activity from four types agricultural fields utilized by Ao farmers.

Table 4. Marketing activity of four agricultural fields used by Ao farmers

Type of Agricultural Field	Percentage of respondents who sold items from this field (Total # of respondents, 55)	Average number of items	Highest number of items	Lowest number of items	Most common item
Jhum	72.7	11	26	1	Chillies
Home Garden	61.8	7	20	1	Squash
Wet Rice Cultivation	14.5	10	17	2	Mustard Leaves
Forest	30.9	3	6	1	Banana inflorence

For most farmers, the jhum field is the main source of income as it accounts for 57% of all the products sold. The second most important type of agricultural field to farmers is the home garden with 26% of the total products sold. Wet rice cultivation is not widely practiced by Ao farmers but approximately 9% of all the products sold came from the wet rice fields, and finally, 8% of all products sold came from private or clan forests. In Figure 10 a pie chart is used to summarize the percentage of items sold from four types of agricultural fields used by Ao farmers in Nagaland, India.

Figure 10. Percentage of items sold from four agricultural fields used by Ao farmers in Mokokchung District



The average number of crops sold by each individual household from all their agricultural fields is 14. The average number of livelihood crops reported by each household is 3, with 7 being the highest and 1 being the lowest. A livelihood crop is a product that the household sells regularly in the market during each season. The most common livelihood product mentioned by the farmers is chilli. Approximately 32.7% of the respondents reported chilli as an item they regularly market. Maize, mustard leaves and tomatoes are the second most common livelihood items sold with 20% of the respondents reporting these items.

6.5.0. The Role of Farmers as Marketing Agents

The channel for most agricultural products is short and simple, starting with the small-scale farmer in the villages and ending with the final consumer in the district headquarters. In these producer-consumer markets, there are very few marketing intermediaries, and farmers sell directly to consumers, thus obtaining the full consumer price for their produce (Abbot, 1958). The advantage of this system is that farmers have control over the whole marketing process, however, the quantity marketed is small and the act of marketing is time consuming (Abbot, 1958).

6.5.1. Characteristics of the Marketing Agent

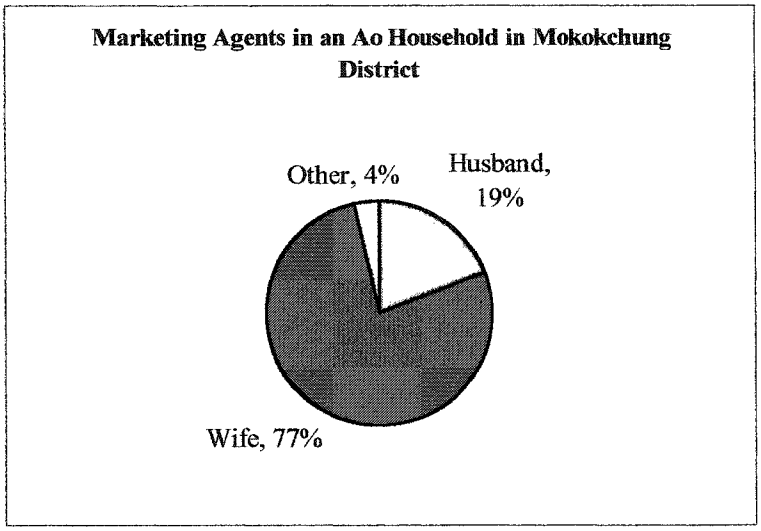
In total, 55 interviews were conducted in four Ao villages in the district of Mokokchung. Approximately 53 households were conventional family units led by a husband and a wife, while the remaining two households were single female run households. For 23 of the interviews, both the male and the female representative of the household were present during the interview. Half of the remaining 32 interviews were conducted with just a female representative and the other half was conducted with just a male representative. The average size of each household is 4 and the average number of agricultural workers in each household is 2.

For a majority of the households, 65.5%, both the husband and the wife engage in farming activity. Farming appears to be the main occupation for rural women in Nagaland, and 92.7% of the households reported that the female representative is a farmer. There are more wage earning opportunities available to men, and consequently, only 69% of the households reported that the male representative is a farmer. Two households did not engage in any farming activity.

The average age of all the respondents interviewed is 55.5 years. The male respondents are slightly older than the female respondents, and the average age for the male and female respondents are 59.6 and 51.4 years respectively. With approximately 24.8 years of farming experience, a large majority of the respondents did not finish their primary schooling before engaging in farming activities. The average class level of all the respondents is class 6. In the Indian school system, class 10 is matriculation.

Agricultural marketing in Nagaland is mainly undertaken by women, and the results from our small survey support this fact. Approximately 77.2% of the households interviewed reported that the wife is the main marketing agent in the house, compared to 19.3% of the households who claimed that the husband is the main marketing agent. Another option available is the "Other" category that includes other family members. Typically, this category refers to the children in the household who assists their parents in marketing or who are the main marketing agents for the family. About 3.5% of the households reported that the main marketing agents were not the husband or wife. Figure 11 is a pie chart depicting the percentage of different marketing agents in an Ao household.

Figure 11. Marketing agents in an Ao household in Mokokchung District



The marketing experience of the farmers interviewed is represented by the number of the years they have been engaged in selling produce from their fields. The average number of years reported by the farmers is 21 years, with 40% of the farmers stating that chilli was the very first item they chose to sell. When asked about why they began selling, 30.9% of the respondents said they were selling off their surplus harvest, while 45.5% of the respondents said they were engaging in a business venture. Approximately 20% of the respondents said they were both selling off surplus harvest and engaging in a business venture. Two respondents chose not to answer this question.

6.5.2. Typical Market Day

The results of the farm survey reveal that 56.4% of the respondents interviewed chose to directly sell their produce in the Daily Market in Mokokchung. A typical marketing day for a farmer would begin at 5:00 am, starting with a bus ride or a walk from the village to town. Most farmers work late the night before, washing, sorting and preparing bundles for selling in the market. After making tea and breakfast for the family, the farmer, usually the female head of the household, will pack her head basket and start for the market.

The village development bus is a private bus service authorized and supported by the Village Council and the Village Development Board (VDB). The bus operators are

individuals in the village who are financed by the VDB to purchase and maintain a bus with the purpose of providing the village with transportation to town. Approximately 89% of the respondents reported that they used the village bus to travel to Mokokchung. In the village of Ungma, where the distance to town can be easily walked, five respondents reported that they prefer to walk to town for retail selling.

From the four villages surveyed, the average bus fare for a one-way trip to Mokokchung is Rs. 9.75. An additional fee of Rs. 5 to 20 may be charged for extra goods. The additional fee is quoted by the bus operator depending on the quantity of the extra goods and the availability of free space on the bus. Although the bus operator is free to set the fares and the times for the buses, the village councils occasionally intervene to freeze fares or set specific hours of operation in the best interest of the village. For most villages, the first bus arrives in Mokokchung at 6:00 am.

The Daily market is located on a street where the village buses cannot park and unload. A five to ten minute walk is necessary from the main road to the market. For farmers who are unable to carry their products alone, head load carriers are available for hire. The fee is from Rs. 2 to 5 per load. Once in the market, the farmer may choose to set up in the village marketing area or any free space on the ground. Although there is no fee to sell produce in the market, some costs are incurred by being in the market. The farmers in the study reported that they spent Rs. 5 to 40 on tea, snacks and meals.

For some farmers, the time spent in the market selling produce may be an effective use of time if they are unable to earn an equivalent wage elsewhere. The average wage for general male labour is approximately Rs. 100-150 per day, whereas, the average wage for general female labour is Rs. 50-100 per day. The opportunity cost of time for men is higher and consequently, 77.2% of the households interviewed reported that the wife was the main marketing agent in the house.

Approximately 65.5% of the farmers interviewed reported that they sell all the products that they bring with them on one trip. The average number of trips made to town in a week is 2 trips, mostly on Wednesday and Saturday. The earnings from direct retail marketing to the final consumer by farmers is variable, from Rs. 200 to 500 during one trip. Many factors influence the volume of sales of any one farmer. Besides quality

characteristics of the produce such as freshness and size, the spatial characteristics of the market and the location of the farmer will affect her sales for the day.

When a farmer is located in a high traffic area, the exposure to more buyers is an advantage. However, it may be difficult to negotiate comfortably when the buyers and sellers are being jostled in a crowd setting. Often, when farmers are located in a high traffic area, they may be asked to move if they are obstructing the business of permanent shopkeepers. Many farmers find this experience exhausting and humiliating. The inconvenience of packing up their produce and moving is far outweighed by the embarrassment they feel at being treated like unsightly beggars. A remote location makes it easy to negotiate and eliminates the possibility of being moved, but the farmer's sales may suffer, as fewer buyers will see their produce.

For farmers without shelter in the market, a 30 to 50% loss in sales has been reported during times of bad weather. Some of this loss is due to spoilage of the products, but a majority of the loss is due to lack of demand as fewer buyers are in the market place. One farmer said that she went door-to-door selling when it rained, because there was no shelter in the market. She claimed that when she went door-to-door, customers were willing to let her into their homes, thus providing her with temporary shelter during each transaction.

A typical marketing day ends when the farmer sells all her produce or when the last bus leaves for the village. For most villages, the last bus will leave from 3:00 to 3:30 pm; however, for villages that are further away from Mokokchung, the last bus may leave as early as 2:00 pm. When asked about unsold produce at the end of the day, 40% of the respondents reported that they bring back the produce and distribute it to family members, friends and neighbours. Only 1.8% of the respondents sold their leftover produce at wholesale prices to retailers, while 7.3% of farmers slashed prices drastically and sold to the final consumer.

6.5.3. Village Economy

The distribution of unsold produce to family and friends is a clear indication of the existence of a social safety net that underlines most Naga communities. The concept of reciprocity can be used to describe the economic environment in a Naga village. It is

the exchange of unlike goods and services, which cannot be valued at market prices (Ellis, 1988). These exchanges are culturally defined and non-replicable from one event to the next (Ellis, 1988). Social norms of sharing and redistribution are a large part of Naga communities, and they are designed to ensure that all members of the community survive during times of hardship. Reciprocity implies that competition is not the exclusive or principal relationship that exists between villagers (Ellis, 1988). An example of reciprocity is the exchange of a meal for labour in making home improvements or fruits and vegetables for a handloom shawl.

Although reciprocity exists in a Naga community, market transactions between villagers are occurring more frequently. According to one government official, thirty years ago the selling of produce for cash was considered socially unacceptable. This negative attitude towards selling has been changing, as farmers become more knowledgeable about markets. Some villages have begun to set up their own markets for one day of the week. In the village of Ungma, the largest village in Mokokchung, the village market is in operation every day of the week except Sunday.

Approximately 14.5 % of the respondents reported that they engaged in retail marketing in the village market, while 1.8% of respondents reported that village retail marketing was the only form of marketing in which they engaged. A small percentage of the farmers, 10.9%, also claimed that they went door-to-door in the village selling produce. Although marketing activities are occurring in the village, most farmers interviewed said there was a lack of buyers in the village. Many of the respondents said they preferred to sell their produce to one large buyer in the village, rather than travelling to Mokokchung.

6.5.4. Marketing Options for Farmers

The majority of farmers interviewed engaged in retail marketing, but wholesale marketing in Mokokchung is also a popular option with farmers. The percentage of farmers who chose to wholesale is 49.1%. It is important to note that many of the farmers interviewed choose more than one way to market their products, and the percentage of these farmers is 45.5%. Table 5 is a summary of the marketing options

available to farmers and the percentage of respondents who chose each marketing option. One respondent chose not to answer this question.

Table 5. Marketing options used by Ao farmers in Mokokchung District

Marketing Option	Percentage of respondents who chose this option	Percentage of respondents who only chose this option and no other
Retail – Mokokchung	56.4	27.3
Retail – door to door, Mokokchung	14.5	3.6
Retail – Village	14.5	1.8
Retail – door to door, village	10.9	0
Wholesale – Mokokchung	49.1	18.2
Wholesale – Village	14.5	1.8
Wholesale – Village, Non-local trader	10.9	0
Other	1.8	0

6.5.5. Marketing Performance of Farmers

Although many farmers have expressed a great deal of dissatisfaction with the marketing situation in Nagaland, a large percentage of the farmers interviewed, 78.8%, are satisfied with the quantity of produce that they sell. Only 36.5% claimed that they were taking initiatives to increase their sales. Three respondents chose not to answer this question. Many of the initiatives undertaken by farmers to increase their sales involve production improvements rather than looking for new markets or new customers. A majority of the farmers believe there is enough demand in the local market, and the only constraint to sales is the low level of production, which seems to be limited by the amount of family labour.

Some of the production initiatives include increasing the area of production and the amount of planting material. Some farmers have suggested that they would change their sowing technique of broadcasting seeds to a dig and drop method of sowing. Other

farmers have mentioned that they will introduce soil management techniques to revitalize the soil, which includes the increased use of commercial fertilizers. The use of animal labour to till the soil and the introduction of exotic species has also been mentioned. All these production initiatives are constrained by labour resources and financial resources to hire labour or to purchase planting material.

The availability of land for cultivation does not appear to be a limiting constraint. However, some of the farmers interviewed did mention that the village selection of jhumming land does not always guarantee the most suitable land for certain crops. Increasing the production of specific crops may be physically impossible on the land that is available through the traditional selection process practiced by Ao villages. Some farmers have expressed a desire to select and in some cases, purchase the land they wish to use for cash cropping.

One farmer mentioned that his ability to increase production was limited by tree planting. The area he devotes to trees cannot be used in an alternative use for many years, and therefore, he is unable to expand production even though he has the desire to do so. If he had the financial resources, he may be able to purchase additional land but many farmers are unable to afford and manage more than one plot of land. Intercropping cash crops with the trees is another possibility for the farmer. Crops such as turmeric, black pepper and large cardamom grow well under shady conditions provided by trees, but these crops do not have significant local demand. Farmers are reluctant to attempt these crops without guaranteed markets.

Given the imperfect market conditions in which they participate, Naga farmers are actively engaging in marketing activities. A majority of the farmers reported that market demand was the number one criteria considered when making cropping decisions. The farmers were asked to rank the following criteria in order of importance: (i) Market demand, (ii) Kitchen Needs and (iii) Land Suitability. A ranking of one means the chosen criteria is the most important to the respondent while a ranking of three means the chosen criteria is the least important to the respondent. Overall, the farmers interviewed made the following rankings:

(1) Market Demand

(2) Kitchen Needs

(3) Land Suitability

The results for this ranking question are summarized in Table 6.

Table 6. The ranking results of cropping decision criteria

Cropping decision criteria	Rank 1 (Percentage of respondents)	Rank 2 (Percentage of respondents)	Rank 3 (Percentage of respondents)
Market Demand	44.23	36.54	19.23
Kitchen Needs	38.46	38.46	23.08
Land Suitability	17.31	25.00	57.69
Total	100.00	100.00	100.00

From the results above, it appears that farmers are beginning to shift their focus from subsistence production to commercial production, even if it is on a small scale. The overall consensus from the focus group discussions and the personal interviews suggests that farmers are becoming more aware of the market economy and are looking for ways to participate. It is important to note that the four villages surveyed have fairly easy access to the Mokokchung market, and the proximity to a market outlet may encourage farmers to focus more on commercial production rather than subsistence. These results may be different for villages that are farther away from a market outlet. Of the four villages surveyed, Longsa village is the farthest distance from Mokokchung town with a distance of 28 km.

6.6.0. The Role of the Farmer as Home Processors

Home processing occurs in almost every Naga household, and some of the activities that fall under home processing include drying, smoking, grinding/pounding, pickling, canning, jam making, juice making or wine making. Most Naga households process items like chillies and fruits to prevent spoilage and to prolong their shelf life for future use. The motivation for processing is usually for personal use, but some households specifically process items for sale.

In the study, 50 of the 55 farmers interviewed stated that they home processed at least one item, and the average number of items processed is 1.93. For the processed items that are sold, the number of farmers who engaged in this type of activity is 48 out of 55 respondents. The average number of processed items sold is 1.76. The most common items processed for personal use and processed for marketing are chillies, yam leaves and fruits. In the villages of Sungratsu and Khensa, the processing of yam leaves is a significant economic activity. Approximately 93.33% and 66.67% of the respondents in Sungratsu and Khensa sold processed yam leaves, respectively. For the village of Longsa, processed chillies earn income for 84.62% of the respondents interviewed.

The home processing of items is typically done by the female members of the household, and some activities, such as the processing of yam leaves and mustard leaves, are highly specialized. These activities are learned from elders, and some innovative individuals have combined traditional knowledge with modern chemical processes for preservation. The typical inputs required for processing activities are fuelwood, polyethylene bags, glass jars, plastic bottles or containers and free space for sun drying. The inputs that are costly for farmers are fuelwood and polyethylene bags, while the other containers for packaging are recycled from other uses. None of the households interviewed process items in large quantities, and they will not accept orders exceeding their capacity.

Although the majority of processed items are sold retail in the Mokokchung market and in the village, some items are sent on State buses to Dimapur or Kohima. These items are sold as orders from family and friends, or they are sold during personal visits, which turn into opportunities for selling. As urban centres continue to grow in Nagaland, the opportunities for selling processed items will be more prevalent. Urban dwellers have less time to devote to home processing, and may purchase the items from villagers out of convenience, even though they may possess the traditional knowledge themselves. Many students who study in Assam or Megahalaya or Nagas residing outside the state purchase processed items from visiting family members or friends. The potential for selling home processed items outside the state is small, but the number of Nagas residing outside the state is increasing.

6.7.0. Conclusion

The results from the formal questionnaire are only representative of a small portion of the Naga population, specifically the farmers of the Ao tribe in Mokokchung district. The type of crops grown and sold will vary for each district in Nagaland because of geographical differences, variations in agricultural production and tribal differences in consumer preferences. It is important to note that the agricultural marketing problems and opportunities described by the Ao farmers will not differ too greatly from the farmers of other districts, and the results of the formal questionnaire administered to these farmers confirm some of the concerns raised in the wider focus group discussions.

The producer-consumer markets in Mokokchung town are akin to the markets in Kohima, Phek and Dimapur, and the district headquarters for all four districts serve as the main marketing outlet for farmers. The village economies of Sungratsu, Khensa, Ungma and Longsa are similar to the village economies in Viswema and Khuzame. Each village economy has strong aspects of reciprocity and redistribution, and market exchanges are not the dominant mode of exchange. The role of the farmer as a producer, marketing agent and processor is significant, and farmers control every aspect of the marketing chain for locally demanded goods. The most significant result of the formal questionnaire is that agricultural marketing is becoming more important to Naga farmers, and it appears that farmers are moving away from subsistence production to more commercial production.

Chapter 7 – Results and Discussion of Tree Planting

7.1.0. Introduction

As traditional jhum cultivators, the people of Mokokchung are reluctant to abandon jhum cultivation as a production system. The NEPED project team has been working for the past seven years to encourage the planting of trees in fallow fields. During the formal questionnaires conducted with Ao farmers, questions were asked about tree planting and the marketing of timber and non-timber forest products. The tree planting results of the questionnaire will be discussed in the following chapter.

7.2.0. Background on Agroforestry in Nagaland

Approximately 80% of the cultivatable land area in Nagaland is under jhum cultivation, and both farmers and government officials have expressed concern over the long-term sustainability of such a practice. Environmental problems of soil erosion, deforestation and biodiversity loss are becoming more acute as the population of Nagaland continues to grow rapidly. The traditional practice of jhum cultivation has been classified as a system of shifting cultivation, but one aspect of jhum cultivation, the management of selective species of trees in the fields, can also classify the production system as an agroforestry system. Although tracts of land are slashed and burned in preparation for the planting of food crops, various stumps and trees are left standing for their medicinal values or non-timber use values. Naga farmers tend and care for these trees as they do for the crops in their fields.

7.2.1. Agroforestry and NEPED

In the village of Khonoma in Kohima district, an alder based system of jhum has been practiced for more than 200 years (NEPED, 1999). Developed by Angami farmers, the management of alder trees is a specialized form of indigenous knowledge passed down in the village. The presence of alder trees in the jhum field increases crop yields and reduces soil erosion (NEPED, 1999). While the typical practice of jhum cultivation in Mokokchung does not involve such a sophisticated practice of tree management as the alder based system of jhum cultivation, the system can still be considered an agroforestry

system. Food crops are planted alongside important species of trees that have been kept for medicinal or non-timber use values. In some cases, farmers are actively planting trees in their jhum fields as an additional crop.

In the past seven years, the NEPED project has been encouraging farmers to actively plant trees, and the success of this project has changed the nature of agroforestry in Nagaland. The introduction of exotic species like teak and gomari for timber is slowly shifting the classification of jhum fields from agroforests to tree plantations. Instead of intercropping trees with crops, many farmers are converting fallow fields into tree plantations.

7.3.0. Tree Planting Results

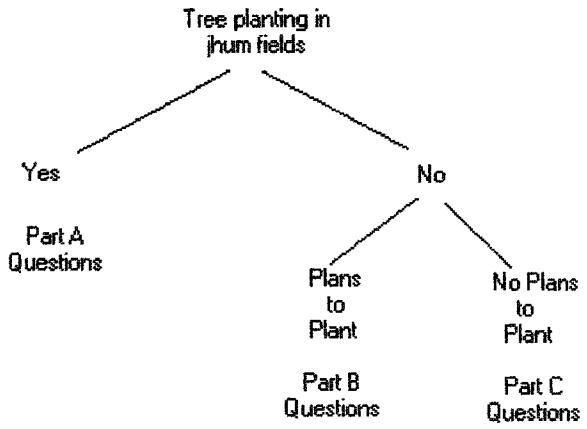
In total, 55 respondents were interviewed from four villages in Mokokchung. These respondents were questioned about tree planting and the marketing of timber and non-timber forest products. Approximately 72.7% of the respondents reported that they planted trees, while the remaining 27.3% have not planted trees. Of the farmers who have not planted trees, 20% of them have plans on planting, while 80% of them have no plans on planting. Table 7 is a summary of the tree planting results.

Table 7. Tree planting activity in four villages of Mokokchung District

	Tree Planting, number of respondents	Tree Planting, percentage of respondents	Plans to plant, number of respondents	Plans to plant, percentage of respondents
Yes	40	72.7%	3	20%
No	15	27.3%	12	80%

The respondents who have planted trees were asked a separate set of questions from those who have not planted trees. For the farmers who have not planted trees, two different sets of questions were asked of the those who plan on planting trees and those who have no plans to plant. Figure 12 is a diagrammatic representation of the line of questioning that was used in the survey.

Figure 12. The line of questioning used in the formal questionnaire



7.3.1. Part A and Part B Results

The questions in Part A and Part B were essentially the same, with a few modifications in Part B to describe tree planting plans and not actual tree planting activity. The success of the NEPED project has been overwhelming in Nagaland; however, the results from the survey suggest that tree planting in the district of Mokokchung was occurring before the initiation of the project. Fifty-five percent of those who planted trees said they began planting before the NEPED project, and consequently, the average age of the trees is 11 years. Tree planting appears to have been in the consciousness of Naga farmers before 1995, and the NEPED project may have benefited from this existing awareness for tree planting.

7.3.2. Ranking Factors in Tree Planting

The decision to plant trees appears to be motivated by what farmers perceive to be the future financial situation they hope to achieve from tree planting. Farmers were asked to rank four factors that influenced their decision to tree plant in the order of importance to them. The four factors were: (i) Food Security, (ii) Current Financial Situation, (iii) Future Financial Situation, and (iv) Environmental Protection. The rankings were taken from all the respondents who planted trees and two of the

respondents who had plans to plant trees in the future. In total, there were 42 respondents included in these rankings.

The factors were determined from interviews with government officials and key informants. Food security refers to the ability of the farmer to produce an adequate amount of food to meet household consumption needs given the presence of trees in the field. The current financial situation refers to the ability of the farmer to invest in tree planting, because, there are many costs associated with tree planting, ranging from the cost of seeds or saplings to the hiring of additional labour to prepare the fields for planting. The future financial situation refers to the economic gains that may be realized from mature trees, while environmental protection refers to the farmers desire to protect natural resources for future generations.

Table 8 is a summary of the ranking results of the factors for tree planting by Ao farmers. A ranking of one is given to the factor that the farmer considers to be the most important, while a ranking of four is given to the factor that the farmer considers to be the least important. Over all, the farmers interviewed made the following ranking:

(1) Future Financial Situation

(2) Current Financial Situation

(3) Food Security

(4) Environmental Protection

Table 8. Ranking results of the factors for tree planting by Ao farmers

	Rank 1, percentage of respondents	Rank 2, percentage of respondents	Rank 3, percentage of respondents	Rank 4, percentage of respondents
Food Security	2.4	9.5	47.6	40.5
Current Financial Situation	14.3	38.1	28.6	19.0
Future Financial Situation	64.3	28.6	7.1	0.0
Environmental Protection	19.0	23.8	16.7	40.5

Many farmers interviewed spoke about planting trees for the financial security of their children or of themselves in their elder years. Ao farmers seem to regard trees as a form of savings that can be cashed when needed. Tree planting is regarded as a long-term investment for the future, and the average length of time they are willing to wait

before harvesting the trees is 18.7 years. Although the economic benefits of tree planting are not realized immediately, there are smaller, less substantial returns being earned by farmers. Three of the farmers interviewed reported some income from their trees, mainly through the sale of fuelwood and seedlings. Other non-timber products that farmers have mentioned selling are fruits and cotton from their trees.

An interesting result from the rankings is the percentage of respondents, 19%, who ranked Environmental Protection as the most important factor in determining tree planting. These results may be influenced by the average age of the respondents, 55.5 years old. Older individuals may be more concerned for future generations as they have witnessed the changes in resource use patterns over the years. Many of the respondents were concerned for the future of their children and grandchildren.

The farmers interviewed do not appear to be concerned with food security issues. Approximately 81.4% of those who have planted trees and those who plan on planting trees do not believe that tree planting will have an affect on their ability to grow rice. When asked about why they feel this way, the farmers claimed that the trees were not planted with rice. Farmers appear to be planting trees in their fallow fields, where no cropping or rice cultivation is occurring.

7.3.3. Investments in Tree Planting

The average investment made by each farmer is 2285 trees. Farmers may plant saplings that have been grown from wild seeds or transplant wild young saplings. Purchasing saplings from the local market or obtaining them from government departments such as the Department of Wasteland Development, the Department of Forestry and the NEPED project is another option. These saplings are usually given as part of a government scheme without any cost to the farmer. The results of where farmers obtained their saplings are presented in Table 9.

Table 9. Sources of saplings used by Ao farmers in Mokokchung District

Sources of Saplings	Number of Respondents	Percentage of Respondents
Wild	20	50.0%
Local Market	21	52.5%
NEPED	1	2.5%
Government Departments	4	10.0%

It is evident from the results that the NEPED project did not have a significant role in providing farmers in the study area with saplings. The main sources of saplings appear to be from the local market and from the wild. Twenty-one of the forty farmers who planted trees chose to purchase their saplings from the local market. The average investment they made is Rs. 7193.14. The price of these saplings ranges from Rs. 1-5. Also included in the calculation of tree planting investment made by this group of farmers are the cost of additional labour hired for planting and the cost of other planting materials.

There is no explicit market value for saplings transplanted from the wild or for saplings grown from wild seeds, but there is an economic cost associated with the preparation of saplings. Seed collection and sapling preparation require a minimum of two months labour; however, not every hour of the day is devoted to this activity. Based on the testimonials of the farmers, approximately two hours of the day is spent tending to the saplings either personally by the farmer or by a member of the household. Seed collection normally occurs when the farmer is walking to and fro between their homes and the jhum fields.

The opportunity cost of the farmer's time must be considered to estimate the economic value of saplings obtained through this method. It is assumed that 120 hours of labour is required for the collection of seeds and the preparation of saplings. The number of hours is calculated by multiplying the average number of days in a month, 30 days, by 2 hours/day. Unless it is particularly specified by the farmer, the opportunity cost of the farmer's time is estimated for 120 hours at a rate of 9.375 Rs. per hour. The wage per hour was calculated by taking the average of the daily wage for male workers, 100 Rs. per day and the daily wage for female workers, 50 Rs. per day and dividing by the average number of hours worked in a day, 8 hours.

For the transplanted saplings, time must be spent searching for the saplings and preparing them for transplant. The length of time required for this activity varies from farmer to farmer. Some farmers will collect saplings over a period of time before they transplant them, while other farmers will immediately plant their saplings after collection. If the farmer takes a long time collecting saplings before he transplants them, then he must tend to his collected saplings to ensure that they continue to be viable for planting.

For this study, it is assumed that the saplings were transplanted immediately after collection. For the farmers who chose to transplant saplings from the wild, the opportunity cost of two days labour was estimated at a rate of 75 Rs. per day. It is assumed that one day's labour is needed for the collection of the saplings and one day's labour is needed for the transplanting of the saplings.

Besides the opportunity cost of the farmer's time, the cost of additional labour and planting materials is included in the total calculation of tree investments made by the farmer. In some cases, additional labour was hired to clear away unwanted vegetation in the jhum fields to prepare for planting. Other planting materials include plastic bags for growing saplings and for transplanting saplings.

The average investment made by farmers who chose to transplant wild saplings or grow saplings from wild seeds is Rs. 4436.35. It is important to note that two of the farmers who chose to obtain saplings from the wild also purchased saplings from the local market. In calculating the average investment made by both groups of farmers, the market value of the saplings purchased from the local market is separated from the calculation of wild saplings for the two farmers who used both methods to obtain saplings. There is only one farmer who obtained all their saplings from a government source, and consequently, no monetary investment or time investment was made in obtaining saplings.

A Net Present Value (NPV) analysis was done using the information obtained from the formal questionnaires and some plausible assumptions to assess the feasibility of investing in trees. The following assumptions were made to test eight different scenarios for tree planting investment: (i) an initial investment of 1000 trees, (ii) a stream of benefits from fuelwood of Rps. 250 per year, starting in year 6 and ending in year 17, (iii) in year 18, 500 trees are sold as standing timber. For the first set of four scenarios, the cost of the initial investment of trees was calculated using the market price of saplings, while in the last four scenarios, the cost of trees was calculated using the farmers' opportunity cost of time in collecting and transplanting wild saplings. It was assumed that approximately half of the original investment of trees survived and reached full maturity to be sold as standing timber. The results of the NPV analysis are presented in Table 10. Based on the results, it appears that planting trees is a profitable investment for

farmers because the Internal Rate of Return on investment for all eight scenarios is over 15%.

Table 10. Results of the Net Present Value Analysis for eight scenarios

Scenarios	At 10% interest rate, NPV (Rps.)	At 20% interest rate, NPV (Rps.)	Internal Rate of Return on Investment
Trees obtained from the market at Rps. 5 per sapling, investment of Rps. 5000			
Scenario 1, Price of Standing timber, Rps. 1000	86,441.63	11,939.16	32%
Scenario 2, Price of Standing timber, Rps. 500	41,408.86	5,647.63	26%
Scenario 3, Price of Standing timber, Rps. 250	18,994.59	974.47	22%
Scenario 4, Price of Standing timber, Rps. 125	7,753.41	-1,373.10	17%
Saplings collected from the wild, investment of Rps. 1125			
Scenario 5, Price of Standing timber, Rps. 1000	89,964.36	18,289.02	44%
Scenario 6, Price of Standing timber, Rps. 500	44,999.66	8,898.76	39%
Scenario 7, Price of Standing timber, Rps. 250	22,517.31	4,203.64	34%
Scenario 8, Price of Standing timber, Rps. 125	11,276.14	1,856.07	29%

By rearranging the NPV equation and solving for an unknown price when NPV is equal to zero, the threshold price of standing timber was calculated. For a tree planting investment calculated at the market price of saplings, the price of standing timber can fall to but not below Rps. 38.78 at 10% and Rps. 198.11 at 20%. For a tree planting investment calculated using the opportunity cost of the farmer's time, the price of standing timber can fall to but not below Rps. –0.39 at 10% and Rps. 26.17 at 20%. These results suggest that farmers will be able to earn back their initial investment even

when the market price of standing timber drastically falls in year 18. Tree planting seems to be a good investment for farmers.

7.3.4. Selection of Tree Species

The most popular species of tree is hollack, and approximately 86% of the farmers chose to plant this tree in their fields. Some of the reasons cited for planting hollack are: hardiness, durability, suitability for the soil and land, multipurpose uses, slower growing for long term investment, indigenous local species, the value and quality of the wood, personal preference and experience, and a reasonable price for saplings. The availability of the tree in the local landscape and its reasonable price in the local market may have accounted for its overwhelming popularity. The second and third most popular species is gomari and tesemen, with 55.8% and 32.6% of the farmers planting these species in their fields respectively. The average number of species planted by each farmer in a single field is 2.8 species, and the total number of species planted by all the farmers interviewed is 31 species.

Some academics and government officials have expressed concerns about the large-scale plantation of economic species like teak and gomari by farmers in Nagaland. Introduced through the NEPED project, teak and gomari are not traditional local species. In Mokokchung district, gomari is preferred to teak, which only 6.98% of the farmers in the study planted. Although the philosophy of the NEPED project has been to encourage the planting of local species of trees, the availability of teak and gomari saplings over local species has contributed to the popularity of these trees (Darlong, 1999). The risk of disease and pest attacks becomes greater as farmers practice monoculture plantation with one or two of these economic species (Darlong, 1999).

The loss and transformation of biodiversity in secondary forests is a great concern to conservationists, and the introduction of timber species in secondary forests, which are being brought under mono-species plantation, is not a viable practice in the long run. The availability of non-timber forest products (NTFP's) is severely compromised by the active plantation of timber trees over multipurpose local species. NTFP's are an integral component of rural tribal communities, and these products supplement the community's

daily requirements for wild vegetables, medicinal plants, thatch grasses, bamboos and canes (Darlong, 1999).

7.3.5. Ranking of Factors in Tree Species Selection

From interviews with key informants and government officials, seven factors were determined to be important in farmers' selection of tree species. These seven factors are: (i) Marketability, (ii) Growth Rate, (iii) Level of Maintenance, (iv) Environmental Suitability, (v) Personal Experience, (vi) Cost of Planting Materials, and (vii) Recommendations from Others. Both the farmers who planted trees and the farmers who have plans to trees were asked to rank the top three factors that they considered in making or plan on making tree species selections for their jhum fields. Three farmers chose not to answer this question.

The farmers interviewed made the following rankings:

(1) Marketability

(2) Growth Rate

(3) Environmental Suitability

(4) Personal Experience

(5) Recommendations from Others

(6) Cost of Planting Materials

(7) Level of Maintenance

These results are based on the sum of total rankings. A ranking of one is given to the most important factor, while a ranking of three is given to the least important factor. A ranking of five is given to the factors that were not chosen by the farmers. The result of each individual ranking is comparatively different from the sum of the total rankings. In calculating the total rankings, a total is obtained for each factor and the ranking is based on which factor has the lowest total. The Marketability factor had the lowest total, while the Level of Maintenance had the highest total.

In evaluating each ranking, the factor that was given the number one ranking more often than any other factor is considered to be rank number one. Each ranking is determined in this fashion. The following ranking was obtained from this method:

(1) Environmental Suitability

(2) Growth Rate

(3) Marketability

(4) Personal Experience

(5) Recommendation from Others

(6) Level of Maintenance and Cost of Planting Materials

In the sum method of ranking, each factor is evaluated according to all the rankings that it has received from all the farmers. To one or two farmers, one factor may be extremely important, but the majority of the farmers may not consider this factor significant in selecting tree species. In the case of Environmental Suitability, 32.5% of the farmers ranked it as the most important factor; however, its overall total was negatively affected by the number of people who gave it a ranking of zero, 37.5%. The Marketability factor was ranked in the number one position by 17.5% of the respondents, but it received a zero ranking from only 12.5% of the respondents. This result means that 87.5% of the farmers interviewed included Marketability in their top three rankings. In comparison, 62.5% of the respondent included Environment Suitability in their top three rankings.

The ranking method was used because of its simplicity. As an orally administered survey, the design of ranking questions allows them to be easily explained to farmers who are unfamiliar with questionnaires. Ranking questions are a simple way for farmers to list their preferences; however, they do not provide any insights into the resultant rankings. In this survey, ranking more than five factors was too difficult for farmers, so the respondents were asked to rank the top three factors. The disadvantage of ranking questions is that the farmers' responses are limited to the choices provided. Some respondents found the factors provided were irrelevant to their situation and would have preferred to give their own factors.

7.3.6. Marketing of Trees

It is evident from the ranking results that farmers are planting trees with the intention of selling them in the future, and 72.5% of the farmers have definite plans to sell their trees. However, the knowledge about where and how to sell is lacking, and only 37.2% of the respondents are aware of how to sell their trees. Many farmers are confident that they will be able to obtain the marketing information when they need it. Because the farmers are willing to wait for so long before harvesting, they argue that any marketing information obtained now may be irrelevant in the future.

Selling the trees as logs is the most popular form of marketing for the farmers interviewed. Table 11 is a summary of the various forms of wood in which farmers would sell their trees. These results are based on the responses of 30 farmers. Thirteen respondents chose not to answer this question, because they were unwilling to sell their trees or they were unwilling to speculate on what type of wood their children would sell, as the trees where planted for their future.

Table 11. Forms of wood Ao farmers may choose to sell their trees in

	Logs	Standing trees	Planks	Poles	Fuelwood
Number of Respondents	13	4	5	8	2
Percentage of Respondents	43.3	13.3	16.7	26.7	6.7

When trees are sold as logs, the farmer is responsible for cutting down the trees and sawing them into appropriate sized logs. The process is similar for planks and poles, and the farmer must be careful to adhere to strict measurement requirements. Selling trees as standing timber is less labour intensive on behalf of the farmer, but the farmer receives a lower price for the trees because there is no value addition. Fuelwood is usually sold in bundles or headloads and is mainly composed of small branches that have been removed during the thinning process.

7.4.0. Marketing Shade-loving Cash Crops

The second phase of the NEPED project encourages farmers to intercrop shade-loving cash crops with trees planted during the first phase. Because the planted trees will

not be ready for marketing for another 20 years, and the NEPED team wants to help farmers earn income during the interim period. The marketing of shade-loving crops like large cardamom, black pepper, turmeric and ginger requires specialized knowledge about spice markets and spice marketing channels. This type of specialized knowledge is not available to farmers or to traders, as Nagaland is a relatively small participant in the spice industry.

Unlike locally grown produce, shade-loving crops like turmeric, large cardamom and black pepper do not have a large local demand and the marketing opportunities available for selling are not as numerous. For the successful introduction of these crops, farmers will need to change the way they currently market and produce. In the current system of agricultural marketing, farmers play a passive role in the sale of cash crops and they wait for buyers to approach them or they make sales in the nearest town without further research into other buyers. Because the market for spices is fairly limited in Nagaland, farmers need to take a more active role in looking for buyers and negotiating a final sale price. The current method of marketing agricultural produce is suitable for low surplus production, but it is inadequate for marketing large quantities of high value crops. The NEPED team must include marketing training for farmer in order for the successful introduction of shade-loving cash crops.

7.5.0. Part C Results

The questions in Part C were designed to explain why some farmers chose not to plants trees. There are twelve farmers who have not planted trees and who have no plans to plant trees in the future. This group of farmers were given a ranking question to explain why they chose not to plant trees. The four factors they were asked to rank were: (i) Land constraint, (ii) Financial constraint, (iii) Planting material constraint, and (iv) No interest in planting. A ranking of one is given to the factor that the farmer considers to be the most important, while a ranking of four is given to the factor that the farmer considers to be the least important. One respondent in this category chose not to answer the question.

Based on the total sum of rankings, the following ranking is obtained:

(1) Land constraint and Financial constraint

(2) Planting material constraint

(3) No interest in planting

Using the individual ranking method, the following ranking is obtained:

(1) Land constraint

(2) Financial constraint

(3) Planting material constraint

(4) No interest in planting

There is a small difference in the rankings between the two methods. Although the sum total of rankings for the Land constraint factor and the Financial constraint factor are equal, seven out of the eleven farmers who answered this question ranked the Land constraint factor as the number one reason for not planting trees. Tree planting is a long-term investment and the uncertainty about property rights may discourage landless farmers from planting. For the farmers that lease land, planting trees is not possible because they do not own the property rights to the land. For other farmers, they may not have access to additional land or do not have the financial resources to acquire land.

The remaining four respondents ranked the Financial constraint factor as the number one reason for not planting trees. For these farmers, it appears to be a lack of financial resources needed to hire additional labour for the maintenance of trees. Two of the four households are childless and they are unable to meet the labour requirement needed for both food cultivation and tree maintenance.

The Planting Material constraint and the No Interest in Planting factor do not seem to be an issue to Ao farmers. The availability of saplings in the local market as well as the knowledge about how to transplant wild saplings or how to grow saplings from wild seeds makes it easier for farmers to acquire saplings when needed. A majority of the farmers in this category, 9 out of 11, ranked the No interest in planting factor in the fourth position. It is clear from the results of this survey that Ao farmers are interested in

planting trees, but they are constrained by the availability of land resources and financial resources.

7.6.0. Conclusion

Tree planting has been in the consciousness of Naga farmers for over the past 10 years, and the success of tree planting in Mokokchung district cannot be solely attributed to the NEPED project. The popularity of tree planting seems to be extensive and the majority of the farmers interviewed in the study planted trees or had plans to plant trees. Of the farmers who did not have plans to plant trees, financial and land constraints kept them from planting rather than a lack of interest in trees. The introduction of trees in fallows fields has changed the nature of agroforestry in the district, and a system of tree plantation is emerging. It is not clear to what extent shifting cultivation has been curbed by the introduction of tree planting, but the fallow jhum land has been reduced (Darlong, 1999).

Based on the results of the farm survey, tree planting is regarded by Naga farmers as a long-term investment. The future financial gain from tree planting is ranked as the number one factor in the decision to plant trees, and the average number of years most farmers are willing to wait before harvesting is 18.7 years. Naga farmers appear to regard trees as a form of savings that they may pass on to their children or grandchildren, and many do not have immediate plans on selling the trees.

The knowledge about how to sell and where to sell their trees is lacking, and the farmers interviewed were unconcerned about how to market their trees. The respondents in the survey were confident that they would be able to obtain the appropriate market information when necessary. The marketing of shade-loving cash crops is more problematic, and the NEPED team is facing a significant challenge in terms of training and informing farmers about how to enter and how to participate in the spice industry. Farmers need to take a more active role in marketing if they wish to be successful at growing cash crops like black pepper, turmeric, large cardamom and ginger. Collective marketing action by farmers may allow them to reduce the personal risk associated with searching for and negotiating with new buyers.

Chapter 8 – Policy Analysis and Recommendations

8.1.0. Introduction

Understanding the roles and functions of each market participant is important; however, the smooth interaction of all market participants helps to create an efficient agricultural marketing system. In the three preceeding chapters, the market participants were identified, and their functions and roles were explained. In this chapter, the interaction of the market participants and the State Government will be examined, and conclusions will be made about the effectiveness of agricultural marketing in Nagaland with regards to the social and political environment of the State. The causes of underdevelopment in agricultural marketing will be discussed and recommendations will be provided at the end of the chapter.

8.2.0. Summary of Agricultural Marketing in the State

The results from the first phase of this study confirm the claims made by key informants, farmers and government officials: agricultural marketing in Nagaland is in the primitive stages of development. There is little or no integration of district markets, and the marketing channel for most agricultural products rarely extends beyond the borders of Nagaland. Naga products are traded across the borders, but the amount is not substantial and it is seldom recorded. The products that have been reported by Government officials in Assam and Nagaland as well as non-local traders and market informants are presented in Table 12.

Table 12. Products traded beyond the borders of Nagaland

Type of Product	Product
Fruit	Pineapple, Orange, Passionfruit, Guava, Pear, Tree Tomato
Vegetable	Squash, Cabbage, Potato
Staple	Maize, Rice Paddy, Jute, Oil seed, Pulses, Sesame seed
Spice	Ginger, Large Cardamom, Turmeric, Local Garlic, Cinnamon, Black Pepper, Chillies
Processed Goods	Pineapple juice, Pineapple chunks (canned), Bamboo shoots in brine (canned), Passionfruit juice, Lemon/Lime juice, Guava jelly, Plum jelly, Handicrafts, Handloom products, Broom Sticks
Miscellaneous	Coffee, Tea, Marigolds, Timber, Draft plants

8.3.0. Economic Situation in the Northeast

Geographical isolation and political unrest has resulted in economic stagnation in many states in the Northeast region of India. With the exception of Assam, a majority of the markets in the Northeast are not fully integrated with the larger Indian economy; however, trading does occur amongst the seven states. The economy of the Northeast Region is primarily agrarian, and the Assamese market, mainly centred on the tea industry, is the largest market in the region. As a gateway to the national economy, all products from Nagaland, Manipur, Mizoram, Tripura, Arunachal Pradesh and Megahalaya must travel through the Assamese market to get to the rest of India.

Naga products can travel through many types of channels to get into the Assamese market. Government sponsored channels exist for processed items and staple agricultural production, while private channels exists for all other products. A majority of Naga products will travel through Dimapur or Mokokchung to reach the Assamese market. Knowledge about how to enter these private marketing channels is unknown to many Naga farmers and traders. Non-local traders in Nagaland are responsible for moving a large portion of the agricultural produce out of the state.

The marketing channels for most Naga products end in Assam; however, government processed items and spices do filter into the national economy. Monitoring and recording the volume of products coming out of Nagaland can be difficult as the production from Manipur may be mistakenly included. With Myanmar to the east and China to the north, there is movement of products across the borders. Chinese, Thai and Burmese products can be found in Naga markets, so it possible to speculate that Naga products are flowing into Myanmar and China.

8.4.0. Effectiveness of Agricultural Marketing in Nagaland

Agricultural marketing in Nagaland is disorganized, and thus far, the state government has been unsuccessful at implementing a working marketing board that disseminates accurate price information and assists farmers in the sale of agricultural produce. The expansion of agricultural marketing channels beyond the state requires the collection of sufficient quantities of produce to meet the demand of outside buyers and to make transportation affordable. The organization and coordination of Naga farmers is

necessary to amass the low surplus production inherent in the practice of jhum cultivation.

The traditional practice of jhum cultivation incorporates mixed cropping as a livelihood strategy, and many Naga farmers are reluctant to abandon self-sufficiency motives in food production. The majority of Naga farmers grow small quantities of various food crops to meet household food demands, and sell the surplus in the local markets. Subsistence farming is attributed to the practice of jhum cultivation, but government officials also believe that unfavourable trading conditions discourage farmers from attempting to grow more than their household needs. The existence of a poorly organized market is not enough inducement for farmers to abandon mixed cropping and adopt cash cropping of a specific product.

The state government has been unsuccessful in organizing agricultural production and marketing. Government schemes designed to encourage cash cropping have not been successful, because the government has not followed up production information and inputs with marketing information and inputs. Both farmers and government officials agree that farmers must begin to take private initiatives in marketing.

Although there is little evidence of private marketing initiatives being undertaken by farmers on a large scale, some production and marketing societies have been set up by farmers all over the state. In 1991, there were 895 farm related cooperative societies registered in the state of Nagaland, excluding livestock cooperative societies (Government of Nagaland, 1991). According to government officials, this number has increased substantially in the past 10 years, however, not all of these organizations are operational or legitimate. The availability of government funding for registered cooperative societies and the relative ease of registration allow some individuals to abuse the system. There is no mechanism in place to verify or monitor cooperatives that have been registered.

The organization of farmers into cooperative societies does not result in an organized market for agricultural products. These cooperatives will still be confronted with incomplete market information, and poor transportation and communication systems. Although the problems of insufficient volume and heterogeneity of production

can be addressed through farmer coordination, the cooperative societies will still have difficultly selling their produce in imperfect markets.

8.5.0. The Role of Government

The development of any type of marketing system in a society is constrained by the "social capital" available to it. In Nagaland, there are deficiencies in various forms of social capital that are severely impeding the development of agricultural marketing. Besides the existence of poor communication and transportation systems, farmer education in marketing is lacking. Poor institutional support and misguided government policies are other factors contributing to the slow evolution of agricultural marketing in Nagaland.

The responsibility of creating social capital falls into the hands of democratically elected representatives of the people. These elected officials create policies and schemes designed to assist all members of society. The implementation of the schemes and the enforcement of the policies is the responsibility of government employees in various departments. Some of the relevant departments in regards to agricultural marketing are the Department of Agriculture and the Department of Horticulture.

The Marketing Wing of the Department of Agriculture in Nagaland is responsible for the organization of training in cultivation practices, production, and specialization of production. These training sessions are to take place at the district and sub-district levels. The department also provides marketing training for the farmers, and it is responsible for the establishment of collection centres and cold storage facilities. At the time of data collection, the Marketing Wing was not fully operational. The previous Director of the Agricultural Marketing Wing was under investigation, and consequently, the department was experiencing transitional difficulties associated with the adjustment to new leadership.

The Department of Horticulture is responsible for providing technical training and start up cash for the production of horticultural crops, mainly fruits, vegetables and plantation crops. The organization of extension services and inputs, as well as the provision of planting and fencing material, is also provided by the department.

Other government departments that have an indirect role in agricultural marketing are the departments concerned with education, communication, transportation, rural development and social and security welfare. Although these departments do not engage in activities that are specifically related to marketing, the services that they do provide facilitate the smooth functioning of agricultural marketing channels. The Central Government of India also provides some marketing support through the Nagaland State Agricultural Board. This organization is in the early stages of development, and the results from this endeavour have yet to be realized.

8.5.1. Government performance

From interviews with representatives from the Marketing Wing and other agricultural departments, the overall consensus is that agricultural marketing has been neglected. Government policies appear to be focused on changing production techniques rather than creating an economic environment favourable for trading. The abandonment of jhum cultivation and the adoption of cash cropping has been the main policy objective. Although the Department of Agriculture and the Department of Horticulture have been providing planting materials and extension services as encouragement to farmers, cash cropping is only prevalent in the plains area in Dimapur where the land is flat and suitable for monoculture.

The negative consequence of this policy is the dependence of Naga farmers on government provided planting materials. Some of the farmers interviewed in the focus groups suggested that a shortage of seeding material was a constraint to production, and that greater returns would be realized if the government provided more seeds.
Many Naga farmers are unaware of how and where to obtain seeds for commercially marketed products like large cardamom, turmeric and black pepper. Seeds for indigenous crops can be easily purchased in the market or obtained from family and friends.

The government departments purchase seeds from the National Seed Cooperatives and State Farm Cooperatives. Other sources of seeds are from the farmers themselves. The departments encourage farmers to plant specific crops for seeds, which they purchase and redistribute. Some government officials feel that there should be a move away from the free distribution of seeds, and instead, the departments should have

a facilitating role in the procurement of seeds through the Village Development Board (VDB). The seeds would be distributed by the VDB, but the farmers would have to bear the financial cost of the seeds.

The provision of seeds and farmer education has been successful in encouraging Naga farmers to attempt cash cropping, but further production is discouraged when the farmers cannot sell the resultant crop. Occasionally, the state government will promise to purchase the crop, but limited government funds may result in farmers receiving no payment or less than the agreed upon payment for the production. The timing of budgetary outlays in India may also delay the payment to farmers. These negative experiences with government schemes makes farmers wary of future participation, and many of them have expressed dissatisfaction with the marketing services provided by the government.

During times of overproduction that result in a drastic reduction in market prices for certain agricultural items, the state government will assist producers in the marketing of surplus production to stabilize prices. Even though the state government does not have the adequate funds to directly buy up the surplus production in the market, they can negotiate and organize the purchase of produce. The Tribal Co-operative Marketing Development Federation of India (TRIFED) is a Central Government initiative that was created to assist tribal communities in India in marketing agricultural and forestry products. This organization has been called on in the past to purchase surplus ginger in the Northeast Region.

8.5.2. Pricing Information

Farmers in Nagaland receive different price information in all eight districts, even though the state government releases an Agricultural Price Bulletin every two months. The price bulletin is sent to district officers who are responsible for disseminating the information; however, many of the farmers interviewed are unaware of how to access this information. Inter-district pricing discrepancies can also be attributed to defects in the transportation and communication systems in Nagaland (FAO, 1958). Traders may be reluctant to engage in inter-district arbitrage, because transportation is too costly and

there is a risk in making shipments to unaccustomed markets lacking adequate brokerage and information facilities (FAO, 1958).

For many farmers in Nagaland, their only source of pricing information is from the non-local traders in the market. These non-local traders base their pricing information on the prices quoted by suppliers in Assam. The cost of transportation for moving agricultural products between Assam and Nagaland is deducted, and local supply and demand conditions are factored in to calculate a local price.

The dissemination of pricing information is further exacerbated by poor communication systems. Telephone communication is unreliable and may not be available to all villagers. There is an average of 1.5 telephones available in the four villages surveyed. Access to radio and television is limited, and farmers must physically go to the market, or rely on other villagers or merchants for pricing information. The accuracy of information obtained through these means is questionable and more than likely, it is out of date.

8.5.3. Transportation

The maintenance of state highways is undertaken by the Central Government, and most major routes are well maintained. In many cases, unpredictable environmental conditions may adversely affect transportation routes even when the government is diligent in road maintenance. During the rainy season, landslides and rockslides are common and the transportation of agricultural goods is often impeded. Perishability becomes a major concern when delivery trucks are delayed due to blocked transportation routes and road closures.

In the villages, farmers want more link roads to be built for transporting agricultural products. Many jhum fields are located in remote areas were trucks are unable to traverse, and consequently, farmers have to laboriously carry their products in head baskets to the main road for loading. The cost of transportation is absorbed by the buyers, but many buyers are unwilling to send their trucks without sufficient volume. Most farmers in Nagaland do not grow enough surplus production to load a half-ton truck or a full ton truck.

8.5.4. Collection Centres and Cold Storage

The establishment of collection centres and cold storage facilities is needed to amass the low surplus production produced by farmers. Although the state government recognizes the need for collection centres and cold storage facilities, there is a shortage of government funds for such endeavours. One cold storage facility has been constructed in Dimapur, but inadequate government funding has kept the facility from being used. Similarly, privately built collection centres are not being utilized by farmers for reasons of inconvenience or inaccessibility.

8.5.5. Political Unrest

The political unrest in Nagaland is a major impediment to economic and social development in the state. An orderly society that cultivates a safe atmosphere for negotiation and trade without the threat of intimidation or physical violence is necessary for the evolution of an effective marketing system (Kohls and Downey, 1972). Market participants need to have implicit trust in each other to successfully complete market transactions. This implicit trust is a result of a society's ability to enforce and regulate contractual agreements (Kohls and Downey, 1972). In Nagaland, anti-social elements use intimidation and violence to force traders to engage in business deals that are a disadvantage to them. The purchase of poor quality consumer goods at exorbitant prices is forced on traders as a form of extortion.

The extortion of non-local and local traders is practiced by all fractions of the independence movement in Nagaland. An extortion fee called an "underground tax" may be requested from a shopkeeper, and the threat of vandalism or physical violence is used to intimidate the shopkeeper into compliance. A majority of the extortion activity goes unreported because traders are afraid to go to the police. In Mokokchung, the Chamber of Commerce is taking independent action to prevent the extortion of its members. Non-violent forms of collective action, such as bandhs, have been used to route out extortionists.

A "bandh" is a day of protest called by civil organizations such as student groups, labour unions, or political parties. All shops are closed during a bandh and the traffic leading into and out of a city or town where a bandh has been called is slowed or stopped

all together. Bandhs are usually peaceful and without incident if it is respected by the townspeople. A bandh can turn violent when members of the civil organization who have called it use violent means to enforce their bandh. Travelling vehicles may be blocked or vandalized.

Although the Chamber of Commerce was successful in using a bandh to route out extortionists, bandhs are unexpected delays in the marketing channel. As all traffic leading into and out of a city or town is slowed or stopped, the shipment of perishable agricultural products is delayed. Bandhs called in the town of Dimapur or in the state of Assam have a tremendous impact on the flow of agricultural products coming out of Nagaland. The perishable nature of agricultural products means that any type of delay results in spoilage and a financial loss for the buyer. Delays at the border are not only caused by bandhs, but by militant groups in Assam who also attempt to extort money. Underground taxes further exacerbate the high transportation costs associated with the shipment of agricultural products from Nagaland.

8.6.0. Causes of Underdevelopment

Nagaland's slow development in terms of agricultural marketing is a result of a combination of factors. The three arguments - poor infrastructure, traditional jhum production, and insurgency and anti-social activities - made by key informants, government officials and farmers are all relevant, and it is the culmination of these three factors which result in slow growth in agricultural marketing. It is difficult to conclude which factor is more dominant; however, the results of first and second of this study suggest that political unrest and insurgency is the greatest impediment to the marketing of agricultural products within and outside of Nagaland. It can also be said that social and political unrest in Nagaland is the cause of poor infrastructure and the persistence of traditional jhum cultivation.

The Government of Nagaland has faced considerable difficulties. Shortages in Central Government funding and the unfavourable conditions borne out of insurgency have made it challenging to accomplish developmental works. The non-cooperation movement initiated by Zapu Phizo prevented Nagas from having representation in the Legislature of Assam in the early years after Indian Independence, and the administration

of the State Government has been interrupted by the imposition of President's Rule, rule by the Central Government, in 1975. As with other state governments in India, there are elements of corruption and bribery, and the result of all these political difficulties has been severe underdevelopment of essential infrastructure in the state.

The uncertain social and political environment encourages farmers to practice subsistence jhum cultivation to ensure that the household is self-sufficient in rice production. The livelihood strategy of mixed cropping is also employed to satisfy the nutritional and taste requirements of the household. Subsistence jhum cultivation persists because farmers do not want to grow a surplus they cannot market. Insurgency has made the trading conditions in Nagaland unfavourable, and both farmers and traders are reluctant to expand their marketing operations.

A period of extended peace has been in affect in Nagaland since 1997, and there is hope that the social and political unrest in the state will stabilize. Developments in agricultural marketing need to be a coordinated effort among government officials and farmers. Recommendations for improvements and further research will be provided in the following section.

8.7.0. Recommendations

Cash Cropping

Agricultural marketing in Nagaland is occurring on a small scale, and production is oriented towards indigenous produce that is locally demanded. From the small survey conducted in Mokokchung district and reported in Chapter 6, a majority of the farmers are satisfied with the level of produce they are selling. This result is in contrast to the concerns and opinions raised by farmers in the focus group discussions in Kohima and Phek district. The farmers who participated in these discussions were actively engaged in cash crop production.

The current infrastructure in Nagaland is not equipped to facilitate the farmers who are attempting to market cash crops in distant markets. Farmers are willing and able to produce more than subsistence needs; however, they are reluctant to do so without government support in production and marketing. Approximately 65.9% of farmers interviewed are willing to abandon rice cultivation for cash cropping, but poor market

conditions and information asymmetries between farmers and traders are making it difficult for farmers to completely engage in cash crop plantation.

The second phase of the NEPED project is an ideal opportunity for farmers to attempt cash cropping. The NEPED organization is offering loans to farmers for planting cash crops, and it is their hope that shade loving crops such as ginger, turmeric, black pepper and large cardamom are intercropped with previously planted trees. This scheme has many potential benefits for farmers; however, marketing information and financing for marketing activities should also be offered. Loans should be provided to home processing units that wish to process the cash crops encouraged by the NEPED project.

Farmers should be encouraged to form marketing cooperatives that will allow them to gain access to additional funding. Group purchases of drying and grinding units will enable farmers to add value to their products. The farmers must also invest in ways of obtaining market information, and scouting trips to look for buyers should be initiated by the farmers. The coordination of marketing activities by farmers for a particular crop will yield higher returns for their investments. The only role that the NEPED representative should play in marketing is as a facilitator.

Coordination of Production

In order to increase surplus production in Nagaland given the geographical constraints, Naga farmers need to coordinate the time of production and the type of production. Although each farmer represents a small production unit, the coordination of planting and harvesting times within a village for a particular crop will allow a larger volume to be amassed. Heterogeneity of production is an obstacle that can be overcome if farmers are willing to cooperate with other growers in the village and in surrounding villages. The decision of what to plant and when to plant must be decided collectively. This type of decision process is only necessary for cash crops, and not locally demanded products.

Local Demand and Local Supply

Although cash cropping yields greater returns to farmers, it is more important to encourage the production of indigenous crops that have local demand. Given the current transportation and communication systems in place in Nagaland, each community should

concentrate on meeting local demand with local supply. The control of local supply during peak seasons of production will stabilize seasonal price fluctuations, and eliminate false shortages.

Collection Centres and Cold Storage Facilities

Collection centres and cold storage facilities are necessary to amass the low surplus production in Nagaland, but these facilities must be constructed on a small scale. Bulk storage is not feasible in a peasant economy such as Nagaland where production and marketing is done in small quantities (FAO, 1958). Due to the nature of jhum cultivation and the geographical characteristics of Nagaland, monoculture is not feasible in the hilly areas where land holdings are about 1 to 2.5 hectares and the only source of labour is family labour.

The construction of small and accessible collection centres scattered throughout Nagaland is more practical than the construction of a large facility in a central location. Amassing the local production and making it available to the local market should be the first step in agricultural marketing. The construction of storage facilities should be undertaken as a community effort by one village or a cluster of villages. Government funding is necessary to make the initial investment, but it should be provided on a loan basis to the community or to production and marketing cooperatives within the community. Besides providing the financing for the facility, the government should train members of the community in the daily operations of storage. Skilled management is necessary, as the service of storage is an economic and technical service that requires competent planning and day-to-day maintenance (FAO, 1958).

It is important that storage facilities be constructed with local specifications in mind. The facilities must be versatile and capable of handling many different types of products, given the diversity of agricultural production in Nagaland. Changes in production technology that alter storage requirements must also be anticipated, and the estimate of storage requirements should not be based on years of exceptional production or on the projections for a future crop (FAO, 1958). Transportation considerations such as the relative distance of the storage facility to the production area, as well as the consumption point, need to be evaluated.

Processing

The presence of local collection centres throughout Nagaland will allow processing plants to operate all year. If the plants can effectively organize their purchases from different growing regions, there will be no shortages of raw materials. The procurement of raw materials will be less time consuming as representatives from the plants may just approach the operators of the collection centres for purchasing. Transactions may not be limited to cash as the collections centres may be able to extend lines of credit.

Many Naga households process and sell products on a individual basis, but the collective marketing of products such as dried yam leaves and chillies may be highly profitable. If villagers agree to standardize the size and packaging of a processed product, they may be able sell large quantities of these items to non-local traders. Naga meat pickles and jams may also be marketed, however, the processing methods for these products must be refined if they are to be commercially marketed, and standardization from the Indian Standards Institute is required before they are fit for commercial consumption.

High-value, Low-volume

During informal interviews with government officials and market experts, one policy recommendation that was suggested is the need for Naga farmers to concentrate on producing low-volume, high-value products. These products may be sold in high-end markets in major cities in India and abroad. Due to the geographical characteristics of the Naga Hills and the associated transportation problems, low-volume, high value products can be sold in small quantities, thus limiting the need for large-scale production and transportation. One disadvantage of this policy is that low-volume, high-value products are typically niche-based and the markets for these products need to be developed before these activities become profitable for farmers (ICIMOD, 2002).

Naga farmers should concentrate on products in which they have a comparative advantage if they wish to minimize market-related risks (ICIMOD, 2002). By focusing production on indigenous varieties of rice and herbs, Naga farmers are preserving biodiversity in the state as well creating new markets. Creative packaging and an emphasis on "tribal", " indigenous", and "natural" labelling will create a brand that is

marketable all over the world. The production of these products should be small-scale and undertaken by the whole community. It is important note that government support is needed to promote and develop markets for these types of products (ICIMOD, 2002).

Information

There are two broad categories of market information. The first category is comprised of basic production and consumption data for various commodities traded within the state of Nagaland. This data can be used to estimate the broad movement of trade, its long-term trends, and the factors that bear on future prices for certain commodities (FAO, 1958). In Nagaland, the state government does not collect enough of this type of information to make informed policy decisions. Many government schemes are implemented without the proper market research being done, and consequently, past schemes such as pineapple fibre mills and coffee mills have failed.

The State Government needs to begin compiling basic production and consumption data for products like ginger, large cardamom, turmeric, squash and pears. Because of the rising demand for these products in Assam, an accurate documentation of the level of production for these products is needed to create appropriate marketing strategies. The lack of production, consumption and price data made it impossible to estimate local demand and supply for these products. Compiling this type of information requires extensive financial resources and skilled statisticians.

The second category of market information is comprised of day-to-day prices and commodity movements (FAO, 1958). This information is needed to guide daily transactions of farmers and traders. Improving farmers' access to this type of market information should not be too costly for the state government. The publication of daily prices in local newspapers or the broadcasting of prices over the radio is not an expensive improvement in providing farmers with market information. Prices may also be posted or announced over loudspeakers in the local market. In the village, pricing information for important crops may be obtained through telephone and posted in a central location at the start of each day.

The difficulty lies in obtaining the most current and comprehensive information. The State Government needs to compile accurate price information from all available sources and from all districts. Although there will be difference in regional prices due to

transportation and communication deficiencies, average price trends and regional differences in supply can be estimated from this data. All prices must be reported in the appropriate units in which the products are sold – that is in Rs. per kg or Rs. per maund.

Agricultural Marketing Wing

The Agricultural Marketing Wing of the Department of Agriculture needs to be reformed and reorganized. Elements of corruption in the organization must be eliminated, and marketing training should be provided for current department workers. The department should also actively hire individuals who are trained in agricultural marketing and economics. If these individuals do not exist in Nagaland, outside recruitment of skilled and trained workers may be necessary until there are more young professionals trained in agricultural marketing. Encouragement through financial assistance and scholarships should be given to young people to obtain post-secondary schooling in agricultural marketing and economics.

Coordination of Central and State Government Initiatives

Central Government Initiatives such as the Agricultural and Processed Food Products Export Development Authority (APEDA), TRIFED and NERAMAC are resources that can be utilized to assist the State Government in searching for marketing opportunities outside the state. These organizations have extensive knowledge in export regulations and standards, and the State Government must ensure that farmers are receiving this information to successfully grow export quality products. There should be consultation and coordination between the State Government and these Central Government Initiatives.

8.8.0. Conclusion

The results from first and second phase of this study indicate that Nagaland's agricultural marketing system has been neglected, and as a result, it is disorganized at the state level. Despite some successful cases of government assisted marketing schemes, the Marketing Wing of the Department of Agriculture has been ineffective in providing farmers with pricing information and marketing assistance. Plagued by administrative difficulties and changing leadership, the Marketing Wing also suffers from a lack of trained personnel in marketing and economics.

Other government department such as the Department of Agriculture and the Department of Horticulture have been diligent in providing farmers with production assistance and training; however, these departments are faced with budgetary constraints. Shortages in Central Government funding have made it difficult to for these departments to successfully implement marketing schemes designed to assist farmers. Naga farmers must take the initiative in coordinating production and marketing activities, rather than relying on government assistance.

Social and political unrest in the state has been the greatest impediment to economic growth, and agricultural marketing in Nagaland has suffered as a result of anti-social activities such extortion and bribery perpetrated by underground rebel factions. Political protest days known has "Bandhs" are disruptions in the marketing channel, and the potential risk accepted by traders when importing and exporting agricultural products is increased substantially when there are transportation delays. Transportation and communication difficulties are marketing barriers that must be overcome before the agricultural marketing system in Nagaland can function effectively and efficiently.

Chapter 9 – Conclusions

9.1.0. Introduction

Agricultural marketing should be an integral part of any economic development scheme. For a country like Nagaland, in which the largest economic sector is agriculture, it is important that agricultural productivity gains are accompanied by improvements in marketing infrastructure. Policy objectives that emphasize the development of agricultural markets and products will go a long way in contributing to sustainable development in Nagaland.

This study has been concerned with examining, documenting, and analyzing the agricultural marketing system in Nagaland. It has been a preliminary attempt at identifying the inefficiencies and opportunities in the state's agricultural markets, and it is hoped that the conclusions and recommendations made in this study will be used to improve the agricultural marketing system in Nagaland. In this final chapter, a summary of the study will be presented, followed by limitations of the study and further research suggestions. The final conclusions of the study will be discussed at the end of the chapter.

9.2.0. Summary of Study

The Nagaland Empowerment of People through Economic Development (NEPED) project is an initiative undertaken by the Government of Nagaland to encourage farmers to incorporate agroforestry practices and plant trees in their jhum fields. The success of the first phase of the project prompted the NEPED team to introduce a second phase with an emphasis on income generation. This study was done in cooperation with the second phase of the NEPED project, and its main objective is to provide an assessment of the agricultural marketing situation in Nagaland, both at the state level and at the district level.

The research study was divided into two phases. The first phase of the study was devoted to understanding the overall marketing situation in the state, while the second phase was devoted to understanding the marketing situation in Mokokchung district. Rapid rural appraisal techniques and formal questionnaires were used to collect primary

data in the field. Information was collected using the following methods: (i) key informant interviews, (ii) focus group discussions, (iii) formal questionnaires, and (iv) market observations. Direct observation, direct participation and transect walks were additional RRA techniques used to collect data.

During the first phase of the study, the agricultural marketing system was documented and analyzed at the state level using key informant interviews, focus groups discussions and direct market observations. The results of the second phase of the study were drawn from formal questionnaires, transact walks, and market observations. The presentation of the results of the study was done in the following manner. In Chapter 5, an institutional approach was used to identify and describe the market participants in Nagaland, and an adapted Structure-Conduct-Performance methodology was used to examine the agricultural markets. Chapter 6 was devoted to the examination and documentation of Naga farmers as producers and marketing agents. The Daily Market in Mokokchung town was described, and the marketing activity in four villages was documented. Tree planting among Naga farmers was examined in Chapter 7, and a government policy analysis was conducted in Chapter 8.

9.3.0. Limitations of the Study

This study is a preliminary attempt at documenting and analyzing the agricultural marketing system in Nagaland. Although the study was fairly comprehensive, covering four out of eight districts in Nagaland and two neighbouring states of Megahayala and Assam, the study is only representative of the marketing situation in Kohima, Dimapur and Mokokchung. The marketing situation in less developed districts like Mon and Tuensang are not represented, as these districts are not secure enough for field research. The social and political unrest in the state limited access to certain districts and villages, and careful consideration was taken in developing the formal questionnaires to ensure that the farmers were at ease with all the questions asked. Logistical difficulties and limitations on foreign visitors' permits also reduced the time available for data collection.

The lack of reliable statistical documentation in the state limited the type of analysis that can be to done to evaluate Nagaland's agricultural marketing system and agricultural markets. Although this study was successful at documenting the agricultural

marketing situation in Nagaland, it does not provide a rigorous analysis of the workings of the system. Further research is required to provide some insights into the nature of competition among producers and traders.

9.4.0. Further Research

As a preliminary study, this project has been successful in identifying areas of further research, and some possible research topics include product specific market analysis, household modeling and agroforestry adoption. A supply chain analysis for products like large cardamom, ginger and turmeric will be possible in the future as the farmers begin to adopt these cash crops as part of the second phase of the NEPED project. Household planting decisions can also be modelled to examine whether farmers are moving away from subsistence agriculture to commercialized agriculture, while a comprehensive study on the factors of agroforestry adoption in Nagaland will provide insights into the popularity of tree planting among the Naga populace.

9.5.0. Final Conclusions

At the state level, agricultural marketing in Nagaland is disorganized and developing at a slow pace. Political and social and unrest is the biggest impediment to agricultural marketing in the state. By creating an unfavourable and hostile environment for trade, underground rebel factions have succeeded in destabilizing the economic and social lives of the Naga people. Other contributing factors to slow growth in agricultural marketing are: lack of Central government funding, ineffective management by the Agricultural Marketing Wing, inadequate and incomplete support for government schemes in cash cropping, poor infrastructure in transportation and communication, and the practice of traditional jhum cultivation with mixed cropping as a livelihood strategy. A concentrated effort by all government departments is necessary to create an economic environment that is favourable to trade. Extensive market intelligence needs to be conducted by the State Government to properly evaluate and guide government policies in marketing, and government departments need to hire more individuals trained in marketing and economics. Prolonged peace and security in Nagaland will go a long way in achieving growth and development in agricultural marketing.

Naga farmers have full control of the marketing process for locally demanded products, and the results of the formal questionnaires suggest that farmers are moving away from subsistence production to commercial production. A large majority of the farmers interviewed in the study claimed that they are willing to abandon rice production for cash cropping. Naga farmers have little control over the marketing of cash crops like potato, ginger, large cardamom, pears, oranges and squash, while non-local traders are responsible for the movement of these products. The marketing of cash crops is impeded by information asymmetries between the farmer and the trader, and farmers must begin to take an active role in finding market information to negotiate a final sale price.

Tree planting was in the consciousness of Naga farmers before the introduction of the NEPED project, and the project team has done an exceptional job in reviving an interest in tree planting among the Naga populace. Trees are regarded by Naga farmers as long-term investments, and many of the farmers interviewed do not have immediate plans to sell their trees. A NPV analysis suggests that tree planting is a feasible investment for Naga farmers, and the IRR was found to be greater than 15% for all eight scenarios run.

The introduction of trees in fallow fields has changed the nature of agroforestry in Nagaland, and the introduction of shade loving cash crops will change how farmers market their products. Farmers cannot market products like turmeric and large cardamom in the local market, and efforts to collectively process and market these products must be encouraged and initiated by farmers. The second phase of the NEPED project is an excellent opportunity for farmers to attempt cash cropping, but the NEPED project needs to consider the provision of financial resources to farmers for marketing activities and small-scale processing.

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Appendix 1 – Formal Questionnaire

Formal Questionnaire
Consent must be given prior to interview

Demographic information

Village: District:

Name:

Age: Sex: Size of Household: # of Agricultural Workers:

Education level:

Main occupation - farming:

Any other occupation besides farming:

Yearly income from farming:

Yearly income form external sources:

Number of years farming:

Ownership of land (clan or own or lease):

Size of plots and number of plots:

Type of agricultural field:

Number of crops in Jhum/home garden:

Tree Planting
Part A

1. Do you actively plant trees in your jhum fields? If yes, continue with next question. If no, go to Part B.

2. If yes, when did you begin planting trees? (Before or after the NEPED project)

3. How old are your trees?

4. How many trees have you planted?

5. What factors did you consider when you made your decision to plant trees?

6. From the following list, please rank the items in order of importance to your decision to plant trees?
   (a) Food security
   (b) Current financial situation
   (c) Future financial situation
   (d) Environmental protection

7. From what source did you get the money to buy saplings to plant in your jhum fields? How much was your initial investment in trees?

8. Do you feel that tree planting will affect you ability to grow rice?

9. Do you grow enough rice to feed your family for the whole year? If no, how long does your rice usually last? Do you purchase rice and how much do you spend on buying rice a year?

10. What species of trees have you planted in your fields and how much of each?

11. What criteria did you use for selecting tree species?

12. From the following list of criteria for selecting species of trees, please choose three of them and rank them in order of importance to you?
   (a) Marketability
   (b) Growth rate
   (c) Level of maintenance
   (d) Environmental suitability
   (e) Personal experience
   (f) Cost of planting material
   (g) Recommendations from others

13. Have you made any income on the trees you have planted? If yes, please describe how you made this income and how much did you make?

14. Do you have plans to sell the trees that you have planted in the future?

15. If yes, how long are you willing to wait before harvesting the trees? If no, why have you chosen not to sell the trees?

16. If yes, in what form do you wish to sell your trees? (e.g. timber poles, fuelwood, etc.)

17. Do you know where and how to sell your trees?

18. If yes, how did get this information? If no, how do you plan on getting this information?

Part B - If the answer is no to question 1 in Part A, then ask the following questions.

1. Do you have any plans to plant trees in your jhum fields? If yes, continue with the next question. If no, go to Part C.

2. When do you plan to plant trees? (years)

3. How many trees do plan on planting?

4. What factors did you consider when you made your decision to plant trees?

5. From the following list, please rank the items in order of importance to your decision to plant trees?
   (a) Food security
   (b) Current financial situation
   (c) Future financial situation
   (d) Environmental protection

6. From what source will you get the money to buy saplings to plant in your jhum fields? How much will your initial investment be in trees?

7. Do you feel that tree planting will affect you ability to grow rice?

8. Do you grow enough rice to feed your family for the whole year? If no, how long does your rice usually last? Do you purchase rice and how much do you spend on buying rice a year?

9. What species are you planning on planting?

10. What are the factors that you consider when choosing which tree species to plant?

11. From the following list of criteria for selecting species of trees, please choose three and rank them in order of importance to you?
    (a) Marketability
    (b) Growth rate
    (c) Level of maintenance
    (d) Environmental suitability
    (e) Personal experience
    (f) Cost of planting material
    (g) Recommendations from others

12. Do you have plans to sell the trees that you plant in the future? If yes, how long are you willing to wait before harvesting the trees? If no, why have you chosen not to sell the trees?

13. If yes, in what form do you wish to sell your trees? (e.g. timber poles, fuelwood, etc.)

14. Do you know where and how to sell your trees? If yes, how did get this information? If no, how do you plan on getting this information?

Part C - If no to question 1 in Part B, ask the following questions.

1. If no, why have you chosen not to plant trees?

2. Of the following list of reasons for not choosing to plant, please rank the reasons in order of importance to you.
   (a) Land constraint
   (b) Financial constraint
   (c) Planting material constraint
   (d) No interest in tree planting

Marketing of Agroforestry crops

1. Please list all the crops that you sell from:

Jhum Field	Home Garden	Forest

2. Please describe how you market the crops mentioned above? (e.g. retail, wholesale or contract)

3. What crops make up the most farm income? Of the crops listed, which one do you consider to be a cash crop?

4. For the crops mentioned above, please list the wholesale and retail quantity sold as well as wholesale and retail price.

5. Do any of the crops that you market require storage before selling? Please list them and the type of storage facilities required.

6. What is the average duration that the crops are in storage before sale?

7. On average, what is the percentage of crops that are spoiled during storage before sale?

8. Does sorting occur at the storage facilities?

9. During which season are you the busiest?

Processing of products

10. Please list all the crops that you process and sell.

11. Please describe the treatment used for each crop.

12. Who does the processing? How was this method learned?

13. What are the costs of your inputs? What are your limiting constraints?

14. How are these products sold and who are the buyers?

Market

15. What is the location of the nearest shop in the village? What do you buy or sell there?

16. Is there enough variety in the shop to meet your needs?

17. What do you go to town to buy? How often do you go to town?

18. What type of transportation do you use to get to the main market? What is the cost?

19. Please describe a typical marketing day.

20. On a typical marketing day, how much do you spend and on what?

21. Do you usually sell most of your produce? If no, how much of the produce comes back and what do you do with it?

22. How often do you engaging in marketing activities (number of times in a month or year)? Are you the main person who does the marketing in the household?

23. Who are your buyers?

Motivation for selling

24. When did you start selling your produce and what did you start selling first? Why did you choose to sell these items?

25. What do you use the income to buy? Do you save any income?

26. Are you satisfied by the amount of produce you are selling? If no, why are you not selling more?

27. Are you doing anything to increase your sales? If yes, what are you doing? If no, what do you feel you can do to increase sales? (e.g. planting more or looking for new markets)

28. Is there a credit system available and have you used it for making improvements on your farm?

Rice cultivation

29. Is rice cultivation for home consumption or for commercial marketing?

30. How long does your rice harvest last (months)? Do you buy rice? If yes, how much (quintels/month)? (Do not ask if this question has been asked in Part A or Part B)

31. Would you abandon rice cultivation for large-scale production of a cash crop? Why?

32. How do you decide what crops to grow in your jhum fields and home gardens?

33. Consider the following factors in making cropping decisions in your jhum field or home garden, rank them in order of importance.
    (a) Kitchen needs
    (b) Market demand
    (c) Land suitability

34. Where do you obtain you planting materials?

35. What type of assistance do you receive from the government for planting material?

Cash crop production

36. Do you have a separate field for cash crops? How much land do you devote to cash crops?

37. Where do you obtain the initial planting material for the cash crop?

38. What is the average yield per hectare? What prevents you from obtaining a higher yield?

39. How much of the crop is consumed at home?

40. When and why did you begin growing this crop? What was the initial start up cost for this crop?

41. When is the crop harvested? Seasons? Does it interfere with the harvesting of staple crops?

42. Who buys this crop from you and how is the sale arranged?

Overall Marketing Arrangement

43. Are you satisfied with the marketing arrangements you are currently using to sell your products? If no, what aspects of the arrangement would you like to see improved?

44. What do you feel is the greatest constraint in the marketing your products?

45. What cash crops have you tried planting in the past? Describe your experience with these crops.

46. Have you participated in any government sponsored schemes for planting cash crops? If yes, please describe your experience. If no, please state the reasons why you have not participated in any of these schemes.

Appendix 2 – Village Development Survey

Village Development Survey
Consent must be given prior to interview

Name of Village: District: Subdistrict:

Distance from district headquarters in kms:

Name of representatives:

Land

1. Total geographical area of the village:

2. Total cultivable land:

3. Area used for jhuming during one period:

4. Length of jhum cycle:

5. Communal forest area:

6. Private forest area:

Demographics

7. Number of households:

8. Population:

9. Clans:

10. Families dependent solely on jhum:

11. Average plot size for jhum field:

12. Families dependent on permanent land:

13. Average plot size for permanent land:

Agricultural Information

14. What are the main staple crops?

15. What are the main money earning crops?

16. Do any farmers engage in winter cropping and which crops do they plant?

Tree plantation

17. Total area planted of trees:

18. Species of trees:

19. Is there a village resolution in place to encourage tree planting?

20. Is the village council involved in tree species selection?

21. Does a community credit system exist for planting or marketing of trees?

22. How are farmers getting information for the marketing of trees?

23. Are there restrictions on the use of communal forests? If yes, please describe them and why are they in place?

24. How are the restrictions agreed upon and how are they enforced?

25. Who has the right to use the communal forests?

Marketing information

26. Are public marketing stalls provided to villagers? If yes, who provided the initial investment and who provides the maintenance of the stalls?

27. Is there a user fee for the marketing stalls? If yes, what is the fee and what is the money used for?

28. Are there any restrictions on who can use the marketing stalls? If yes, what are they and why are they in place?

29. Are there any regulations on how the marketing stalls can be used? How are these regulations enforced?

30. Is there a village marketing day? When is it held and describe how it is organized?

31. Are there regulations and provisions for the market day?

32. Are there any middlemen in the village? If yes, what products do they deal in?

33. Are these individuals subjected to any regulations and provisions?

34. Are there any public storage facilities in the village?

35. Is there a village transport bus? If yes, describe the bus schedule, choice of destination and fare calculations.

36. What is the location of the nearest transport stand? Please describe the state bus schedule, choice of destination and fare calculations.

37. Where is the nearest train station? Please estimate the distance in kms.

38. Where is the nearest highway? Please estimate the distance in kms.

39. Are there any private transportation services available in the city? (e.g. private trucks, jeeps or personal vehicles for hire)

40. Describe the communication system that is accessible in the village. (e.g. STD phone lines or internet connections)

41. Describe the road conditions leading to and away from your village.

42. Describe the electricity service in the village.

43. Describe the water access in the village.

Organizations

44. Are there any farmer society or cooperatives in the village? If yes, please describe them and their purpose.

45. Are there any women's societies in the village? If yes, please describe them and their purpose.

46. Are there any youth groups or church groups in the village? If yes, please describe them and their purpose.

47. Are there any NGOs operating in the village? If yes, please list them and describe their activities.

48. Are there any government-sponsored programs in the village?

Processing

49. Does the village have any processing machinery? Please list and describe them.

Rice

50. What is the average yield of rice in the village per hectare per year?

51. Does communal sharing of rice exist in the village?

52. Is there a subsidized price for rice in the village? If yes, what is the subsidy?

53. How many shops are in the village?

54. Are there any regulations on these shops?

55. Please describe your system of Jhum.

56. Please list and describe other infrastructure in the village.

Appendix 3 – Consent Form

Consent Form

Title of Project: Assessing the marketing options available to small-scale farmers in (District) Nagaland, India with an emphasis on agroforestry products

Investigator: Chanchoura Bouphasiri
c/o POU, NEPED

T.S. Veeman (supervisor)
Tel: 1-780-492-0818

The Nagaland Environmental Protection and Economic Development (NEPED) project was designed to encourage farmers to adopt the practice of agroforestry on their farms. The success of the NEPED project has prompted further investigation into the marketing potential of agroforestry products. The following informal interview is part of a marketing study that is focused on identifying and understanding how agroforestry products are sold in (DISTRICT) Nagaland. The information gathered in this study will be summarized in documents that will be available to the NEPED project to be used in assisting farmers and that will form part of a masterate thesis to be used in academia.

In the next two hours, the investigators will be asking you questions about the production, marketing, and trading of agrofoestry products. Your individual interview and personal record will be kept confidential. Participants are encouraged to ask questions for clarification throughout the entire interview. If an individual does not wish to participate in or continue the formal interview, he/she may decline, without any penalties.

Consent:

I acknowledge that the informal interview described above has been explained to me/the participant, that any questions raised by the participant have been answered satisfactorily, and that I am (the participant is) willing to be interviewed.

_____
Name

_____
Signature of Participant/Translator

_____
Name

_____
Signature of Witness

_____
Date

_____
Signature of Investigator

The person who may be contacted about the research is:

_____

Contact via: _____