

CHAPTER 1

INTRODUCTION

1.1 Statement of the Problem

The institution of market facilitates exchange of goods and services among individuals in a society. In fact market is the medium through which goods and services get circulated among the members of a society. While the individual access to market is mainly determined by his purchasing power, access for goods depends on the connectivity between the centers of production and the market places. Markets act as the vent for surplus. Without the organization of market, there would have been little incentives on the part of the producers to produce surplus. Although well-knit marketing systems have already been developed for branded products, the same has remained almost archaic for the agricultural goods particularly in the developing countries. In fact, underdevelopment of the rural areas is intrinsically linked with the weak linkages between the agricultural growth and market (Diao, et al: 2007).

Well developed marketing network is the key for the growth of agricultural sector in an economy. Marketing provides the outlet for disposal of agricultural surplus. Marketable surplus, the difference between total agricultural output and subsistence needs, will not be substantial if marketing network is not well developed (Krishna:1965). Farmers will have no incentive to increase production if they do not get remunerative prices for their produce. If surplus is not produced, capital accumulation in agriculture will be badly affected which will in turn negatively impact upon the growth of the agriculture sector through both low productivity of land and labour. Similarly, if marketing network for agricultural output is developed but marketing network for agricultural inputs remain underdeveloped, due to market inaccessibility, farmers would not be in a position to procure inputs whenever is needed at reasonable price. This will then hamper capital accumulation in agriculture and eventually negatively impact upon the growth of the agriculture sector. Thus, development of marketing network for both agricultural output and input is the key for the growth of the agriculture sector.

In spite of the fact that Assam is predominantly an agricultural state where 52 per cent of the main workforce is engaged in agriculture as per Census 2001, agricultural marketing has remained very poor. This is more acute in case of the Barak Valley region consisting of three districts of Cachar, Karimganj and Hailakandi. Lack of connectivity appears to be the primary reason for the poor agricultural marketing network. Besides poor road and rail connectivity with the rest of the country in general and rest of the state in particular, lack of cold storage facility compels the farmers to go for distress sale immediately after harvesting. Absence of refrigerated container traffic has made it impossible to move perishable agro-products to wholesale markets located in Guwahati and Kolkata. In the absence of agro-processing units at the local level, farmers have to sell the green produce at the local markets at a very low price. For example, Lakhimpur area of Cachar produces fine variety of pineapple in huge quantity. As there is neither any food processing units that can use the raw pineapple for the production of pineapple based jam, jelly, chocolates, etc, nor there is any facility to transport the produce outside the region as the transport cost is prohibitive, farmers have to sell them at throw away prices at the local market. This acts as a disincentive for the production of surplus.

The proposed study seeks to investigate as to how lack of agricultural marketing facilities negatively impacts upon the production of marketable surplus in the agriculture of Barak Valley. It intends to examine the conditions of the rural markets and aspires to identify the difficulties that the farmers are facing while marketing their produce. It proposes to establish the linkage, if any, between agricultural marketing and agricultural growth based on the empirical data drawn from the three districts of Barak Valley. The study also seeks to examine the value chain along the marketing of agricultural products in order to suggest the possible organization of institutions of market which will be farmers friendly.

1.2 Theoretical and Conceptual Framework

Marketing and Growth

Marketing in general and agricultural marketing in particular plays a vital role in economic growth (Gilbert, et al : 2013). It ensures the plotted economic growth in the

developing economy characterized by scarcity of goods, services and excessive unemployment. Marketing efforts are needed for mobilization of economic resources for additional production of goods and services resulting in greater employment and higher growth. Marketing stimulates the aggregate demand thereby enlarges the size of market (UNCTAD: 2013).

Marketing in basic industries, agriculture, mining and plantation industries helps in distribution of output without which there is no possibility of mobilization of goods and services which is the key point for economic growth. These industries are the backbone of economic growth. Marketing also accelerates the process of monetizing the economy which in turn facilitates the transfer of investible resources. Intermediate industrial goods and semi-industrial products etc. essentially marketed for industrial purpose in order to develop the industrial sector with a view to economic growth.

With the rapidly growing marketing business, technology is playing a more vital role in analyzing and utilizing the large scale information gathered from customers. To predict the consequent business strategy by using technology, it is required to evaluate the customer performance, learn the trends or patterns in customer behavior. For this purpose the modern world is using the technology at a maximum level using e-commerce, internet marketing etc.

Agricultural Marketing

Agricultural marketing can best be defined as series of services involved in moving a product from the point of production to the point of consumption (Acharya and Agarwal: 2011). Thus agricultural marketing is a series of inter-connected activities involving: planning production, growing and harvesting, grading, packing, transport, storage, agro- and food processing, distribution and sale. Such activities cannot take place without the exchange of information and are often heavily dependent on the availability of suitable finance. Marketing systems are dynamic. They are competitive and involve continuous change and improvement. Businesses that have lower costs are more efficient and can deliver quality products at a lesser price only prosper. Those who have high costs, do not adapt to changes in market demand and provide poorer quality are often forced out of business. Marketing has to be customer oriented

and has to provide the farmer, transporter, trader, processor, etc. with a profit. This requires those involved in marketing chains to understand buyer requirements, both in terms of product and business conditions.

Several organizations provide support to developing countries to develop their agricultural marketing systems, including FAO's agricultural marketing unit and various donor organizations. There has also recently been considerable interest by NGOs to carry out activities to link farmers to markets (NAMC: 2009). Improvement of marketing systems necessitates a strong private sector backed up by appropriate policy and legislative frameworks and effective government support services. Such services can include provision of market infrastructure, supply of market information, and agricultural extension services to advise farmers on marketing. Training in marketing at all levels is also needed. One of many problems faced in agricultural marketing in developing countries is the latent hostility to the private sector and the lack of understanding of the role of the intermediary (Acharya: 2001). "Middleman" has become very much a pejorative word.

Promoting market orientation in agricultural advisory services aims to provide for the sustainable enhancement of the capabilities of the rural poor to enable them to benefit from agricultural markets and help them to adapt to factors which impact upon these. A value chain approach to advisory services indicates that the range of clients serviced should go beyond farmers to include input providers, producers, producer organisations and processors and traders. Efficient marketing infrastructure such as wholesale, retail and assembly markets and storage facilities is essential for cost-effective marketing, to minimise post-harvest losses and to reduce health risks (Shepherd: 1997). Markets play an important role in rural development, income generation, food security and developing rural-market linkages. Planners need to be aware of how to design markets that meet a community's social and economic needs and how to choose a suitable site for a new market. In many cases sites are chosen that are inappropriate and result in under-use or even no use of the infrastructure constructed. It is also not sufficient just to build a market: attention needs to be paid to how that market will be managed, operated and maintained. In most cases, where market improvements were only aimed at infrastructure upgrading and did not guarantee maintenance and management, most failed within a few years.

Rural assembly markets are located in production areas and primarily serve as places where farmers can meet with traders to sell their products. These may be occasional (perhaps weekly) markets, such as haat bazaars or permanent. Terminal wholesale markets are located in major metropolitan areas, where produce is finally channelled to consumers through trade between wholesalers and retailers, caterers, etc. The characteristics of wholesale markets have changed considerably as retailing changes in response to urban growth, the increasing role of supermarkets and increased consumer spending capacity (Acharya: 2004). These changes require responses in the way in which traditional wholesale markets are organized and managed.

Retail marketing systems in western countries have broadly evolved from traditional street markets to the modern hypermarket or out-of-town shopping centre. Despite the growth of supermarkets there remains considerable scope to improve agricultural marketing in developing countries by constructing new retail markets (<http://shodhganga.inflibnet.ac.in>). However, there is little point in undertaking market development improvements unless they result in a positive socio-economic impact. Effective regulation of market is essential. Inside the market, both hygiene rules and revenue collection activities have to be enforced. Of equal importance, however, is the maintenance of order outside the market. Licensed traders in a market will not be willing to cooperate in raising standards if they face competition from unlicensed operators outside who do not pay any of the costs involved in providing a proper service.

Efficient market information can be shown to have positive benefits for farmers and traders. Up-to-date information on prices and other market factors enables farmers to negotiate with traders and also facilitates spatial distribution of products from rural areas to towns and between markets (Rasak and Amusat: 2012). Most governments in developing countries have tried to provide market information services to farmers, but these have tended to experience problems of sustainability. Moreover, even when they function, the service provided is often insufficient to allow commercial decisions to be made because of time lags between data collection and dissemination. Modern communications technologies open up the possibility for market information services to improve information delivery through SMS on cell phones and the rapid growth of FM radio stations in many developing countries offers the possibility of more localized information services. In the long run, the internet may become an effective

way of delivering information to farmers. However, problems associated with the cost and accuracy of data collection still remain to be addressed. Even when they have access to market information, farmers often require assistance in interpreting that information (Crawford: 1997). For example, the market price quoted on the radio may refer to a wholesale selling price and farmers may have difficulty in translating this into a realistic price at their local assembly market. Various attempts have been made in developing countries to introduce commercial market information services but these have largely been targeted at traders, commercial farmers or exporters. It is not easy to see how small, poor farmers can generate sufficient income for a commercial service to be profitable.

Farmers generally consider marketing as their major problem. While they are able to identify the problems like poor prices, lack of transport and high post-harvest losses, they can hardly suggest potential solutions. Successful marketing requires learning new skills, new techniques and new ways of obtaining information. Extension officers working with ministries of agriculture or NGOs are often well-trained in horticultural production techniques but usually lack knowledge of marketing or post-harvest handling. Ways of helping them develop their knowledge on these areas need to be explored. While there is a range of generic guides and other training materials available from FAO and others, these should ideally be tailored to national circumstances to have maximum effect (<http://www.fao.org/ag/ags/agricultural-marketing-linkages/marketing-extension/en/>).

Agricultural marketing needs to be conducted within a supportive policy, legal, institutional, macro-economic, infrastructural and bureaucratic environment. Traders and others cannot make investments in a climate of arbitrary government policy changes, such as those that restrict imports and exports or internal produce movement. Agricultural markets have not been equally developed in all areas in a country. The market network is better developed in developed region and poorly developed in the underdeveloped region. It is thus important to study the rural markets and identify the impediments for the growth of agricultural marketing in underdeveloped regions. A study of interlinkages among local spot market, district wholesale market, and state level regulated market may throw light as to how this linkage can be further strengthened for the benefit of the local farmers (Vaswani, et al : 2003)

The proposed study intends to focus on the issues relating to different facets of agricultural marketing in Barak Valley region in Assam.

1.3 Rationale of the Present Study

Assam is situated in the North-Eastern Region of India bordering seven states viz. Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland, Tripura and West Bengal and two countries viz. Bangladesh and Bhutan. With an area of 78,438 sq. km., Assam accounts for about 2.4 percent of the country's total geographical area. Most of the state's population lives in the lush and verdant valleys of its two major river systems—the Brahmaputra and the Barak. The state is divided into 27 districts. Karbi-Anglong and the North Cachar Hills are less densely populated. According to the Census of India, 2011, the population of Assam stands at 3,11,69,272 of which 1,59,54,927 are males and 1,52,14,345 are females. The rural population of the state is 86 per cent of the total population. This percentage was much higher than that for all-India (69 percent). The population of Assam stands at 2,66,55,528 in 2001 of which 1,37,77,037 are males and 1,28,78,491 are females. The rural population of the state is 87 per cent of the total population. This percentage was much higher than that for all-India (72 percent). Classification of population by economic activity reveals that out of total population in the State, 95,38,591 are agricultural workers of which 71,14,097 are main workers and 24,24,494 are marginal workers.

Out of a total 95,38,591 agricultural workers in Assam, 37,30,773 are cultivators (39 percent), 12,63,532 are Agricultural labourers (13 percent), 3,44,912 are engaged in Household Industries (4 percent) and 4,19,937 are other workers (44 percent). Thus, about 52 percent working population is engaged in Agriculture (i.e. cultivators and agricultural labourers) in 2001 in the state. Thus, agriculture plays a very important role in the economic well being of the people of Assam as a vast majority of the rural population derives their livelihood from agriculture. Barak Valley Region is having 8.82 percent of the total geographical area of Assam. Agriculture is the main occupation of the majority of the people of Barak Valley.

It may be noted that compared to both the national average and state average, Barak Valley has the least net cropped area. Moreover, due to the lack of irrigation facilities,

the area sown more than once is comparatively less in Barak Valley. As there is not much area under current fallow, there is hardly any scope for extensive cultivation in Barak Valley.

One of the important dimensions of agriculture in Barak Valley is that production of rice dominates cropping pattern. Although farmers cultivate wheat, maize, pulses, gram, pea and lentil, but the area under non-rice foodgrains is very minimal. About 94 per cent of the total cropped area was under foodgrains in 2004-05 and 6 per cent of the total cropped area was under non-foodgrains in that year (Roy: 2009). In 2004-05, 88.23 percent of the total cropped area was under rice cultivation. This exhibits the lack of crop diversity in Barak Valley.

Marketing of agro-products involves well developed network of rural connectivity, development of market yards, creation of cold storage capacity, creation of godown capacity, supply of electricity, drinking water and other basic amenities at the regulated market yards and above all a very active and forward looking managerial staff who will conduct the day to day business. It may be discerned from the literature review, discussed in chapter 2, that not many studies have been undertaken on agricultural marketing in the valley. Agricultural productivity growth, impact of capital formation on agricultural growth, impact on irrigation on crop diversification and agricultural growth, impact of use of modern inputs on productivity growth, impact of agricultural prices on productivity growth—these areas have received more attention than the impact of agricultural marketing on productivity growth. This study proposes to fill this void. It intends to examine the conditions of agricultural marketing, impact of agricultural marketing in the generation of marketable surplus, role of agricultural marketing in the creation of marketed surplus and seeks to establish the linkages between agricultural marketing and agricultural growth.

1.4 Objectives of the Study

Following are the objectives of the proposed study:

- 1 To examine the conditions of agricultural marketing in Barak Valley.

- 2 To investigate whether there is any relation between agricultural marketing facilities and marketable as well as marketed surplus in agriculture.
- 3 To find out as to whether there is any linkage between agricultural marketing facilities and capital accumulation in agriculture.
- 4 To examine whether there is any linkage between the development of agricultural marketing and growth of the agriculture sector.

1.5 Hypotheses

The followings are the hypotheses that this study intends to test:

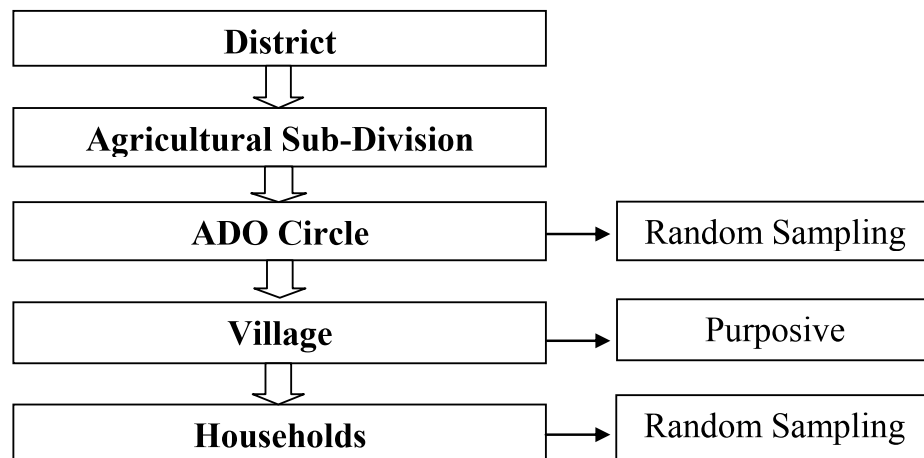
1. Condition of agricultural marketing in Barak Valley is not satisfactory.
2. Agricultural marketing facilities and generation of marketable surplus are positively correlated.
3. Agricultural marketing facilities and generation of marketed surplus are positively correlated.
4. Agricultural marketing facilities and accumulation of capital in agriculture are positively correlated.
5. Agriculture marketing is a major determinant of agricultural growth.

1.6 Methodology

The present study is based on both primary and secondary data. Secondary data have been collected from various issues of state level agricultural census, publications of Department of Agriculture, Government of Assam, various issues of Statistical Handbook of Assam and Economic Survey of Assam published by the Directorate of Economics and statistics, Government of Assam, various issues of Basic Statistics published by North Eastern Council (NEC) and various issues of North East Data Bank published by North East Development Finance Corporation (NEDFi). Secondary data have also been collected from the various issues of Agricultural Statistics published by the Ministry of Agriculture, Government of India.

Primary data on agricultural production and marketable surplus have been collected from agricultural households. In the Barak Valley region, there are six agricultural subdivisions: 3 in Cachar district, 2 in Karimganj district and 1 in Hailakandi district. From each agricultural subdivision one Agricultural Development Officer (ADO) circle has been randomly selected. From each ADO circle two villageas (one agriculturally developed having at least some marketing network and other agriculturally underdeveloped) have been selected purposively in consultation with Agricultural Development Officer (ADO). From the selected villages 10 per cent farming households have been selected randomly for sample study.

Method of Primary Data Collection



Hypothesis 1 has been examined based on secondary data relating to agricultural marketing facilities like number of wholesale market, number of principal market yard, number of sub-market yard, number of warehouse, road per 100 square km, number of AGMARK nodes, agricultural marketing infrastructure under ASAMB , number of paddy procurement centers and paddy procurement targets. Information on these parameters have been presented in such a way so that the condition of Barak Valley can be compared with state level position.

In order to examine the rest of the hypotheses, Agricultural Marketing Facilities Index (AMFI) has been constructed using Multiple Correspondence Analysis (MCA). It may not be out of place to mention as to why have we used MCA instead of Principle

Component Analysis (PCA). The following points are in order for justification for the use of MCA:

1. Multiple Correspondence Analysis (MCA) is an extension of correspondence analysis (CA) which allows one to analyze the pattern of relationships of several categorical dependent variables. As such, it can also be seen as a generalization of principal component analysis (PCA) when the variables to be analyzed are categorical instead of quantitative.
2. MCA is used to analyze a set of observations described by a set of categorical variables. Each categorical variable comprises several levels, and each of these levels is coded as a binary variable. For example gender, (F vs. M) is one categorical variable with two levels where 1 is used for male and 0 for a female. The complete data table is composed of binary columns with one and only one column taking the value “1” per categorical variable.
3. PCA is particularly used for continuous and quantitative variables and hence is not suitable for categorical variables.
4. MCA is a data exploration technique which is used to establish correlation patterns across sets of variables.
5. Like PCA, the single component that exhibits the maximum variance is considered to be the first the principal component in MCA.

Following Ezzarari and Verme (2012), we have used the following technique for MCA.

$$AMFI = \frac{1}{K} \sum_{k=1}^K \sum_{j_k=1}^{J_k} W_{j_k}^K I_{j_k}^K$$

$$W_{j_k}^K = \frac{S^K}{\sqrt{\lambda}}$$

Where

AMFI: Agricultural Marketing Facilities Index

k = number of dimensions with k = (1,2,.....,K)

j = number of modalities of each dimension with j = (1,2,.....,J_k)

I = binary (0/1) indicator of each modality

W = weight determined with MCA

i = index number indicating households.

s = factor score

λ = eigenvalue

To examine hypothesis 2, we have calculated, using SPSS, correlation between Marketable Surplus (MS) on AMFI and have presented the 2x2 correlation matrix. We have also presented the scatter plot of these two variables showing their degree of association. And finally we have regressed Marketable Surplus (MS) on AMFI in order to assess the impact of change in AMFI upon MS. Data on marketable surplus have been calculated deducting the consumption needs and seed requirements from the total production of the sample households.

The linear regression equation

$$MS = \beta + \beta_1 AMFI + U_i$$

is used to measure the impact of change in AMFI on MS.

Similarly, in case of hypothesis 3, we have calculated, using SPSS, correlation between Marketed Surplus (MTS) on AMFI and have presented the 2x2 correlation matrix. We have also presented the scatter plot of these two variables showing their degree of association. we have regressed Marketed Surplus (MTS) on AMFI in order to assess the impact of change in AMFI upon MTS. Data on marketed surplus have been collected from the sample households for winter rice only.

The linear regression equation

$$MTS = \beta + \beta_1 AMFI + U_i$$

is used to measure the impact of change in AMFI on MTS.

In order to examine hypothesis 4, we have calculated, using SPSS, correlation between Capital Accumulation (CA) on AMFI and have presented the 2x2 correlation matrix. We have also presented the scatter plot of these two variables showing their degree of association. we have regressed Capital Accumulation (CA) on AMFI in order to assess the impact of change in AMFI upon CA. Data on Capital Accumulation have been calculated summing up the household level money values of

Agricultural Tools and Implements, power tiller, pump set, animal used for cultivation, and spray machine.

The linear regression equation

$$CA = \beta + \beta_1 AMFI + U_i$$

is used to measure the impact of change in AMFI on CA.

For hypothesis 5, we have used cross-section data collected during the field visits as we do not have time series data on agricultural marketing. We have used level of production as a proxy for growth and marketing facility index (AMFI) as a proxy for agricultural marketing. We have regressed total production of paddy in quintals (winter rice) (TPPQ) on family size (FS), holding size (HS), average price per quintal of paddy (APPQP) and AMFI based on the following equation:

$$\ln(TPPQ) = \beta_0 + \beta_1 \ln(FS) + \beta_2 \ln(HS) + \beta_3 \ln(APPQP) + \beta_4 \ln(AMFI) + U$$

Where

TPPQ = Total Production of Paddy in Quintals (Winter Rice)

FS = Family Size

HS = Holding Size

APPQP = Average Price Per Quintal of Paddy

AMFI = Agricultural Marketing Facility Index

Based on the β values, we have concluded whether AMFI is a major determinant of agricultural growth or not.

1.7 Organization of the Study

The report of the study is organized as follows:

Chapter 1: Introduction

Chapter 2: Review of Literature

Chapter 3: Agriculture and Marketing Infrastructure in Barak Valley

Chapter 4: Profiles of Sample Study Locations

Chapter 5: Analysis of Sample Data

Chapter 6: Findings, Recommendations and Conclusion

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