CHAPTER - I

Introduction:

Agricultural Commodities are produced in the relevant season but are required for utilisation and consumption all round the year. While the durable crops are treated in one perspective, the perishable crops are treated in an altogether different perspective to achieve the objective of making them fit for consumption. The demand for the agricultural crops springs up in three dimensions - form, time and place. This sort of continuity of demand for the agricultural commodities requires the marketing system to orient itself to meet the emerging situations.

Marketing is the terminal part of agricultural production. Till the commodity reaches the consumer at the time and at the place demanded by him, process of production remains incomplete. This involves various marketing functions, notably assembling, grading, packaging, transport, storage, financing, demand creation etc. If these marketing functions are not performed effectively and efficiently, the primary production gets affected adversely. As a result both the producer and the consumer suffer invariably. The middlemen and market agents also suffer as the profit margin decreases. They are often in a position to manipulate their margins and thus however able to maintain their profits. In this process the major sufferer is the producer, next of course the consumer.
The market condition is particularly sensitive and its effects are more pronounced in case of perishable products, for which the producer most of the cases has little holding capacity and the consumer demand is often not that much price elastic to clear the market at reasonable prices. In fact, when prices fall, the perishable commodity, specially the vegetables, receive the treatment of a classic inferior good with, backward bending demand curve, S. S. Johl (1986). In the situation of scarcity supply being less than effective demand, trade is often able to insulate the farm of the producer price in the primary wholesale market, from the pressures of demand in the secondary wholesale and retail markets. Thus the trade has strong influence in the primary producer market as also on the price that the producer seller receives as a share of what the consumer pays. This way, the primary Wholesale market to a considerable extent remain segmented and quite insulated from the influence of the retail market. Thus whereas all the marketing functions mentioned above have to be performed to complete the process of production, it is essential to watch as to who performs these functions and with what effectiveness and efficiency.

Potato crop is a typical example of a segmented and insulated market-riddled with the problems of ineffective and inefficient performance of marketing functions. In fact, Potato has created a place in the economy of Indo-Gangetic region of the country
(Swaminathan 1978). The production of Potato crop suffers from severe setbacks on the markets front. It is as a result of this peculiarity that the production of potato in the country has not grown on a sustained basis. If production of this crop is to be encouraged and sustained on an optimum growth path, the problem must be tackled from the market end, backward to the production process in the field. It is the full effect of the assured and attractive market which will sustain and stabilise the uptrend in the production of this crop.

Potato crop has two economic characteristics, viz, it is an expensive crop to grow and once grown, it requires efficient marketing systems for disposal. The marketing problems arise from fluctuating potato prices, seasonal and perishable nature of the crop and the limited Cold Storage facilities. This problems affect both the producers and the consumers in terms of low prices received by the producers and high prices paid by the consumers. The ultimate beneficiaries are the middlemen. Price is more sensetive to supply during harvesting season than to demand during the remaining period of the year. This results in glut conditions and causes a crash in prices. This ultimately adversely affects the farmers income. This is because elements of costs and returns do not easily adjust themselves to the changing price levels. Because of this kind of price spread consumers also loose.
To protect the interest of growers, consumers and traders a thorough study of marketing of potato seems necessary. This necessity has assumed more importance because cultivation of the crop and its consumption are steadily growing in the country. As the present researcher is constrained by both time and financial resources the potato marketing activities of the whole country cannot be undertaken. So a study of the situation prevailing in the state of W.B. (West Bengal) has been decided to make in the present paper.

The cultivation of potato received a sharp boost in W.B. nearly two decades ago and since then there had been a steady increase in the acreage and production of Potato in W.B. As a commercial and food crop potato plays a vital role in the economy of the state. The increasing importance of the crop and the problems faced by the growers and the consumers of Potato, however, received till now little attention from the Government despite its considerable potentialities. The progress achieved in the extension of Potato cultivation and its marketing had so far been made mainly at the initiative of the growers as well as of the traders. The problems faced by the Potato growers are many and are of varied nature requiring urgent attention of the Government.

It is proposed, in the context noted above, to make a careful study of the emerging problems in marketing of Potatoes in West Bengal. Such a study, it is believed, will help in working out a strategy which will finally remove the imperfections from the
Potato market in the State to safeguard the interests of the Potato producers and consumers as well as of the traders. Unfortunately, no study has yet been done that emphasised the potato Marketing as such in West Bengal. The two studies that we would discuss soon were limited in their scope and by now had become too old.

The first study available on the marketing of Potatoes was made by the Government of West Bengal which have become too old (Directorate of Agricultural Marketing 1960). It made a superficial study of marketing activities and more importantly did not take account of the Cold Stores institution as a vital link in the marketing chain. The study covered the period up to 1960, and so by now has become irrelevant in the context of the emerging situations since the time of the study.

The Agro Economic Research Centre, Visva-Bharati, Santiniketan, took up a study in the economics of Potato cultivation in West Bengal in 1967-68. The study covered as a limited part of potato economics from the growers point of view only and also a small geographical area. It did not undertake the role of various intermediaries engaged in the potato trade, their earnings, their problems and also the operational relationship between producer and Cold Stores on the one hand, and Cold Stores and consumer on the other. The study by now is old. At the time of their study in 1967-68 the total acreage and production of Potato in West Bengal were 78.5 thousand hectares and 642.6 thousand tonnes respectively. But in 1987-88 (terminal year of our study) the acreage and production of Potato in West Bengal rose to 179.9 thousand hectares
and 3787.0 thousand tonnes respectively and ranked second among the states in India. The Cold stores increased from 110 in 1967-68 to 275 in 1987-88 in West Bengal. This physical changes call for a fresh study.

The Area of the Study:

The district - Hooghly in West Bengal has been selected for the study purposively. The selection of this district can be justified on the ground that it occupies the first position in both in terms of area and production volume of Potato in West Bengal. The acreage under Potato cultivation in the Hooghly district increased from 16 thousand hectares in 1970-71 to 49.7 thousand hectares in 1987-88 and Potato production increased from 282.6 thousand tonnes to 1145.6 thousand tonnes during the same period. The Potato prices in the region recorded a fluctuating trend after 1960-61. There is also a steady growth of Cold Stores i.e. 44 in 1970-71 to 90 in 1987-88. The fluctuating fortunes, which became a source of anxiety to all concerned, were presumably due to over emphasis on production unaccompanied by due concern towards the problems of marketing and marketing facilities. In view of the above, Hooghly district in West Bengal has been selected as the area for study.

The Objectives:

Against this background the objectives of the present study are:

1) analysis of the structure and functions of the existing potato market in the district of Hooghly in West Bengal and generalisation from them.
ii) computation of the marketing costs and margins from the viewpoint of all parties involved and assessment of the marketing needs.

iii) suggestions of measures to stabilise and strengthen the potato market in West Bengal.

The Methodology:

The data for the study have been drawn from both primary and secondary sources.

Primary Data:

Primary data were collected mainly by interviewing randomly selected samples of different categories of potato growers and marketing intermediaries and by observing the marketing processes. Marketing processes were observed also in a randomly selected sample of markets. The object of market observation was to supplement the information obtained by interviewing the intermediaries and also to provide an independent check to some of the estimates which were obtained by the interview method.

Two schedules were structured and pre-tested for administering on the farmers and traders separately. The schedules for farmers sought information on their background economics of potato cultivation, factors motivating them to cultivate potato, yield rate, sources of finance, storing facilities, marketing practices
and opinions on marketing infrastructure, institution and problems. The schedules for traders sought information on their role of potato marketing, their organisations, existing marketing position, specialisation and the methods of grading, storing, transportation, financing and cost of marketing etc. and also opinions on the problems and prospects of potato marketing.

**Sample Design:**

The nature and characteristics of the population to be surveyed determine to a large extent the sampling design to be used. In this survey the totality of all marketing intermediaries and the potato growers in the whole district constitute our population for which information were obtained by the method of interview. Similarly, the totality of all primary and secondary markets where there is buying or selling or both of potato constitute the population of markets for which information were collected through personal observation.

a) **Sub-Division Selection:**

Hooghly district includes four Sub-Divisions for administrative purpose. The district is predominantly an industrial with numerous industries situated by the river Bhagirathi, but it still retains its rural character with its rural population to the extent of 50% depending on agriculture. (Superintendent of Agricultural Marketing - 1985). For the purpose of agriculture Hooghly district is devided into three Sub-Divisions (S.D.)
(Principal Agril. Officer, Hooghly District - 1983-84). All the three agricultural Sub-Divisions viz., Arambagh, Chandernagar and Chinsurah were selected for field study.

b) Village Selection:

A Sub-Division is administratively divided into a number of Blocks. A Block is again divided into a number of Panchayats and a Panchayat consists of a number of villages. There are 17 Blocks and 1946 Villages in the whole district. On the basis of infrastructural facilities, such as road communication facilities, proximity to Cold Storages and sources of finance, one Block each from Chinsurah and Chandernagar S.D. and two Blocks from Arambagh S.D. were selected for the purpose of investigation. The four Blocks thus selected are Dhanikhal in Chinsurah S.D. Tarakeswar in Chandernagar S.D. and Arambagh and Pursurah in Arambagh S.D. They together cover more than 50% of potato producing area of the district. Thereafter, one village from each Block was selected on the basis of infrastructural facilities and in consultation with the local agricultural officials. The following four villages thus ultimately selected for field work are Jagannathpur, Chautara, Tajpur and Masinan.

Farmers Selection:

At the next stage of sampling a list of all the potato growing households and their potato areas were prepared at the selected
village level. According to size of operational holdings these farmers were classified into four groups as follows:

<table>
<thead>
<tr>
<th>Operational holding (hectare)</th>
<th>Classes of farmer</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.01 - 1.0</td>
<td>Marginal farmer</td>
</tr>
<tr>
<td>1.01 - 2.0</td>
<td>Small farmer</td>
</tr>
<tr>
<td>2.01 - 4.0</td>
<td>Medium farmer</td>
</tr>
<tr>
<td>Above 4.0</td>
<td>Big farmer</td>
</tr>
</tbody>
</table>

* In the annual studies of 'Farm Management and Cost of Production of Crops in West Bengal' relating to the district of Hooghly that till now have been published by the Government of West Bengal no mention of above 4.0 hectares Operational Size Group for potato cultivation has found place, but to Boro paddy and wheat such Operational Size Group is operating. Does it imply that till 1983-84 (the year of latest publication) potato was not cultivated on such size of land? But when we studied it in 1986-87 and 1987-88 potato was found to be cultivated on above 4.0 hectares size units. This is perhaps because Government agency adopted the owner of the land as the measuring unit whereas we adopted farm family as the measuring unit.

Then we have selected 10 percent of the cultivating households in each of the above group from the selected four villages on the basis of stratified random sampling. But at the time of selection we have maintained the following norms:

i) If the number of farmers of any operational size group in a village is less than five on the basis of ten percent random sampling we have selected at least five families at random out of them.
When we have found that the total number of cultivating households of any operational size group in a village is less than five we have selected all of them.

The size of the sample is 122, distributed as shown in table 1.1

<table>
<thead>
<tr>
<th>Operational size Group (hectare)</th>
<th>Number of Farmers in the selected villages</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Chautara</td>
</tr>
<tr>
<td>0.01 - 1.0</td>
<td>20</td>
</tr>
<tr>
<td>1.01 - 2.0</td>
<td>9</td>
</tr>
<tr>
<td>2.01 - 4.0</td>
<td>6</td>
</tr>
<tr>
<td>Above 4.0</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>39</td>
</tr>
</tbody>
</table>

Marketing Intermediary and Market-Selection

There are several categories of marketing intermediaries, viz., Faria and Bepari, Arathdar, Commission Agent, Speculator (Occasional trader), Cold Store, Wholesaler, Merchant (Inter state trader) and Retailer.

There are mainly two types of Potato Market, viz.,

1) The Village hat-which have been called primary market and
ii) assembling centre which have been referred to as secondary market where potatoes are normally assembled from the primary market for selling to the other intermediaries or the consumers. For the purpose of the study we have divided the secondary markets into three categories viz., Wholesale market, Consuming market and Regulated market.

**Selection of Primary Sampling Units:**

As large primary units are expected to incorporate almost all types of trade practices and peculiarities prevalent in the locality primary sampling units in respect of intermediaries have been selected from all the three agricultural subdivisions. Care has been taken to see that the marketing pattern and the transport system so far as was known at the time of selection did not differ considerably from one selected sub-division to another. Therefore, from the above three selected agricultural sub-divisions three strata have thus been formed.

**Sampling of Intermediaries and Markets within the Selected Primary Units:**

Having selected the primary units the next problem was to allocate the sample to different units at different stages. It was physically impossible to have a complete list of intermediaries and markets functioning in the three agricultural sub-divisions. Theoretically optimum allocation which aims at maximum precision
for a fixed cost, makes the sample size proportional not only
directly to stratum size but also inversely to the stratum
standard deviation. But in any practical survey involving a large
number of characteristics, it is difficult to decide upon a
unique sample allocation following this rule, as the standard
deviations to different characteristics may be considerably differ-
ent, and in many situations, as in the present case, they are
completely unknown. Proportional allocation in such situations
is a simple practical method open to a survey designer if it
departs some what from the optimum, as it avoids unequal weights
in computation and thus makes calculation much simpler and saves
a lot of computational time and finance.

As the total number of various types of intermediaries
are completely unknown we decided to interview the already
selected cultivators at first with the intention to know the
names and addresses of lower intermediaries such as Farias and
Bepari's, Commission Agents, Aratdars, who are directly related
with the cultivators for their business transaction, and also
the places of both primary and secondary markets where the
transaction occur. By using this method we have selected totally
152 Farias and Bepari's in the area of our primary selected units.

At the next stage we interviewed the selected 152 Farias
and Bepari's to know the names and addresses of Commission Agents
and Aratdars, Speculators and also both the primary and secondary
After verifying the list of intermediaries collected from the cultivators and Farias and Beparis, we selected 42 Aratdars and 37 Commission Agents. After that by using the same method we interviewed the selected Aratdars and Commission Agents to know about the Speculators, Wholesalers, Merchants and also the markets where they function. By repeating this method we selected all the market functioneries and the markets in which we are interested. The following table exhibits them.

**Interviewing and Estimating Procedure:**

Interviews with 122 sample farmers, 152 Beparis and Farias, 42 Aratdars, 37 Commission Agents, 25 Speculators, 81 Retailers, 17 Wholesalers, 9 Merchants and 11 Cold Stores with the help of separately structured schedules were conducted during 1986-87 and 1987-88, seasons. The responses of the respondents are based on the performances and experiences of the previous year. As most of the questions were open-ended, before the tabulation work was taken up, a proportion of schedules were studied with the aim of finding out the main types of answers to each question and classifying these answers in order to arrive at a rational system of codes. The answers in each schedule were then coded and transferred to a code sheet. A list of all possible tables that might be useful for analysis was then drawn up. To reduce the chances of error in the course of coding, a proportion of coded answers were re-checked and on this result re-coding was done on few questions.
<table>
<thead>
<tr>
<th>Stratum</th>
<th>Number of Markets Surveyed</th>
<th>Number of Intermediaries Interviewed</th>
<th>Primary Dealers</th>
<th>Factories</th>
</tr>
</thead>
<tbody>
<tr>
<td>I Chinsurah</td>
<td>41</td>
<td>11</td>
<td>9</td>
<td>5</td>
</tr>
<tr>
<td>II Chander- mager</td>
<td>48</td>
<td>14</td>
<td>12</td>
<td>8</td>
</tr>
<tr>
<td>III Arambagh</td>
<td>63</td>
<td>17</td>
<td>16</td>
<td>12</td>
</tr>
<tr>
<td>Total</td>
<td>152</td>
<td>42</td>
<td>37</td>
<td>25</td>
</tr>
</tbody>
</table>

Note: The table above presents the number of different types of intermediaries and markets surveyed across three strata. The number of markets surveyed is listed at the top, followed by the number of intermediaries interviewed, categorized by type. The strata are labeled as I, II, and III, with corresponding numbers of primary dealers and factories for each.
Besides the sample farmers and sample intermediaries, several Government officials concerned with agricultural development and marketing in the selected areas of Hooghly district and Directorate office of Calcutta were interviewed with semi structured schedules.

Secondary Data:

Secondary data were collected from published and unpublished records and reports of Central Government and Govt. of West Bengal. The secondary data covered a period of 1978-79 to 1987-88 and also of previous decades.

Presentation of the Study:

In the second chapter "Potato Economy" an attempt has been made to analyse the importance of Potato cultivation in the economy of India with special reference to that of West Bengal and to present a general picture of the selected area. The study on the economics of Potato cultivation vis-a-vis some of its competing crops (boro paddy and wheat) and the opinions and suggestions of the respondents regarding the marketing of Potato is presented in the third chapter "Potato Cultivation and Cultivators". The analysis and discussions of the characteristics of the Potato market, role of intermediaries in the marketing of potato and the methods and problems of marketing functions have been presented in chapter four and five respectively. Chapter six deals with
Cold Storage. Next the study of the marketing costs and margins of the intermediaries and price-spread between different stages of marketing in the district are handled in chapter seven. A brief summary and important conclusions of the study are incorporated in Chapter eight.

Limitations of the Study:

The study does not claim to cover fully all the aspects of the marketing of Potato. It is mainly based on the primary data collected from the farmers and intermediaries directly. But it is well known that Indian farmers do not normally maintain accounts and records of their agricultural operations viz., production, marketing and income. So the information provided by them based essentially on their memory. The information we hope is nearer to the truth and do not claim to be absolutely true. Moreover, the investigation is confined to four villages only of the district of Hooghly and these villages have their own unique pattern of cultivation. The study also emphasises the institutional aspects of marketing and attempts to describe the relevant institutions critically. The limitation of the study should, therefore, be borne in mind. It does not examine the problem of Potato in relation to the entire economy. The study does not also purport to examine the operations of the official agencies in the marketing of Potato in any detail. Another obvious deficiency is the absence of a detailed study of the demand side of Potato. In a
few cases the views of the traders on various matters could not be thoroughly substantiated. So the conclusions drawn from this study may not be the true representative of the district or of the state as a whole. In spite of these limitations the present study breaks new ground. A representative sample of the traders engaged in Potato marketing at the various stages has been interviewed for the first time and their views ascertained on a number of important marketing problems.