# Effectiveness of Contract Farming Practices for Agricultural Development and Equity

(A Case of Hoshiarpur District in Punjab)



# Effectiveness of Contract Farming Practices for Agricultural Development and Equity

(A Case of Hoshiarpur District in Punjab)

**Roopam Singh** Assistant Research Fellow, Centad

Consortium for Trade and Development (Centad)

Copyright © Centad, 2009

Centad Occasional Papers are intended to disseminate the preliminary findings of ongoing research both within and outside Centad on issues linked to trade and development for the purpose of exchanging ideas and catalyzing debate. The views, analysis and conclusions are of the author only and may not necessarily reflect the views or position of Centad. Readers are encouraged to quote or cite this paper with due acknowledgment to the author and Centad.

#### About the Author:

Roopam Singh is an Assistant Research Fellow at Centad. Email: roopam.singh@centad.org roops.raghav@gmail.com

#### Disclaimer:

This document is not a formal publication of Centad. The study was supported by OxfamGB under the Economic Justice Campaign. However the views expressed are solely of the author and do not necessarily in any way reflect the opinion or views of OxfamGB. The document may, however, be freely reviewed, abstracted, reproduced or translated, in part or whole, with due acknowledgement, but is not for sale or for use in conjunction with commercial purposes.

Published by: Consortium for Trade and Development (Centad) A1/304 Safdarjung Enclave New Delhi – 110 029 Tel: +91 – 011 – 41459226, Fax: +91 – 011 – 41459227 E-mail: centad@centad.org URL: http://www.centad.org

*Typesetting and Printing by:* Dynamic Printers 21, Faridabad NCR, Haryana – 121 001 Tel: 4046230 E-mail:indite@inditeglobal.org URL: <u>http://www.inditeglobal.org</u>

# Foreword

Globalisation is changing the contours of agriculture all across the globe, there is development of global agricultural market for products based on integrated international supply chain, which has led to homogenisation across the world of consumer choices and preferences. This has also led to sharp increase in investment and Indian agriculture has undergone major transformation. Unlike the 1970s green revolution which too witnessed change wherein major investment scenarios brought about increase in production and change in the farming system. The change in the 1990s is the infusion of new managerial systems and increased globalization and commercialization of agriculture is taking place. One important institutional transformation in the last decade being witnessed is rapid spread of contract farming.

Public investments are being replaced by private investments and there is an expansion of value chain markets bringing with it assured markets and prices and farming is being contracted in the value chains. Contract farming is widely seen to help strengthen the existing marketing system and thereby reap the benefits of technological development. Notwithstanding these benefits the flip side also exist wherein contract farming is further marginalising the small farmers in the competitive bargaining. The current study made an attempt to revisit the contract farming system through a quick survey. The study was purposively designed to capture the fast trend that is catching in the state of Punjab which is popularly known as the food bowl of India. Through the survey in Hoshiarpur district compared the contract system of a Public Enterprise and a Trans-National Company. The study came out with some interesting facilities but it comes with a cost and many a times there exists difference in interests which contribute to limited success in contract farming. It is hoped that the analysis in this paper will be useful for policy-makers, researchers and the civil society. Any suggestions or feedback on the paper is welcome.

Samar Verma

# Acknowledgement

Special thanks to Oxfam International for funding and supporting this study on contract farming. I extend my sincere thanks to Mr. Palash Kanti Das, Coordinator- South Asia, Economic Justice Campaign, OxfamGB for extending his kind support and cooperation.

I gratefully express my sincere gratitude and personal regards to my advisory panel, Dr. D. N. Dhanagare, Formerly Vice Chancellor, Shivaji University, Kolhapur; Ms. Anita Benninger, Executive Director, Center for Development Studies and Activities, Pune; Mr. Anil Sharma, Deputy Director General, College of Agricultural Banking, Reserve Bank of India, Pune and Dr. A. N. Murthy, Professor, Agriculture Economics, Gokhale Institute, Pune for there expert guidance, valuable suggestions at all the stages of the study and constructive criticism.

Words are insufficient to describe the magnitude of support extended by Mr. Kumar Gautam, Research Coordinator, Economic Justice Campaign, OxfamGB; Ms. Jayashee Gopalan, Secretary, Economic Justice Campaign; Mr. Linu Mathew Philip, Research Officer, Centad and the entire Centad team.

I thank Dr. Sukhpal Singh, Professor, Indian Institute of Management Studies, Ahmedabad for reviewing the study. His critical comments and suggestions, which led to substantial improvements in the report.

My special thanks to Mr. Raghbir Singh, Asstt. Gen Manager, NABARD, Hoshiarpur and Mr. Bipin Bachkheti, Marketing Officer, State Bank of India, Hoshiarpur branch for their kind support and guidance at Hoshiarpur level that helped me in timely completion of the survey.

A word of appreciation and thanks goes to M/s Dynamic Printers for the final layout designing and printing.

At last but not least I express my ineptness towards the villagers, Markfed and PepsiCo Staff, Government officials and all the people I came in contact during the project work, for their willingness to help me and their support and inspiration.

# Acronyms and Abbreviations

APL	Above Poverty Line
Asstt.	Assistant
BPL	Below Poverty Line
Centad	Consortium for Trade and Development
CF	Contract Farming
Cont	Contract
Dec	December
Gen	General
Н	High
Ha	Hectare
HLL	Hindustan Lever Limited
i.e.	That is
Id	Identity
ITC	Imperial Tobacco Company
Jan	January
к <sub>2</sub> о	Potassium Oxide
Kg/ha	Kilogram per hectare
L	Low
Ltd.	Limited
М	Medium
Markfed	Punjab State Cooperative Supply and Marketing Federation Limited
Min	Minute
Ml	Milliliter
Ml/ha	Milliliter per hectare
MNC	Multinational Company
Ν	Nitrogen
NABARD	National Bank for Rural and Agricultural Development

No.	Number
Non Cont	Non Contract
NPK	Nitrogen Phosphorus and Ammonia
NRI	Non-residential Indian
P <sub>2</sub> O <sub>5</sub>	Phosphorus pentaoxide
PAFC	Punjab Agro Food Grains Corporation
PAIC	Punjab Agro Industries Corporation
PB	Pusa Basmati
Q	Quintal
Rs./acre	Rupees per acre
Rs.	Rupees
S & M	Small and Marginal
Sl. No.	Serial Number
Sq km	Square Kilometre
US	United States
USA	United States of America
Viz.,	Namely

# List of Contents

Introduction	3
Meaning of Contract Farming	3
Origin of Contract Farming	3
History of Contract Farming in India	4
Why Contract Farming?	5
Contract Farming and Small Farmers	
Contract Farming in Punjab	
Objective of the Study	7
Rationale of the Study	7
Explanation of the Terms	7
Area of Study	8
Geographical location of Hoshiarpur	
Study Tehsils	
Study Villages	
Methodology	9
Sample Design	
State selection criteria	9
District selection criteria	9
Selection of Crops	2
Why PepsiCo and Markfed? 1	
Selection of Villages and Farmers1	
Limitations of Study 1	4
Profile of District Hoshiarpur	4
Geographical Location	4
Region I1	4
Region II	4
Region III1	4
Demographic Details	4
Administrative Details	5
Land Utilization Pattern	5
Cropping Pattern	5
Contract Farming in Hoshiarpur1	6
Trends in Area under Contract Farming 1	6
Trends in Farmers' Participation in the Contract Farming Practices	
Sample Profile	8

Selection of Villages and Farmers' Sample	18
Land Holding Categories and Sample Size	19
Family size	20
Caste–Class Matrix	21
Educational Status	21
Contract Farming - Field Experiences	
Contract Farming Practice for Basmati	22
Contract Farming Practices for Potato	25
Introduction of New Varieties	28
Impact on the Leasing of Agricultural Land	29
Crop-wise Land Owned and Leased	
Participation of Small and Marginal Farmers in Contract Arrangements	
Effect on Input Cost	
Cost of Potato Production	
Cost of Basmati Production	
Impact on Farmer's Incomes	
Price Realization	
Impact on Market Opportunities	
Involvement of Middleman	
Contract Farming System of Tomato by PepsiCo	
Case Studies on Farmers' Experiences on Tomato Contract	
Conclusion	
Recommendations	
References	
Annexure I	
Copy of Contract Form	49

# **Executive Summary**

Internationally agriculture markets are witnessing structural change wherein agricultural trade has deepened the interdependence and integration of the world economy through foreign direct investment and subcontracting of production. Indian agricultural markets too are witnessing a transformation; there is an increased value addition in the supply chain and the traditional model wherein the role of state functionaries is slowly diminishing. There is an increasing role of private entities in the new regime of agribusiness. Off the many practices brought in by the new agribusiness models, contract farming is much talked about. Contract farming models at present are gaining importance in the developing countries such as India, and is considered an important tool for commercialization of agriculture. Contract farming over one decade or so, particularly after the emergence of the World Trade Organization (WTO) in 1995, has grown phenomenally in the developing countries. Contract farming by national and multinational companies (MNCs) is increasing sporadically. Contract farming for agro processing is the most important force that is helping in the development of super market chains. Global retail companies have an influence on agricultural retail sector in the developing countries through foreign investments and/ or through the imposition of their private standards. Corporates are interested in contract farming as it ensures the timely availability of quality produce at their doorstep and help them overcome the constraint of land availability. Whereas, for farmers pre-agreed prices for their produce is a lucrative factor. Contracting reduces much of the uncertainty that would exist if the company simply bought crops in the open market, and gives the company some control over the production

process. Farming practices like contract farming introduced by the agribusiness firms have a bearing on the development issues of the farming communities. The issues of effectiveness, accessibility and equality under contract farming are needed to be examined.

The study on the "Effectiveness of Contract Farming Practices for Agricultural Development and Equity" looks into the issue of contract farming with the broad objectives :

- 1. To study the effectiveness of contract farming practices in providing better opportunities to the farmers in terms of technology transfer, increase in incomes and improved marketing facilities.
- 2. How equitable are contract farming practices vis-à-vis the two major stakeholders that is, farmers and contractors?
- 3. To study the accessibility of contract farming arrangements by the different sections of the farming community, irrespective of size of land holding (i.e. small and large farmers).

The major findings that this study reveals are that contact farming practices in Hoshiarpur region does not allow equal stake to the farmers in deciding the terms and conditions of the contract farming practices as to the contracting firms. Farmers have no stake over deciding the terms and conditions of contract agreement and have no stake in fixing the prices of their farm produce. The contract does not include any provision of 'risk sharing'. In case of shut down of tomato project in the early nineties and failure of the entire basmati crop due to the infested seed supplied by the Markfed in the year 2006, the farmers were not paid any compensation, they incur great losses. Where as companies and cooperatives have insurance against such risks.

Small farmers are not a part of contract farming practices in Hoshiarpur District. Contracting firms prefer large farmers over small farmers due to their capacity to supply farm produce in bulk, capability to follow the stringent quality parameters and capacity to abide high input costs and high risk associated with contract farming.

The effectiveness of contract farming practices is accessed by the change in the input cost, increase in income, better marketing facilities and technology transfer brought in by the contract farming practices. The input cost of cultivation under the contract arrangement has increased tremendously in all the cases studied and examined under the study. High cost of seeds and increased dose of fertilizers and pesticides are the major factors responsible for the increase in the input cost under contract arrangements. The cost of the fertilizers, pesticides and herbicides are increasingly intolerable as reported by most of the farmers. Though there is increase in the incomes under contract farming arrangements but this increase in income is not remarkable when compared to the non contract farming practices. Considering the profits and turnovers made by the contracting firms, the incomes earned by the contract farmers are diminutive. Contract farming has provided opportunities for the creation of collection centres at local levels but the major impact of it is in providing market opportunities including export markets for fruits, cereals and other cash crops and in strengthening retail chains for value added products at the national level. The assessment of the contract farming practices suggests that the present system of contract farming is not effective in bringing positive change in the agrarian system of farming and marketing. It needs interventions at the policy level to make the system effective.

There is need to analyse, understand and make amendments at the policy level. The analysis of the contract farming system suggests that at ground level there exist inequality, power equations still play an important role in Indian agriculture and our policies are not effective enough to address the intricacies of the contract farming practices. Though, the Central Government has come up with the "Model Act" - the State Agriculture Produce Marketing (Development and Regulation) Act, 2003, which is modification of APMC Act. Chapter VII of the Act talks about the Procedure and Form of Contract Farming Agreement. Agriculture falls under the concurrent list it is both a Centre subject as well as a State subject, so the governments of the various states have power to decide about the implementation of the Contract Farming Act. It is only the state of Haryana that has implemented Contract Farming Act; rest of the states have not incorporated and implemented Contract Farming Act. Few of the states such as Maharashtra, Punjab and few others have Contract Farming Rules; these rules are not effective enough to deal with such a multifaceted issues of contract farming

The need is to address the issue of contract farming at policy level and through advocacy in order to the agribusiness models like contract farming more transparent, participatory and equitable, so that the rights of the farmers particularly the small and marginalized farming community can be safeguarded.

# **Executive Summary**

Internationally agriculture markets are witnessing structural change wherein agricultural trade has deepened the interdependence and integration of the world economy through foreign direct investment and subcontracting of production. Indian agricultural markets too are witnessing a transformation; there is an increased value addition in the supply chain and the traditional model wherein the role of state functionaries is slowly diminishing. There is an increasing role of private entities in the new regime of agribusiness. Off the many practices brought in by the new agribusiness models, contract farming is much talked about. Contract farming models at present are gaining importance in the developing countries such as India, and is considered an important tool for commercialization of agriculture. Contract farming over one decade or so, particularly after the emergence of the World Trade Organization (WTO) in 1995, has grown phenomenally in the developing countries. Contract farming by national and multinational companies (MNCs) is increasing sporadically. Contract farming for agro processing is the most important force that is helping in the development of super market chains. Global retail companies have an influence on agricultural retail sector in the developing countries through foreign investments and/ or through the imposition of their private standards. Corporates are interested in contract farming as it ensures the timely availability of quality produce at their doorstep and help them overcome the constraint of land availability. Whereas, for farmers pre-agreed prices for their produce is a lucrative factor. Contracting reduces much of the uncertainty that would exist if the company simply bought crops in the open market, and gives the company some control over the production

process. Farming practices like contract farming introduced by the agribusiness firms have a bearing on the development issues of the farming communities. The issues of effectiveness, accessibility and equality under contract farming are needed to be examined.

The study on the "Effectiveness of Contract Farming Practices for Agricultural Development and Equity" looks into the issue of contract farming with the broad objectives :

- To study the effectiveness of contract farming practices in providing better opportunities to the farmers in terms of technology transfer, increase in incomes and improved marketing facilities.
- 2. How equitable are contract farming practices vis-à-vis the two major stakeholders that is, farmers and contractors?
- 3. To study the accessibility of contract farming arrangements by the different sections of the farming community, irrespective of size of land holding (i.e. small and large farmers).

The major findings that this study reveals are that contact farming practices in Hoshiarpur region does not allow equal stake to the farmers in deciding the terms and conditions of the contract farming practices as to the contracting firms. Farmers have no stake over deciding the terms and conditions of contract agreement and have no stake in fixing the prices of their farm produce. The contract does not include any provision of 'risk sharing'. In case of shut down of tomato project in the early nineties and failure of the entire basmati crop due to the infested seed

Agricultural Development and Equity

1

supplied by the Markfed in the year 2006, the farmers were not paid any compensation, they incur great losses. Where as companies and cooperatives have insurance against such risks.

Small farmers are not a part of contract farming practices in Hoshiarpur District. Contracting firms prefer large farmers over small farmers due to their capacity to supply farm produce in bulk, capability to follow the stringent quality parameters and capacity to abide high input costs and high risk associated with contract farming.

The effectiveness of contract farming practices is accessed by the change in the input cost, increase in income, better marketing facilities and technology transfer brought in by the contract farming practices. The input cost of cultivation under the contract arrangement has increased tremendously in all the cases studied and examined under the study. High cost of seeds and increased dose of fertilizers and pesticides are the major factors responsible for the increase in the input cost under contract arrangements. The cost of the fertilizers, pesticides and herbicides are increasingly intolerable as reported by most of the farmers. Though there is increase in the incomes under contract farming arrangements but this increase in income is not remarkable when compared to the non contract farming practices. Considering the profits and turnovers made by the contracting firms, the incomes earned by the contract farmers are diminutive. Contract farming has provided opportunities for the creation of collection centres at local levels but the major impact of it is in providing market opportunities including export markets for fruits, cereals and other cash crops and in strengthening retail chains for value added products at the national level. The assessment of the contract farming practices suggests that the present system of contract farming is not effective in bringing positive change in the agrarian system of farming and marketing. It needs interventions at the policy level to make the system effective.

There is need to analyse, understand and make amendments at the policy level. The analysis of the contract farming system suggests that at ground level there exist inequality, power equations still play an important role in Indian agriculture and our policies are not effective enough to address the intricacies of the contract farming practices. Though, the Central Government has come up with the "Model Act" - the State Agriculture Produce Marketing (Development and Regulation) Act, 2003, which is modification of APMC Act. Chapter VII of the Act talks about the Procedure and Form of Contract Farming Agreement. Agriculture falls under the concurrent list it is both a Centre subject as well as a State subject, so the governments of the various states have power to decide about the implementation of the Contract Farming Act. It is only the state of Haryana that has implemented Contract Farming Act; rest of the states have not incorporated and implemented Contract Farming Act. Few of the states such as Maharashtra, Punjab and few others have Contract Farming Rules; these rules are not effective enough to deal with such a multifaceted issues of contract farming

The need is to address the issue of contract farming at policy level and through advocacy in order to the agribusiness models like contract farming more transparent, participatory and equitable, so that the rights of the farmers particularly the small and marginalized farming community can be safeguarded.

# I. Introduction

#### Meaning of Contract Farming

Contract farming, as the term itself indicates, is a contractual agreement between two or more parties. Critical feature of contract farming is preagreed price (min), quantity, quality and delivery time. It is generally a production/procurement agreement, i.e. the farmer produces the farm produce under contract for a private firm (national, foreign or multinational), public sector firm or an international aid agency and the contractor procures the produce from the farmer under the pre-agreed terms and conditions. The nature of contract agreements varies in terms of number of parties involved, duration of contract, type of crop and input supplied that in most of the cases involve seeds, extension service and credit.

As per some contract farming refers to a system where central processing or exporting unit purchases the harvests of independent farmers and the terms of the purchase are arranged in advance through contracts. The terms of the contract vary and usually specify how much produce the contractor will buy and what price they will pay for it<sup>1</sup>. It can also be defined as a system for the production and supply of agricultural and horticultural produce by farmers/primary producers under advance

contracts, the essence of such agreements being a commitment to provide an agricultural commodity of a type, at a specific time, price and in specified quantity to a known buyer<sup>2</sup>.

### **Origin of Contract Farming**

Contract farming is not a new terminology; it dates back to 1885 when the Japanese colonial state employed farmers on contracts for sugar production in Taiwan<sup>3</sup>. It was initiated by the USA banana companies in Central America in the early part of twentieth century. By late twentieth century contract farming became an integral part of the food and fibre industry across Western Europe, North America and Japan<sup>4</sup>. In the advanced capitalist states, it seems that contract farming was widely used by the vegetable canning industry in North America and by the seed industry in the Western Europe in 1930s and 1940s. Recently, globalization and liberalization of agriculture markets have given an impetus to the practice of contract farming and has changed the dimensions of contract farming by adding practice of corporate (multinational and national companies) contract farming in the developing world.

<sup>1</sup> For further details see: Baumann, Pari 2000. "Equity and efficiency in contract farming schemes: The experience of agricultural tree crops", Overseas Development Institute, London; working paper 139.

<sup>2</sup> 

Singh, Sukhpal 2007. "Agribusiness in South Asia: A fact sheet", Make Trade Fair Campaign, Oxfam. Rehber, Erkan 1998. "Vertical integration in agriculture and contract farming". Private Strategies, Public Policies and Food System Performance, 3 Working Paper # 46.

Web link: http://www.silvaculler.com.ar/library/pdf\_view5.pdf

Rehber, Erkan 1998. "Vertical integration in agriculture and contract farming". Private Strategies, Public Policies and Food System Performance. 4 Working Paper # 46.

### History of Contract Farming in India

Colonial India saw the introduction of cash crops such as tea, coffee, rubber, poppy and indigo by the British government through a central, expatriate-owned estate surrounded by small out grower's models<sup>5</sup>.

Imperial Tobacco Company (ITC) introduced cultivation of tobacco in coastal Andhra Pradesh in 1920s incorporating most elements of a fair contract farming system and met with good farming system and good farmer's response. This was replaced by auction since 1984. Commodity cooperative (e.g. dairies in Gujarat and sugarcane in Maharashtra) which emerged in the 1950s provided most services envisaged under ideal contract farming to their members and brought back the supplies offered at contracted prices, although these were not strictly contract agreements<sup>6</sup>.

Organized public and private seed companies, which emerged in the 1960s, had to necessarily depend on multiplication of seeds on individual farms under contract to them since they did not own lands.

Box 1

Faced with an acute shortage of soft wood, Wimco, the country's sole mechanized match manufacturer, instituted an innovative farmforestry scheme for the cultivation of poplars in Punjab, Haryana and Uttar Pradesh. It met with good farm response and success despite the trees being exotic to the regions.

PepsiCo introduced tomato cultivation in Punjab in 1990s under contract farming. This was sold to Hindustan Liver Limited (HLL) in the year 2000. Kissan tomato processing facility in Karnataka, Nijjer in Punjab and Bhilai Engineering in Madhya Pradesh also took up tomato contract farming. Contract farming was the strategy of choice for all of the food processing projects completed in the 1980s and 1990s, most of which never came up. Small projects involving specialized export crops, aromatics, medicinal plants and herbs, etc. still actively use contracts in their own restricted areas.

Contract farming is again in vogue, and even tried for bulk production of subsistence crops, such as paddy-rice, maize and wheat. Most of the crop contracts now have specialized contract agencies as interfaces between farmers and input suppliers/ crop purchaser.

Milestones in chronology of contract farming in India				
Period	Events			
1850s-1860s	Cotton exported to Britain after disruption of US supplies.			
1860s	Plantations for tea and coffee in the hills of the North-East and South, indigo and poppy cultivation in plains.			
1910s	Distress and unrest amongst indentured contract farmers.			
	(Contd.)			

 Deshpandey, C.S. 2005. Report on "Contract farming as a means of value added agriculture" by National Bank for Agriculture and Rural Development.
 For details see Project report on "Contract Farming as a means of Value Added Agriculture", 2005. National Bank for Agriculture and Rural Development (NABARD).

#### 4 Effectiveness of Contract Farming Practices

(Box 1 Contd.)	
1930s	Virginia tobacco contract farming in Andhra Pradesh.
1948–50	Sugar cooperative emerge in Maharashtra and milk cooperatives in Gujarat incorporating many elements of contract farming.
1950s	Emergence of seed business based on contract farming.
1980s	Popular introduction through contact farming: and introduction of tomato contract farming.
1990s	Tomato introduced in Punjab through contract farming.
1990s	Numerous, mostly abortive efforts at introducing contract farming in horticulture.
2000s	Variants of contract farming introduced for wheat in Madhya Pradesh and crop diversification in Punjab; emergence or specialist contract farming firms.
2003-04	Contract farming accepted in new policy framework for agriculture reforms.
Source: NABARD's report	t on "Contract farming as a means of value added agriculture" by Deshpandey, C.S. (2005).

## Why Contract Farming?

Contract farming over one decade or so, particularly after the emergence of the World Trade Organization (WTO) in 1995, has grown phenomenally in the developing countries. Contract farming by national and multinational companies (MNCs) has gained impetus in the last two decades. Corporates are interested in contract farming as it ensures the timely availability of quality produce at their doorstep and help them overcome the constraint of land availability. Whereas, for farmers pre-agreed prices for farm produce is a lucrative preposition. Contracting reduces much of the uncertainty that would exist if the company simply bought crops in the open market, and gives the company some control over the production process. There is no reason, of course, for a company not to use more than one method of obtaining its supplies, and some companies use a combination of company farms, contract growers and open market purchases<sup>7</sup>.

### **Contract Farming and Small Farmers**

While a vigorous debate has ensued over whether contract farming will benefit farmers or lead to their exploitation by transnational corporations, less attention has been given to whether contract farming will even reach the small farmers who are the targets of poverty reduction programmes. Contract farming is seen by proponents as a way to raise small-farm income by delivering technology and market information to small farmers, incorporating them into remunerative new markets<sup>8</sup>. Critics, however, see it as a strategy

<sup>7</sup> Glover, David 1990. "Contract farming and commercialization of agriculture in developing countries". For details see http://www.ifpri.org/pubs/ books/vonbraun94/vonbraun94ch10.pdf

<sup>8</sup> Miyata, Sachiko; Minot, Nicholas and Hu, Dinghuan 2007. "Impact of contract farming on income: Linking small farmers, packers, and supermarket in China". International Food Policy Research Institute (IFPRI); Discussion Paper no. 00742.

for agribusiness firms to pass production risk to farmers, taking advantage of an unequal bargaining relationship. There is also concern that contract farming will worsen rural income inequality by favouring larger farmers. Contract farming also tends to exclude small farmers. In fact, the eligibility criteria for participation in contract farming schemes such as irrigated land, suitable land, land near main road, literacy level of the farmers are themselves discriminatory in terms of who can be a contract grower. The preceding examples suggest that contract farming is not likely to play a significant role in improving the welfare of small farmers in developing countries; contracting with smaller growers generally involves high transactions costs and, under most circumstances, agro-industrial firms will prefer to contract with larger growers. However, weak institutional development may result in greater small farmer participation<sup>9</sup>.

It is frequently argued that agribusiness in general and contract farming in particular reinforces the trend towards proletarianization of the peasantry. Contract farming leads to proletarianization of an incomplete an impure character<sup>10</sup>.

### Contract Farming in Punjab

First Johal Committee in 1986 suggested for the diversification of crops, under which it advocated and supported contract farming and proposed to invite private partners for initiating contract farming. The diversification strategy adopted in the Second Johal Committee (2002) suggested that 10 lakh hectares of rice and wheat cultivation should be replaced with high value crops such as oilseeds and pulses. It proposes a crop adjustment programme to compensate farmers who make the switch. Some of the diversification attempts are cultivation of sunflower as a major oilseed crop and floriculture. Sunflower cultivation covered more than 50 per cent of the area under oilseeds and more than 60 per cent of the total oilseed production of the state. But soon it declined due to lower returns compared to wheat, lack of quality seeds, high water requirements, weather sensitivity and adverse effect on the next season crop (Singh et al., 1997).

On the other hand, private agribusiness concerns were thought to bring dynamism in the processing and marketing sector. The contract farming arrangements with the private processing interests was to achieve both these objectives by providing, better seeds and other inputs and better markets and prices (Singh, 2000). The Government approved the Pepsi project in 1988.

The present study was carried out in Hoshiarpur district of Punjab with the objectives as stated under.

 <sup>9</sup> Warning, Matthew; Key, Nigel and Soo Hoo, Wendy 2005. Small Farmer Participation in Contract Farming. For details see http://www2.ups.edu/ econ/working\_papers/02-1.pdf
 10 Sinch Subback 2005 "Provide a foregroup foreging of a provide a foregroup foregroup foregroup for a provide a

<sup>10</sup> Singh, Sukhpal 2005. "Practice of contract farming: An international review".

# **II.** Objective of the Study

The study broadly focuses on the following objectives:

- 1. To study the effectiveness of contract farming practices in providing better opportunities to the farmers in terms of technology transfer, increase in incomes and improved marketing facilities.
- 2. How equitable are contract farming practices vis-à-vis the two major stakeholders that is, farmer and contractor?
- 3. To study the accessibility of contract farming arrangements by the different sections of the farming community, irrespective of the size of land holding (i.e. small and large farmers).

# **III.** Rationale of the Study

The study on "Effectiveness of Contract Farming Practices for Agricultural Development and Equity" was conducted in the Hoshiarpur region of Punjab to study the contract farming practices from the equity and accessibility dimensions and to access the changes brought by contract farming in relation to technology transfer and increase in incomes. The study compares the two different models of contract farming, one practiced by the corporate giant i.e. PepsiCo and the other implemented by the biggest agriculture cooperative of Asia i.e. Markfed. It also acknowledges the legalities involved in the two contract farming practices and identifies the necessary requirements in the contract farming agreement. It proposes to intervene at the policy level and advocacy in order to make the contract farming practices just and equitable. The Contract Farming Act should be to facilitate institutional development, ensure the livelihood of producers, promote market information, certification and extension systems and resolving conflicts between farmers and the contractors, create a monitoring and planning function for the all round development of the agriculture sector.

# **IV. Explanation of the Terms**

Certain terms used in the context of current study on contract farming practices in the region of Hoshiarpur need to be elaborated in order to give better understanding of the researcher's perspective. This will also help the readers to have a better understanding on various issues pertaining to the ground realities of contract farming in the selected districts of Punjab state. Effectiveness: The lexicon meaning of the term effectiveness is the capability of producing an effect. The word effectiveness is sometimes used in a quantitative way, which reveals the degree of effectiveness. But in the present context the term effectiveness is used in a qualitative sense, which denotes the direction of the effect that is, what is the effect (negative or positive) of the contract

Agricultural Development and Equity

farming practices in addressing agricultural development and equity.

**Equity:** The term equity in the present context has two connotations. It refers to equality amongst all the sections of the agrarian society to equally participate and to be equally a part of contract farming practices without any disparities on the basis of size of land holding and access to resources. It connotes to the equality amongst the major stakeholders that is contracting firm and farmers

must have an equal stake in the contract farming system. In a gist we can say that equity here refers to the "equality of opportunity" for both the parties in contract farming system.

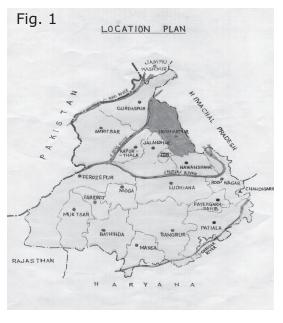
Agricultural development: It implies to the development brought by the contract farming practices in the agrarian society, in terms of transfer of technology, increased incomes of the farmers and increased and better market opportunities.

# V. Area of Study

The study was conducted in Hoshiarpur District of Punjab for assessing the development and equity issues relating to contract farming of tomatoes, basmati and potato.

## Geographical location of Hoshiarpur

Hoshiarpur district is located in the north-east part of Punjab state. It lies at North Latitude 30 degree-9 min and 32 degree-05 min and East



Source: http://hoshiarpur.nic.in/

Longitude 75 degree-32 min and 76 degree-12 min. It is bordered by Nawanshar, Rupnagar, Ludhiana and Kapurthala districts of Punjab and Una district of Himachal Pradesh. River Beas run in the Northwest part of the district.

### Study Tehsils

District Hoshiarpur has four tehsils<sup>11</sup>. For studying the contract farming practices of basmati rice all the four tehsils were taken into consideration. Where as, potato contract farming practices were studied only in Dasuya and Hoshiarpur tehsils.

### **Study Villages**

As per district census, 2001 Hoshiarpur district has 1,393 inhabited villages of which 95 villages in total are taken as sample villages for studying the nature and impact of contract farming practices. The details on the selection procedure of districts, tehsils and villages are given in the next chapter, that is – Methodology.

11. District Hoshiarpur is administratively divided in four tehsils, viz., Mukerian, Hoshiarpur, Gharshankar and Dasuya. Tehsil comprises clusters of villages or several villages. The administrative head of thesil is tehsildar and the Government body at tehsil level is called the "Panchayat Samiti".

# **VI.** Methodology

The present study on contract farming involves meticulous collection and analysis of secondary and primary data. The secondary data used both the quantitative and qualitative data. It helped to redefine the research questions, research design and provided context for interpretation of primary data.

The quantitative sources of secondary data include the State Statistical Abstract of Punjab, 2006; District Census Handbook, Hoshiarpur; Village Census Handbook, Hoshiarpur; Agriculture Census, Hoshiarpur, 2005; Potential Link Plan, Hoshiarpur district; data and reports from various Central and State government departments and district offices of concerned cooperative and corporate i.e. Markfed and PepsiCo.

Though secondary data collection is done comprehensively but primary data collection is warranted in the present study, as the data base available on the contract farming lacks richness. Besides, the diverse array primary data provides first-hand information about the study area.

Primary data collection is done by using the following tools:

- 1. Interview schedules
- 2. Case studies and
- 3. Discussions

Farmers in Hoshiarpur district were interviewed and case studies were conducted at individual farmer level and discussions were done with the agriculture officials and other related personnel.

# Sample Design

## State selection criteria

State of Punjab is selected randomly for studying the effectiveness of contract farming practices for agricultural development and equity.

## District selection criteria

The sample district from Punjab state is selected taking the following parameters into account:

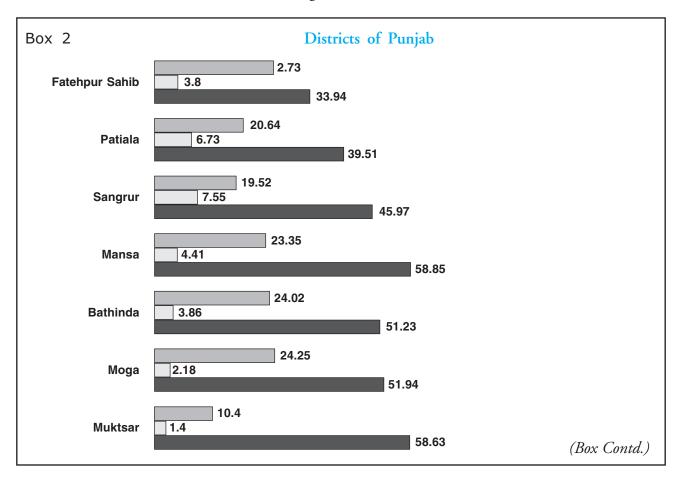
- 1. Percentage population of farmers' to total population of the district.
- 2. Per cent area under contract farming to total area under cultivation in the district.
- 3. Percentage of small and marginal holdings to total agricultural holdings.

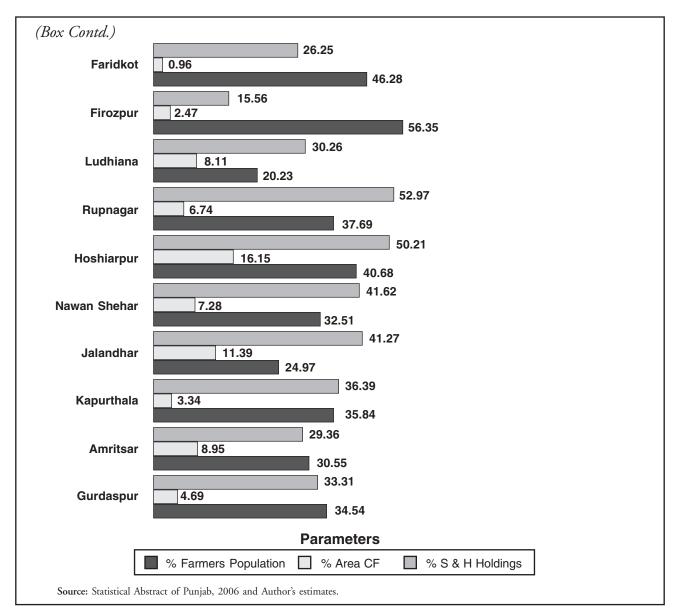
Table 1 Selected parameters of various districts of Punjab					
Sl. No.District% Farmers population% Area under CF% S & M 					
1	Gurdaspur	34.54	4.69	33.31	
2	Amritsar	30.55	8.95	29.36	
3	Kapurthala	35.84	3.34	36.39	
(Contd.)					

9

(Table 1 Contd.)				
4	Jalandhar	24.97	11.39	41.27
5	Nawan Shehar	32.51	7.28	41.62
6	Hoshiarpur	40.68	16.15	50.21
7	Rupnagar	37.69	6.74	52.97
8	Ludhiana	20.23	8.11	30.26
9	Firozpur	56.35	2.47	15.56
10	Faridkot	46.28	0.96	26.25
11	Muktsar	58.63	1.40	10.40
12	Moga	51.94	2.18	24.25
13	Bathinda	51.23	3.86	24.02
14	Mansa	58.85	4.41	23.35
15	Sangrur	45.97	7.55	19.52
16	Patiala	39.51	6.73	20.64
17	Fatehpur Sahib	33.94	3.80	25.73
Source: Statistical Abstract of Punjab, 2006.				

There are total 20 districts in the state of Punjab. In this study only 17 districts are taken into consideration as Tarn Taran, SAS Nagar and Barnala are newly formed districts and data is not available on these districts.





For the convenience of selection of district the total farmer's population includes the population of cultivators and population of agricultural labourer in the district. Whereas, in the case of operational land holdings the marginal land holdings include land holdings below 1 ha and small land holdings include land holdings of 1-2 ha in size.

The data given in the following table is further divided into three strata i.e.

- High
- Medium and
- Low

# Table 2Frequency interval

Farmer's population (%	b):
Low	Less than 30
Medium	30-40
High	Above 40
Source: Author's estimates	
Area under contract far	ming (%):
Low	Less than 5
Medium	5-10
High	More than 10
Source: Author's estimates	
Small and marginal hol	dings (%):
Low	Less than 20
Medium	20-40
High	More than 40
Source: Author's estimates	

Table 3 Typology of various select districts in state of Punjab					
Sl. No.	Districts	Farmers' population (%)	Area under CF (%)	S & M farmers (%)	Typology
1	Gurdaspur	М	L	М	MLM
2	Amritsar	М	М	М	MMM
3	Kapurthala	М	L	М	MLM
4	Jalandhar	L	Н	Н	LHH
5	Nawan Shehar	М	М	Н	MMH
6	Hoshiarpur	Н	Н	Н	HHH
7	Rupnagar	М	М	Н	MMH
8	Ludhiana	L	М	М	MML
9	Firozpur	Н	L	L	HLL
10	Faridkot	Н	L	М	HLM
11	Muktsar	Н	L	L	HLL
12	Moga	Н	L	М	HLM
13	Bathinda	Н	L	М	HLM
14	Mansa	Н	L	М	HLM
15	Sangrur	Н	М	L	HML
16	Patiala	М	М	М	MMM
17	Fatehpur Sahib	М	L	М	MLM

Source: Author's estimates based on the secondary data

The district with high frequency for all the three parameters i.e. high percentage of farmers' population, area under contract farming and small and marginal farmers is selected for the study of contract farming system in the region.

### Selection of Crops

Contract farming practices of tomato, potato and basmati rice are studied to understand the dynamics of contract farming in Hoshiarpur region. Tomato and potato are volatile crops in terms of market prices and are subject to market fluctuations. Tomato is a perishable crop and has short shelf life. Basmati rice is a standardized crop that is experiencing recent ventures by various firms in contract farming.

### Why PepsiCo and Markfed?

Two contract farming models are taken into

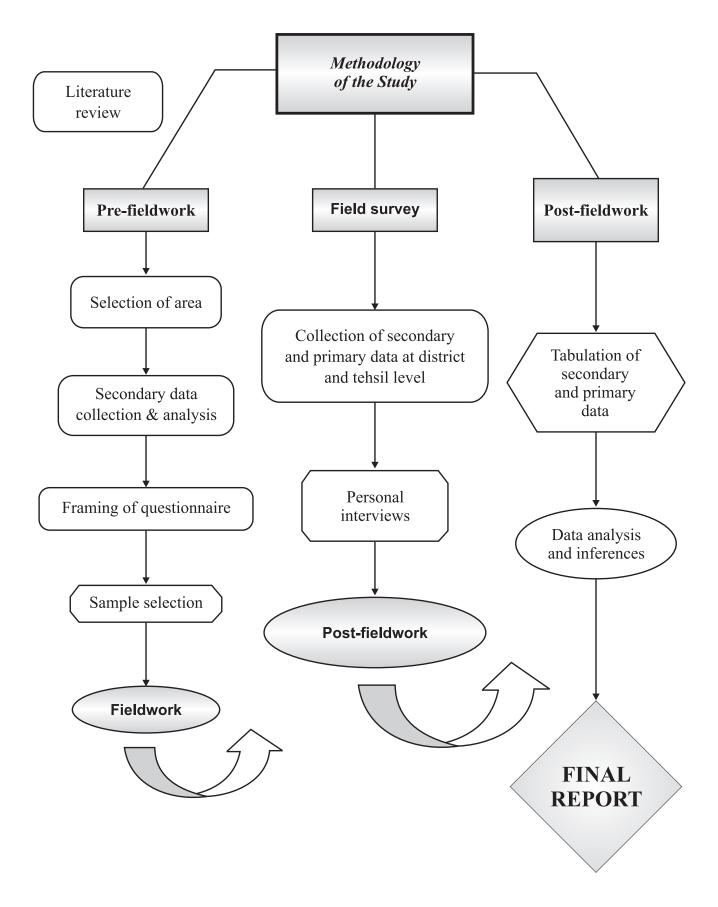
consideration viz., Markfed and Frito Lay. Markfed and Frito Lay were selected for the study as one is a cooperative and the other is a multinational company. The Punjab State Cooperative and Marketing Federation Ltd. (Markfed) was established in 1954. At present it is Asia's largest cooperative. Markfed is a major buyer of wheat, paddy, cotton and sunflower seeds in the state and has recently ventured into contract farming of basmati rice. PepsiCo is a MNC that started contract farming in India in a big way in the year 1987.

### Selection of Villages and Farmers

The selection of villages and farmers (contract and non-contract) is done at random on the basis of a list provided by Markfed and PepsiCo.

# Fig 2

# Flow Chart of the Methodology



# **VII. Limitations of the Study**

As with any study of this type carried out within a short time span, the findings of the study are subject to limitations arising from the following shortcomings, difficulties and constraints:

- 1. Short duration of a study lead to several constraints such as limiting the sample size of study and the area of study.
- 2. Chances of getting biased answers from both the contractors and the farmers.
- 3. Non-existence of readily accessible computerized databases from farmers regarding the input costs, profits and losses.
- 4. Unwillingness of corporate personnel to give information on certain issues such as profits earned by them.

# VIII. Profile of District Hoshiarpur

# **Geographical Location**

Topographically, the district can be divided into three broad regions.

# Region I

This region is constituted by flood plains comprising Dasuya, Tanda and Mukerian blocks. This is the most fertile area of the district covering one fourth of the geographical area. It has wide spread irrigational facilities. Paddy, wheat, maize and sugarcane are the main crops of this region.

# Region II

It is the Kandi-belt comprising Hoshiarpur-II, Bhunga, Talwara blocks and part of Dasuya block. The Kandi area is located at the foot of Shivalik Hills. There is acute shortage of water in this area. The region is plagued by soil-erosion during the rainy season. The Kandi belt constitutes about more than half of the total geographical area of the district of which twothird area is sown under rain-fed conditions; maize and wheat are the major crops of this region.

# **Region III**

This region comprises Hoshiarpur-I, Mahilpur and Garhshankar blocks, located on the beds of lower Shivalik. This belt also faces water shortage due to sandy soil. This area is suitable for maize, sugarcane and paddy crops. Of late, potatosunflower, maize cropping pattern has emerged in a vast area of this region.

# **Demographic Details**

Hoshiarpur has an area of 3,365 sq km and a population of 14, 78,045 people as per 2001 census.

Table 4 Gender-wise population estimates		
Total population	14,78,045	
Male	7,63,753	
Female	7,14,292	
Source: 2001 Census.		

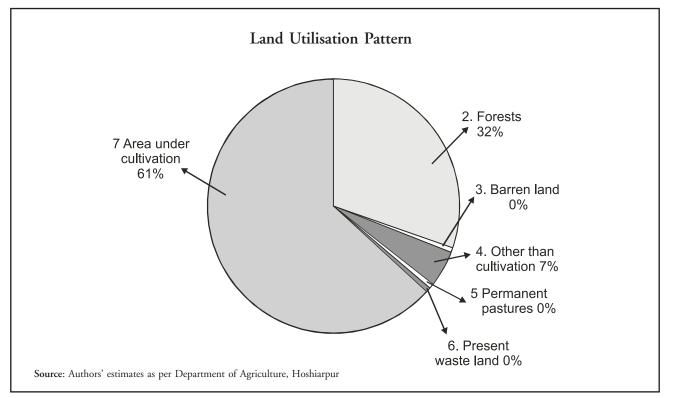
In Hoshiarpur 80.34 per cent of the population lives in the rural areas and 19.66 per cent lives in the urban areas.

#### Administrative Details

The district has four tehsils viz., Mukerian,

Dasuya, Hoshiarpur and Garhshanker. The district headquarter is located in Hoshiarpur city. It has 10 development blocks. As per the district census, 2001 Hoshiarpur district has a total of 1,421 villages.





## Land Utilization Pattern

The total geographical area of Hoshiarpur district accounts for 3,365 sq km of which 2,030 sq km forms the area under cultivation. And the area under cultivation alone accounts for 60.33 per cent of the total geographical area of the district. Of the total area under cultivation 1,540 sq km (75.86 per cent) is irrigated and 490 sq km (24.14 per cent) is rain-fed. Area sown more than once is 1,450 sq km and gross cropped area accounts for 3,480 sq km. Forest covers an area of 1,090 sq km that is 32.39 per cent of the total geographical area. Approximately, 7 per cent of the land falls under uses other than cultivation and the share of barren land, permanent pastures and waste land in the total geographical area is negligible, that is 0.3 per cent each.

#### **Cropping Pattern**

The main crops of the region are wheat, paddy and maize. Amongst the kharif crops, 38.9 per cent area is under paddy and 44.2 per cent area is under maize. Amongst rabi crops 96.2 per cent area is under wheat crop, the remaining area is under sunflower, potato, sugarcane, pulses, oilseeds and fodder.

## Table 5 Area under main crops

				(In percentage)		
	Year					
Kharif crop	2002- 03	2003-04	2004-05	2005-06		
Paddy	38.36	38.46	38.92	39.51		
Maize	41.72	43.77	44.20	42.75		
Sugarcane	16.82	14.59	11.87	13.60		
Groundnut	2.09	1.99	2.11	1.94		
Others	1.01	1.19	2.90	2.20		
Total	100	100	100	100		
		Ye	ear			
Rabi crop	2002-03	2003-04	2004-05	2005-06		
Wheat	96.89	97.05	96.15	97.25		
Gram	0.35	0.27	0.27	0.20		
Lentil	0.42	0.47	0.46	0.20		
Oilseeds	1.98	1.94	2.85	2.08		
Peas	0.35	0.27	0.27	0.27		
Total	100	100	100	100		
Source: Authors' estim	Source: Authors' estimates as per Potential Link Plan 2007-08, NABARD, Hoshiarpur.					

## Contract Farming in Hoshiarpur

In Hoshiarpur district contract farming was initiated in the year 1989 by Pepsi Foods Ltd. with special focus on exports of value added processed foods. It installed a tomato-processing plant at Zahura village in Hoshiarpur district for producing tomato pastes and purees. The Punjab Agro Food grain Corporation (PAFC) is the nodal agency to provide and coordinate crop diversification in Punjab. Contract farming by PAFC is looked as a tool for crop diversification. PAFC arranges for farmers to get high-yielding seed varieties from reputed companies under contract farming, helps provide technical supervision and follow up on agronomic practices. It is committed to buy back the entire produce with returns comparable or better than those the

farmers received from paddy and wheat. PAFC guides the farmers for contract farming/crop diversification. Punjab Agro has a stake in deciding the contract rates for the procurement of basmati, maize, sunflower and hyola from the farmers by the contract firms.

# Trends in Area under Contract Farming

Analysis of the total area under contract farming from the year 2002-06 shows an increase in the area under contract farming by ten folds. The total contracted area in the district has increased from 22,312 acres to 2,16,183 acres over a duration of four years. In the year 2005-06 hyola, maize and basmati together contribute to the 80.82 per cent of the total acreages under the contract arrangement.

	Table 6 Area of different crops under contract farming scheme in Punjab (in acres)											
Year	Hyola flower	Sun	Durum wheat	Malting barley	Moong	Basmati Pure	Maize	Guar	Castor	Mentha	Potato Seed	Total
2002 - 03	9798	8541	_	820		_	3153				_	22312
2003 - 04	19111	22014	11362	5341	4493	90529	28089	4650	1667	_		187256
2004 - 05	64000	31500	6404	3822	4704	100,000	32879	_	2000	_		245306
2005 - 06	68382	17942	2000	4566	3864	42259	64090	1136		4673	7289	216183
Source: S	Source: State Statistical Abstract, Punjab, 2006-07.											

There is an increase in the acreage under contract farming for all the crops in the year 2002-04. Whereas, in the year 2005-06 the acreage under contract farming decreased for sunflower, moong, basmati and maize leading to a decrease of 29,123 acres of land under contract farming in the year 2005-06 from that of the previous year.

The data in the table above interprets that in the year 2002-03 the total land under diversified crops was 22,312 acres, which increased to

-wise contract farming details

Table 7

2,16,183 acres over a period of four years as a result of the diversification brought by contract farming practices. At the same time it also hints towards the reduction of the land under food grain production.

# Trends in Farmers' Participation in the Contract Farming Practices

The table below gives details on the trends in farmers' participation in the contract farming practice over last five years in Hoshiarpur district.

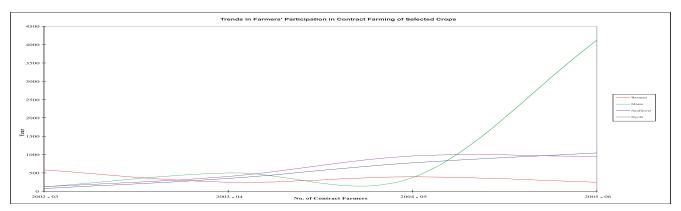
Crop-wise contract farming details						
Сгор	Crop No. of farmers contracted (Year-wise)					
	2002-03	2003-04	2004-05	2005-06		
Basmati	580	250	397	249		
Maize	120	500	373	4116		
Sunflower	75	350	774	1049		
Hyola	125	400	968	946		
Source: Potential Link Plan 2007-08, Hoshiarpur.						

17

As per the table above the number of contract farmers undergoing the contract agreement of maize, sunflower and hyola shows an increasing trend and the number of contract farmers have increased by 34 folds for maize, 13 folds for sunflower and 7.5 folds for hyola from the year 2002

to 2006. The total number of farmers in the contract production of basmati rice has decreased to almost half from 2002 to 2006. The graph below shows the trends in the farmers' participation in contract farming for the selected crops.

### Fig 4 Crop-wise details on the farmers' participation in contract farming



Source: Authors estimates as per Potential Link Plan 2007-08, Hoshiarpur by NABARD.

The graph above shows an exponential increase in the number of contract farmers under maize whereas, it show a decrease in the number of farmers under basmati contract over the given time period. The low participation of the farmers in the contract farming of basmati in the year 200506 was due to the spread of foot-rot disease in the previous season. The information collected from field revealed that the root cause of the spread of foot-rot disease was poor quality of seeds provided by the contracting firm, Lal Mahal, in the previous season.

# **IX. Sample Profile**

#### Selection of Villages and Farmers' Sample

Field investigation for the study of basmati contract farming in Hoshiarpur was carried out in all the four tehsils of the district viz., Garhshankar, Mukerian, Dasuya and Hoshiarpur. In all, 15 villages were selected from the four tehsils, of which, three villages were selected from Dasuya, and four from Hoshiarpur, two from Garhshankar and six villages were selected from Mukerian. Details are given in the table below. A sample of 50 farmers was selected to study the dynamics of basmati contract, of which 25 were contract farmers and 25 were non-contract farmers.

SI.	Select tehsil	No. of select	Farmers' s	Total		
No.		villages	villages Contract farmers		farmers' sample	
			BASMATI			
1	Dasuya	3	6	6	12	
2	Hoshiarpur	4	5	5	10	
3	Garhshankar	2	7	7	14	
4	Mukerian	6	7	7	14	
Total		15	25	25	50	
	POTATO					
1	Dasuya	6	11	11	22	
2	Hoshiarpur	3	4	4	8	
	Total	9	15	15	30	
Source	Source: Authors estimates on the basis of pre-field survey, Dec 2007-Jan 2008.					

Hoshiarpur and Dasuya tehsils were selected for understanding the provisions and effects of potato contract farming, as these two tehsils are the major potato producing areas in the district. Total nine villages were selected, of which six were selected from Dasuya tehsil and three were selected from Hoshiarpur tehsil. Total 30 farmers (15 contract farmers and 15 non-contract farmers) were interviewed to understand the dynamics of contract farming arrangements by Pepsi Co.

The number of the sample village and farmer

varies in each tehsil as per the availability of Markfeds' stakeholders (contract farmer) in that tehsil or village<sup>12</sup>.

## Land Holding Categories and Sample Size

While selecting the farmers' sample it was taken into consideration that the sample should be a true representative of the farmers' actual population. For this, the sample is selected from all the land holding categories<sup>13</sup>, i.e. small, semimedium, medium and large farmer.

Table 8

<sup>12</sup> For details, see Annexure.

<sup>13</sup> Note: The farmer sample selection is done on the basis of the land owned and the land under lease is not taken into consideration for the selection of sample population, as it is subject to change every season or year, though land on lease is a source of earning but a farmer has no ownership over that.

Table 9 Profile of the land holders						
		No	o. of land holde	ers		Type of
Сгор	1–5	5-10	10–25	> 25	Total	farming
	Acre	Acre	Acre	Acre		practice
Basmati	7	12	5	1	25	Cont
	7	12	5	1	25	Non Cont
Potato		2	5	8	15	Cont
	4	3	5	3	15	Non Cont
Tomato		_	3	2	5	Cont
	2	1	2		5	Non Cont
Total	20	30	25	15	90	Total
Source: Authors estimates on the basis of field survey Dec 2007–Jan 2008.						

A sample pool of 90 farmers was selected to study the dynamics of contract farming practices. A sample of 50 farmers was selected to study the contract farming arrangements in basmati by Markfed, of the 50 basmati producers 25 were contract farmers and 25 were non-contract farmers. For studying the contractual arrangements of potato by Frito Lay, a sample of 30 farmers was selected of which, 15 were contract farmers and 15 were non-contract farmers. Case studies were conducted to understand the implications of contract farming of tomato by PepsiCo in 1990 to 2003. Ten tomato growers were interviewed, of which five were stakeholders in the tomato contract farming with PepsiCo and the other five were not a party to any contract firm. Thus, a sample of 90 farmers was selected to conduct the study on the effectiveness of contract farming practices in the Hoshiarpur district.

#### Family size

The average family size of the select farmers' is 5.5.

Table 10 Caste-Class Matrix					
Caste	Basr	nati	Pota	Potato	
	APL	BPL	APL	BPL	
Jat	41	0	25	0	
Saini	5	0	3	0	
Mazhavi			_		
Rajput	4	0	1	0	
Bhramin			1	0	
Total	50	0	30		
Source: Authors estimates on the basis of Field Survey Dec 2007–Jan 2008.					

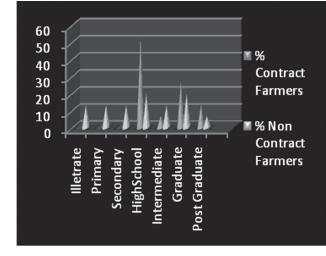
#### Caste-Class Matrix

The caste–class matrix of the agriculture farmers show that Jat, Saini, Rajput and Bhramin have access to agricultural land. Jat and Saini sikh are the major farming communities in the district. As shown in the matrix above 'Jat sikh' is the dominant caste. Jat sikh constitute 82% of the total farmers sample. 'Saini sikh' is the next category, followed by 'Rajput'. There are some instances of Bhramins and other castes holding agricultural land but they are rare.

#### **Educational Status**

An inquiry into the educational status of the farmers' reveals that approximately 10 per cent of the farmers have never been to school, 36 per cent are high school pass, 30 per cent have passed intermediate, 10 per cent are graduates and 14 per cent are postgraduates. Though, 10 per cent of the sample has no formal education, but the personal interview with these farmers show they have knowledge regarding the use of modern agricultural practices, technical know-how about crop production, insight about various schemes on agricultural loan and market intelligence. Lack of formal education has not served as a barrier for the farmers in the past.

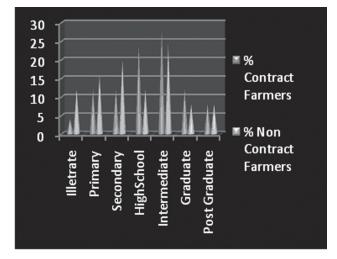






Source : Authors' estimates as per the field Survey.

A comparative analysis of the educational status of the contract and non-contract growers of potato show that approximately 50 per cent of the farmers under contract have attended high school and approximately 30 per cent of them have attended college. Whereas, in case of the non-contract producers of potato 16 per cent Basmati Growers



have been to high school and approximately 10 per cent are illiterate and 20 per cent have attended college education. Hence, it can be interpreted that contract farming practice for potato involved farmers with a comparative higher level of formal education when compared to the non-contract growers.

Agricultural Development and Equity

In case of basmati growers the difference in the education level of the contract and non-contract growers is not as wide as in case of the potato growers. For contract growers approximately 4 per cent have never been to school, 15 per cent have attended primary level of education, approx 22 per cent are high school, 26 per cent are intermediate and approximately 18 per cent have been to college. The trends for the non-contract growers show that approximately 11 per cent of the non-contract basmati growers have not attended any formal education, 15 per cent have studied up to primary level, 23 per cent have completed high school, 10 per cent intermediate and 14 per cent have attended college. The trends in the educational levels of the basmati growers show that there exist differences in the educational status of the contract and non-contract growers, but the differences are not as significant as in case of potato growers. It also throws light on the fact that Markfed does not have stringent criteria for the selection of farmers as PepsiCo does.

# X. Contract Farming - Field Experiencs

The evolution of contract farming practice, from "contractual arrangements to contract farming systems" involved institutional changes and legalities. It further involved formulation and implementation of Acts and Laws, with the principle purpose of safeguarding the rights of the both the stakeholders, i.e. farmers and contractor. The post WTO contractual arrangements in the Indian agriculture involve a written contract between the farmers and contractors. The contract is usually a written agreement documented<sup>1</sup> by the contractor and signed by the farmers. The process of laying down the terms and conditions of the agreement is not participatory, contracting firm decide the terms and conditions of the contract agreement. As per the concerns from the field, both the stakeholders should have equal stake in deciding the terms and

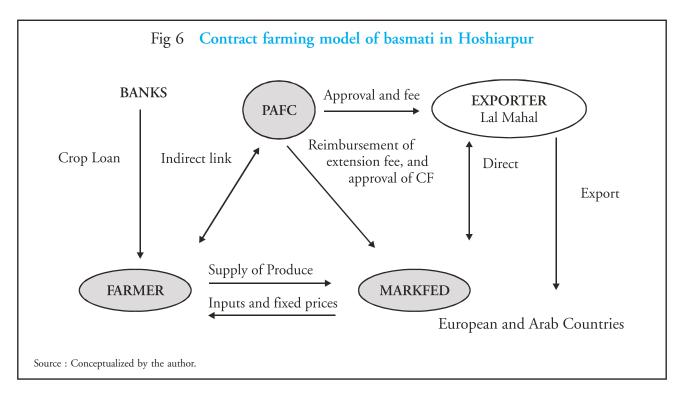
conditions. Equal involvement of the farmers and contractors is required in order to make the contract farming practices more equitable, just and participatory.

## Contract Farming Practice for Basmati

The contract-farming model adopted by Markfed involves four stakeholders. These are directly involved and are interlinked in such a manner that the profit and losses of one affect the other. The four major stakeholders are Punjab Agro Food Grains Corporation (PAFC), Markfed, farmer and exporter (Satnam Overseas, trade name – Lal Mahal). PAFCs main function is to give approval to the company or cooperative for contract farming in the state of Punjab. Markfed is contracting cooperative, it assures input and pre-fixed prices to the farmers; farmer

<sup>14.</sup> Note: Prepared here means the authority to decide the terms and conditions of the contract.

in-turn provides the produce to Markfed at the pre-agreed quality and quantity. The fourth stake holder is the exporter, Satnam Overseas procure the superior quality produce from Markfed for export, and it has no direct involvement with the farmers. Banks play the role of a dummy stake holder, they act as credit providers in the present case, as farmers in Hoshiarpur rely on banks for credit support in the form of crop loans and other agricultural loans. These banks are either nationalized or cooperative banks.



The contract farming practice of basmati by Markfed involves written contractual agreement. The contract is written in Gurmukhi, titled as "Agreement of Contract Farming for Various Varieties of Long Grain Basmati". As per the contract there are two parties involved, first is 'Markfed' and second party is the 'Farmer'. Contract agreement is usually an annual contract.

The terms of the contract are:

- I. WORKS:
- Markfed will issue identity and registration cards to the farmers who are interested in contract farming.

### II. FISCAL AND TECHNICAL SUPPORT:

- Markfed will provide best quality seeds to the farmers of Pusa Basmati – 1, Pusa Basmati – 1121, Pusa Basmati – 386, HVC – 19, Sharbati Basmati and Super Basmati and apart from this it will also provide fertilizers, pesticides, weedicides at appropriate prices.
- High level technical support/team will provide knowledge of farming, and will arrange training camps, seminars and exhibitions, model farm visits and recommendations about farming practices, will also provide work calendar to the farmers prepared by a technical team. Other farmers who have

Agricultural Development and Equity

good quality certified seed can also be registered under contract farming.

• Markfed will purchase basmati and long grain basmati on a pre-approved fixed rate under the agreement.

## III. AREA:

 Farmers will produce winter season crop, 2007 under contract farming, the rate will be fixed by Markfed. Further this section describes the total area under contract farming and type of variety sown by the farmer.

## IV. QUALITY ASSESSMENT:

The contract agreement says that the purchase of various varieties of basmati grown by contract farmer under the contract agreement will be purchased on the basis of following food quality assessment.

Table 11 Quality assessment criteria						
Sl. No.	Details	Grade I (%)	Grade II (%)			
1	Moisture	16	17			
2	Waste (without cleaning)	3	5			
3	Green and raw seed 2 4					
4	Broken seed	1	2			
5	Foreign matter	0.5	1			

•

### • Rate of Grade II will be Rs.50 less than the rate of Grade I.

Table 12 Purchase rate				
Sl. No.	Variety	Rate (Rs./quintal)		
1	Basmati – 386 / HVC – 19	Rs.1400/q		
2	Pusa Basmati – 1121 Rs.1200/q			
3	Super Rs.1100/q			
4	Pusa Basmati – 1	Rs.1000/q		
5	Sharbati Basmati	Rs.750/q		

- If the rate of the above varieties is more in market then Markfed mandi will purchase it according to the prevailing prices/rates.
- I. PAYMENT TO THE FARMERS: According to this section Markfed will make

payment to the farmers by a check or draft within five days of purchase.

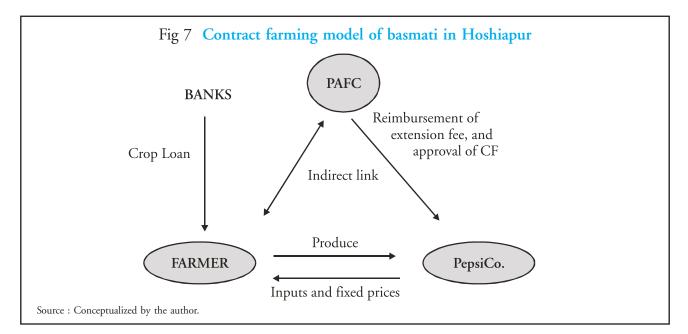
In case of any dispute between the parties the matter will be brought to the notice of the Managing Director of Markfed or will be put under Arbitration and Cancellation Act, 1996 whose decision will be final and will be agreed to both the parties. The jurisdiction for any legal proceeding will be at Chandigarh court.

• The farmer in the presence of witnesses of both the parties signs the contract agreement. Markfed levy non-refundable registration fee of Rs.100 per farmer. Markfed issues identity cards to its registered farmers. Though, farmers are party in the contract farming practice but they have no stake to decide the terms and condition of the contract agreement. The terms and conditions of the contract agreement are dictated by Markfed, as Markfed personnel fix the prices of basmati; the procurement prices of basmati are usually same as the market prices or with little variation of Rs.5-15/quintal.

### **Contract Farming Practices for Potato**

The contractual arrangements by Frito Lay for contract farming of potato are practiced in this region since 1995. involves three stakeholders/parties: Punjab Agro Food Grains Corporation (PAFC), PepsiCo and the contract farmers. PAFCs main function is to give approval to the company or cooperative for contract farming in the state of Punjab. PepsiCo provides input and pre-fixed prices to the farmers, farmers in turn provide the produce of agreed quality and quantity. PepsiCo use potatoes for making ready to eat wafers, which is sold in the domestic market in India. In case of PepsiCo too banks act as a dummy stakeholder, banks hold a key position in Hoshiarpur's agriculture as farmers in Punjab rely heavily on banks for credit support in the form of crop loans and other loans.

Frito Lay directly involves the individual farmers for registering them under the contract farming practice. The field staff of Frito Lay contacts the framers directly in Hoshiarpur region and it does not involve any brokers or middlemen in its operations. The contract agreement is a written document, which is in English, farmers who want to be a part of the contract farming practice sign the contract.



The contract-farming model adopted by PepsiCo

Personal interviews and discussions with the Pepsi – potato growers throw light on the fact that most of the farmers under contract agreement cannot read and write English. The copy of the contract agreement is for Pepsi's record and a copy of the contract is not given to the farmers.

The terms and conditions under potato contract are mentioned hereunder:

- Parent seed of a certain variety, which is the exclusive property of Pepsi Foods Limited, shall be provided by Pepsi Foods Limited at the time of sowing to the grower @ Rs.460/ bag of 81 kg inclusive of bag of 'A' and 'B' grade and Rs.370/bag of 81 kg inclusive of bag of 'C' grade for multiplication under in accordance with the terms of this agreement. The farmers will deposit 25 per cent the amount at the time of booking the seed and balance 75 per cent will be collected at the time of delivery.
- The potato grown from the parent seeds provided by Pepsi Foods Limited will be purchased from the grower, at the Channo factory and prices of the grades will be as follows.
- Size less or more than described specification, misshaped, green, cut and very small size potato seed will not be purchased.

All farm operations such as land preparation, planting, inter-culture/ spraying and all other operations including harvesting, storing, grading, bagging and loading will be the responsibility of the grower and the cost will be borne by him, provided always, however, that the grower shall at all time follow such instructions as may be given by Pepsi Foods Limited from time to time on any matter in connection with this agreement.

- It is agreed between the parties that the total potato produced by the grower shall always be the property of Pepsi Foods Limited. Further provided that the seeds, the plants sprouting from the seeds and all other parts will remain the exclusive property of Pepsi Foods Limited and shall only be disposed/sold, if so desired by Pepsi Foods Limited as per Pepsi Foods Limited instructions.
- Potato planting/harvest is to be started in presence of a Pepsi Foods India Limited representative or Pepsi Foods Limited has given written instructions for such operations to be started.
- The grower shall render all the cooperation and assistance to Pepsi Foods Limited and its representatives in conducting field inspections of potato crop at any time/stage and shall carry out instructions issued by Pepsi Foods Limited experts on raising/ handling of crop.
- The grower shall not sell or transfer the produce meant for delivery to Pepsi Foods Limited. In case of defaults, the grower shall be liable to pay to Pepsi Foods Limited the damages for the shortfall on this account and in such an event Pepsi Foods Limited reserves the right to forthwith terminate the contract.
- Pepsi Foods Limited shall make the payment

by draft/cheque on the receipt of and acceptance of potatoes within two weeks thereof.

 Notwithstanding, the place where this agreement is to be implemented, it is mutually understood and agreed by and between parties hereto that the contract shall be deemed to have been entered into at New Delhi and Courts of Law in New Delhi alone shall have jurisdiction top adjudicate there on.

The contract is signed in the presence of two witnesses. Frito Lay does not issue any identity cards unlike Markfed. Potato growers are not charged with any registration fee by PepsiCo. Like Markfed, the contract farming practices by Frito Lay does not give due stake to the farmers in deciding the terms and conditions of the contract agreement. Frito Lay decides the prices of the farmers' produce. The prices are usually higher than the market prices<sup>15</sup>.

The contract agreement for potato production is a seasonal contract, which is renewed every season. The company provides seeds of potato on credit; the seeds charges are deducted from the payment at the time of delivery of produce. It is farmers' responsibility to make the credit arrangement for fertilizers, pesticides and farm implements. Whereas, Frito Lay provides them with support on technical know-how for maintaining the quality of crops that is demanded by the company. The production manual gives all the specifications on the field selection until harvest of the crop/ potatoes. It specifies on the use of a wide spectrum of chemicals that include fertilizers, pesticides and herbicides. The manual suggests the treatment of seed tubers with organic mercurial compound - Emisan, @ 6 solutions of 0.25 per cent for 10 minutes to control the surface borne diseases. Further it is recommended to treat the tubers with 3 per cent of boric acid solution for 15 minutes. The fertilizers required are 250 kg N, 150 kg  $P_2O_5$  and 150 kg of  $K_2O$  and about 10 tonnes of farmyard manure. Full dose of phosphorus and potassium and half a dose of nitrogen is applied at planting preferably in furrows. The source of nitrogen is ammonium nitrate and urea. Phosphorus is supplied through super-phosphate and diammonium phosphate. The source of potassium is muriate of potash. The herbicides recommended are Sencor 1 kg/ha, Goal 600 ml/ ha and Lasso 3 kg/ha in 1,000 litre of water as pre-emergence herbicides. Spray potato field with Gramaxone 2.0 litre/ha in 800-1,000 litre of water at 5 to 10 per cent plant immergence. The biggest threat to potato crop is from late blight that spreads in epidemic form once in four to five years. However, the manual suggests that the measures are to be taken every year. To control late blight prophylactic spray of Macozeb, i.e. Dithane M-45 at 2.0 kg in 1,000 litres of water/ ha is recommended. Besides this, the spray of Triton AE may be added to fungicide solution and in further appearance of late blight a spray of Redomil MZ 72 WP at 1 to 2 kg/ha in 1,000 litre of water should be given immediately.

<sup>1</sup> In December 2007, the prices of potato in open market were Rs. 700/q and it were the prices with Frito Lay.

Frito Lay has a procurement centre at Sarain, which is approximately 7 km from Hoshiarpur city. Farmers transport their produce to Sarain and afterwards it is Frito Lay's responsibility to transport it to Channo<sup>16</sup> where Frito Lay factory/ processing plant is located. The payments are made by cheque. The prices are usually Rs.20– 25/quintal higher than the open market prices. The quality related rejections are 5 per cent; this might be more in case of bad season or a poor crop. According to the extension staff of Frito Lay the main reasons behind the crop failure are – poor farming practices by farmer such as fertilizing the crop with urea, over and under use of fertilizers and pesticides, poor irrigation management, diseases and insect/pest attack, late blight during winter season and un-seasonal rains. As per farmers' the main reasons behind crop failure are – weather conditions, diseases and pest attack especially late blight and the unavailability of post-harvest storage facilities. In case of crop loss there is no compensation or relaxation in the quality criteria by the company.

Contract farming under different arrangements			
Particulars	PepsiCo	Markfed	
Pre-contract assessment	Direct	Direct and through middlemen	
Nature of contract	Written (English)	Written (local)	
Type of contract	Bipartite	Written (local)	
Copy provided to farmers	No	Yes	
Registration fee	On the company	On the farmers (Rs.100)	
ID cards	No	Yes	
Inputs supplied	Seeds; tech know-how; brands specified with respect to fertilizers and pesticides; no credit	Seeds – supplied optional; tech know how; no credit	
Procurement of produce	Direct	Direct and through middlemen	
Transportation	By the farmers up to the collection centres	At the farm gate	

# **Contract farming under different arrangements**

### Introduction of New Varieties

Table 13

Several studies have supported the fact that contract farming introduces new varieties to the region where, it is practiced and in most cases is coupled with the complete extinction of the local varieties. Tomato was introduced in the region by PepsiCo as a cash crop, before this tomato was not a major crop in the district. Tomato contract farming by PepsiCo has introduced new varieties of tomatoes in the region; these were 141, 143, 789, Kuber, Geeta, Rashmi and Rupali. After the shut down

<sup>2</sup> Channo is a village in Patiala district of Punjab, where Frito Lay plant is located.

of the tomato processing plant its cultivation in Hoshiarpur region became a history, as there was no market for tomatoes; they are sold whole in the open market. Tomato cultivation was in vogue in the region for less than a decade, though farmers earn benefits for three to four seasons but in totality such practices are to confuse the farmers.

For the contract production of potato the hybrid varieties of potato, which have less sugar content, were introduced in the regionby Frito Lay. These are Kufri Chandramukhi – 2708, Chipsona – 1, Chipsona – 2, Atlantic (Dutch variety), Cahhiver and Kufri Jyoti. Kufri Chandramukhi, Kufri Chipsona – 1, Kufri Chipsona – 2 and Atlantic are suitable for the production of chips and french fries, where as Kufri Jyoti, Kufri Pukhraj and Kufri Badshah are suitable for table purpose. The varieties of Kufri were sown in the region much before the introduction of PepsiCo but now these varieties are in trend and are grown by noncontract farmers too, as they are bigger in size, attractive and have a much higher yield than the native varieties such as Surkha and Chapta, which are completely lost from the soils of Punjab. As

Table 14

per some of the potato growers from Hoshiarpur, local varieties of potato were hardy, less labour intensive and its germplasm can be prepared on field but farmers grow what the market demands.

Contract farming of basmati rice in Hoshiarpur region by Markfed has not introduced any new variety of basmati. Basmati contract farmers are propagating varieties of basmati viz., Pusa Basmati – 1121, Pusa Basmati – 1, HBC – 19, Sharbati, Super and Pakistani Basmati – 386, all these are hybrid varieties of basmati. Though Markfed recommended scented varieties such as Pakistani Basmati but they stress on the production of long grain basmati, i.e. PB – 1121, as Markfeds' main objective is export of basmati to European and Arab countries. In Europe long grain varieties of basmati are preferred over scented varieties whereas, scented varieties are preferred in Arab countries.

#### Impact on the Leasing of Agricultural Land

Farmers in Hoshiarpur region take land on lease, so as to increase the cultivable area and thus to have increased earnings. All categories of farmers that is, small, semi-medium, medium and large take land on lease.

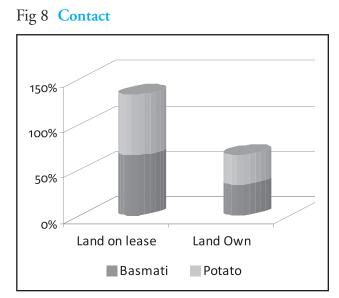
Land leasing details for contract and non-contract farmers										
		CONTRACT					NONC	ONTRA	СТ	
LAND DETAILS (acres) CROP	Land on Lease	% Land on Lease	Land Own	% Land Own	Total Land	Land on Lease	% Land on Lease	Land Own	% Land Own	Total Land
BASMATI	322	66.12	165	33.88	487	345	60.21	228	39.79	573
POTATO	747	66.70	373	33.30	1120	372	55.69	296	44.31	668
TOTAL	1069	66.11	538	33.27	1617	717	57.77	524	42.22	1241
Source: Authors estimates on the basis of field survey Dec 2007–Jan 2008.										

29

Leasing land is a phenomenon seen in both contract and non-contract farming practices (see Table 14). The total land holding of 40 select contract growers accounts for 1,617 acres, of which 1,069 acres (66.11 per cent) is land on lease and 538 acres (33.27 per cent) is land owned. Whereas, the total land holdings by 40 sample non-contract farmers accounts for 1,241 acres, of which 717 acres (57.77 per cent) is land leased and 524 acres (42.22 per cent) is land owned. Hence, it can be inferred that contract practices have higher probability of leasing in of agricultural land in the region.

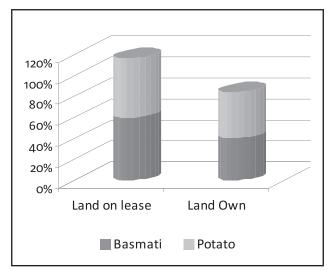
# Crop-wise Land Owned and Leased

The trends in taking land on lease for contract production of basmati and potato show similar trends. Approximately 66 per cent of the total land is taken on lease for the contract production of both basmati and potato in the region and 33.88 per cent and 33.30 per cent of the total land area is owned by the basmati and potato growers respectively. See graph below for details.



In case of land leasing and owning patterns by non-contract growers of basmati and potato show an aberrant trend for the two crops. The land leased for basmati and potato production is 60.21 per cent and 55.69 per cent respectively of the total land under cultivation. Comparison of the land owned by the basmati and potato growers for non-contract production and contract production show that the land owned under noncontract practices of basmati and potato is more than that of the contract farming practices. Also,

# Non-Contract



the land on lease under non-contract production of both the crops is less than the land on lease under contract production. Seeing the above trends it can be concluded that contract farming has given an impetus to the practice of leasing land, as large land holding is a prerequisite to be a part of the contract farming system.

This shows that the leasing of land varies as per the prerequisites of the contractor. PepsiCo and its sister concern emphasize more on the large land holding to be a part of contract farming practice, though small farmers can sell their produce to Frito Lay. Contract farming has given an impetus to taking land on lease, as large land holding is a prerequisite to be a part of contract farming practices by various contractors, and especially MNCs like PepsiCo.

As per the primary field investigations, the land is leased out by the Non-resident Indians (NRIs), land holders who have other sources of income, usually in service (government or private) and in some instances small farmers who have asset/land holding but do not have enough capital resources to invest. This will certainly worsen the condition of the small farmers who are deprived of resources in one form or the other. Singh, 2002 also supports this; he has quoted the fear of reverse tenancy by such practices. Contract farming has increased the practice of reverse tenancy in the region as the return from farming have increased for those who can invest in it and can take risk of crop failure, and these are mostly the large land holders or those who have other non-farm sources of income. This is certainly leading to higher orders of economic differentiation in the region, as those who lease out land are only worse off.

# Participation of Small and Marginal Farmers in Contract Arrangements

A substantial number of small farmers are also a part of basmati contract but they have taken land on lease and their total land accounts for no less than eight acres. The contract farming of potato completely excludes small farmers. Large farmers participate in maximum number, semi-medium farmers next in the per cent participation, followed by medium farmers. The worse was the case in the contract farming of tomato where, only semi-medium and large farmers were a part of contract farming practice.

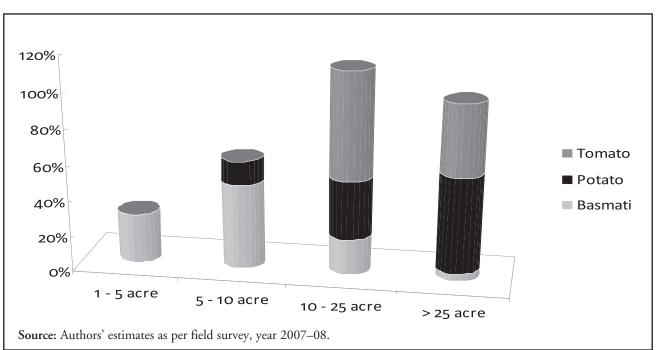


Fig 9 Profile of land holders under contract farming

31

Contracting agencies prefer large farmers for contract farming because of their capacity to produce better quality crops due to efficient and business oriented farming methods, the large volumes of produce which reduces the cost of collection for the firm, their capacity to bear risk in case of crop failure, and various services provided by these large producers such as transport, storage, etc. Companies prefer dealing with a few large farmers instead of many small farmers. It was also found by other studies that the firms work mostly with large and medium farmers<sup>17</sup>.

In general small farmers are not a part of contract farming arrangements, this essentially means that contracting companies do not encourage the participation of those who need to be helped to participate as risk preferences and innovativeness require not only just attitude but also resources and risk taking capability to undertake risky crops and ventures (Glover, 1987). The aspects of contracting, which contribute to contract farming excluding small producers are: enforcement of contracts, high transaction costs, quality standards, business attitudes and ethics such as non/delayed/reduced payment and high rate of product rejection, and weak bargaining power of the small growers (Kristen and Sartorius, 2002).

Further, agribusiness companies working with farmers are driven by the profit motive alone most of the time, and therefore, tend to ignore the social dimension of their operations. Examples of such behaviour include abandoning an area if not profitable to continue, and exclusion of small and marginal framers from their operations (Andreas et al., 2006).

Surprisingly, even a state sponsored cooperative (Markfed) in Punjab does not entertain farmers who cannot spare at least three acres for its basmati paddy contract farming programme (*The Tribune*, Chandigarh, 08 June, 2006). This bias is favour of large/medium farmers is perpetuating the practice of reverse tenancy in regions like Punjab where these farmers lease in land from marginal and small farmers for contract production (Singh, 2002; Haque, 2003).

# Effect on Input Cost

Agriculture in the 21st century in most parts of our county is practiced at commercial level for better gains. Especially, in a state like Punjab commercialization of agriculture began with the advent of the Green Revolution. Further, new practices in agriculture such as contract farming have lead to an increase in the degree of commercialization by making it more profit oriented. Though, in several instances contract farming has lead to higher returns but the input cost has increased many folds in all the cases, irrespective of the crop cultivated.

Input cost of basmati and potato under contract agreement is estimated as per the information and knowledge shared with farmers and discussions with Markfed and PepsiCo staff on the input cost of basmati and potato, respectively. The details on the variations in the inputs are given in the table below.

<sup>17</sup> Bhalla and Singh, 1996; Singh, 2002; Haque, 2003; Dev and Rao, 2004; Singh and Ashokan, 2005; Kumar, 2005; Khairnar and Yeleti, 2005.

Table 15 Cost for potato production under contract farming					
Sl. No.	Heads/Inputs	Recurring cost under contract practice (Rs./acre)	Recurring cost under non-contract practice (Rs./acre)		
1	Bed preparation	2500.00	2500.00		
2	Seeds	1000.00	650.00		
3	Sowing	1000.00	1000.00		
4	Fertilizers	5000.00	5000.00		
5	Farm-yard manure	3000.00	1500.00		
6	Pesticides	7000.00	3000.00		
8	Irrigation	Subsidized <sup>18</sup>	Subsidized		
9	Harvesting	1500.00	1500.00		
10	Transportation	5000.00	5000.00		
11	Others	5000.00	5000.00		
	TOTAL	Rs.31,000.00	Rs.25,150.00		
Source: Interview with farmers in Hoshiarpur District.					

The costs of various inputs in the table are inclusive of the labour cost and are approximate figures based on the farmer's responses from the field survey. The cost of input given in Table 14 and Table 15 are recurring costs, an average of higher and lower limit of the amount incurred on each input is taken into consideration. The total cost of contract production of potato accounts for Rs.31,000/acre. The cost of pesticides is subject to variations depending on the severity of infection and spread of late blight. The input cost for noncontract production of potato is Rs.25,150/acre. The variation in the cost of production of potatoes under contract and non-contract farming is Rs.6000/acre, i.e. the cost of production of potatoes under contract agreement is Rs.6000/acre more than the cost of potato production under non-contract practices. The input cost is higher under contract arrangements. According to Chand (1999), pesticides and fertilizers are used at a much higher levels than in the traditional crops. For example, potato cultivation requires 108 kg of NPK (inorganic fertilizers) per acre as against only 78 kg for wheat and 60 kg each of phosphorous and potassium per acre as per the Pepsi Food manual.

<sup>18.</sup> Note : No cost is incurred in irrigation as electricity is 100 per cent subsidized.

# **Cost of Basmati Production**

Table 16 Cost for basmati production under contract farming					
Sl. No.	Heads/Inputs	Recurring cost under contract practice (Rs./acre)	Recurring cost under non-contract practice (Rs./acre)		
1	Land preparation	1,500.00	1,500.00		
2	Seeds	2,000.00	2,000.00		
3	Nursery preparation	1,500.00	1,500.00		
4	Planting	800.00	800.00		
5	Fertilizers	5,000.00	3,000.00		
6	Green manure	3,000.00	3,000.00		
7	Pesticides	1,500.00	1,500.00		
8	Irrigation	Subsidized	Subsidized		
9	Harvesting	1,500.00	1,500.00		
10	Transportation	5,000.00	5,000.00		
11	Others	2,000.00	2,000.00		
	TOTAL	Rs.23, 800.00	Rs.21, 800.00		
Source: Interview with farmers in Hoshiarpur District.					

The contract and non-contract production of basmati does not show any significant difference unlike potato production. The cost of cultivation accounts to approximately Rs.23,800/acre under contract agreement whereas, the input cost averages to Rs.21,800/acre in case of noncontract. Thus, there is no significant difference between the input cost under contract and noncontract farming. Few small farmers in the region are practicing organic production of basmati that cuts down the cost by Rs.5,000/acre, the cost of cultivation sums up to approximately Rs.18,000/ acre.

# Impact on Farmer's Incomes

The returns from contract arrangements are higher than that of non-contract farming. The incomes/returns in case of contract farming too vary as per the type of the crop and show variations from season to season. For e.g., in case of contract farming of tomato by PepsiCo the income was as high as Rs.20,000/acre. Whereas, the growers of basmati under contract production by Markfed and Lal Mahal joint venture, faced serious losses in the year 2006 due to crop failure. As per the farmers the seed supplied by Lal Mahal was infected, which lead to sporadic spread of the foot-rot disease and no accountability was taken by the contractor. Thus, higher incomes under contract farming practices are contextual and vary with the type of contract, contract agency and also varies with the seasonality of the crop. Though in some cases farmers earn more incomes under contractual arrangements but that's not universal to all type of contract arrangement

In case of potato contract with PepsiCo the average production is 70 quintals/acre; the rates of potato vary throughout the season, an average rate<sup>19</sup> for potato for last winter crop was Rs.550/ quintal. So, the gross returns from an acre are Rs.38,500/acre and net returns averages to Rs.7,500/acre for the production of potatoes under contract. Whereas, the gross income earned by the non-contract farmer is Rs.31,000/acre approximately and net income earned is Rs.6000/ acre. Thus, there is no significant difference between the net incomes earned by the contract growers of potato, as the input costs are very high in case of production of potato under contract agreement.

The farming practices of basmati rice did not incur any significant difference in the input cost under contract and non-contract arrangements in Hoshiarpur region. The cost of cultivation accounts to approximately Rs.23,800/acre. Few small farmers in the region are practicing organic production of basmati that cuts down the cost by Rs.5000/acre, the cost of cultivation sums up to approximately Rs.18,000/acre. The production of basmati (including all varieties) from an acre averages to 16 quintals. The prices of basmati provided by Markfed to the farmers are same as those in the open market, when the purchase rates are high in the open market and during the season period when there is slump in the open market; Markfed procures the produce at a little higher rate of Rs.5-15/quintal.

It is found that contract production gave much higher (almost three times) gross returns compared with that from the traditional crops of tomato, paddy and potato due to higher yield and assured price under contract. Studies undertaken for tomato contract production in Punjab and Haryana (Haque, 2000; Dileep et al., 2002) also found that the net returns from these crops under contracts being much higher than those under non-contract situations though the production cost in tomato was higher under the contract system (Dileep et al., 2002).

Potato in Haryana also showed higher net returns for growers compared with non-growers due to higher yields and higher prices, though the cost of cultivation was also higher (17-24 per cent) (Tripathi et al., 2005).

#### Price Realization

Potato and basmati contract farming witness better price realization compared to the open market in Hoshiarpur mandi. The price of potato under contract agreement was Rs.700/q where as, potato fetched Rs.500/q in the open market at Hoshiarpur mandi. Price of Pakistani basmati under contract was Rs.2,100/q, the prices in the local market was Rs.2,050/q and the prices in the Gurdaspur, adjoining district, was Rs.2,400/q though the retail price of basmati the year 2008 was Rs.5,000/q. The price for PB 11 and PB1 under contract production were Rs.1,800/q and in the local market it was Rs.1770/q.

35

<sup>1</sup> An average of the market rate of potato is taken as the rate of potato varies throughout the season. The rate of potato as on 30th November, 2007 was Rs.775/q, rates fall down to Rs.750 on 10th December, Rs.725 from 11-20th December and Rs.675/q in the first week of January, the rates of potato drop down to Rs.450/q by the end of the season.

### Impact on Market Opportunities

Contract farming provides better market opportunities to the contract farmers in the open market. Market opportunities in Hoshiarpur district are improvised in case of potato contract by PepsiCo. PepsiCo has collection and procurement centre at Sarain, which has cold storage facility for storage of potato. Farmers transport the produce to Sarain and afterwards it is PepsiCo's responsibility to transport it to the processing plant at Channo. Markfed is procuring basmati rice in the region since last 20 years. Markfed has established procurement centre at Bhangala and Moranwali in the region; Markfed's own rice mills and shellers that are located at Navasahar in the adjoining district. Markfed has entered the contract arrangement of basmati rice since last two crops. In the recent times it has not provided any new marketing facility for the basmati growers in terms of availability of market infrastructure, instead Markfed is seeking opportunities in terms of assured and quality supply of the produce.

The market opportunities under contract arrangements have an associated factor of uncertainty; in case of any shift in the policies of the contracting firm the entire market for that particular commodity collapses without any prior indications and the shifts in the policies of company are not very unlikely as the contracting firms are profit driven. In case of tomato contract farming in the mid-1990s PepsiCo winds up the project because of which farmers faced losses. Tomatoes do not have a commercial demand in Hoshiarpur and nearby districts so the shut down of Pepsi Processing Plant forced the tomato

36

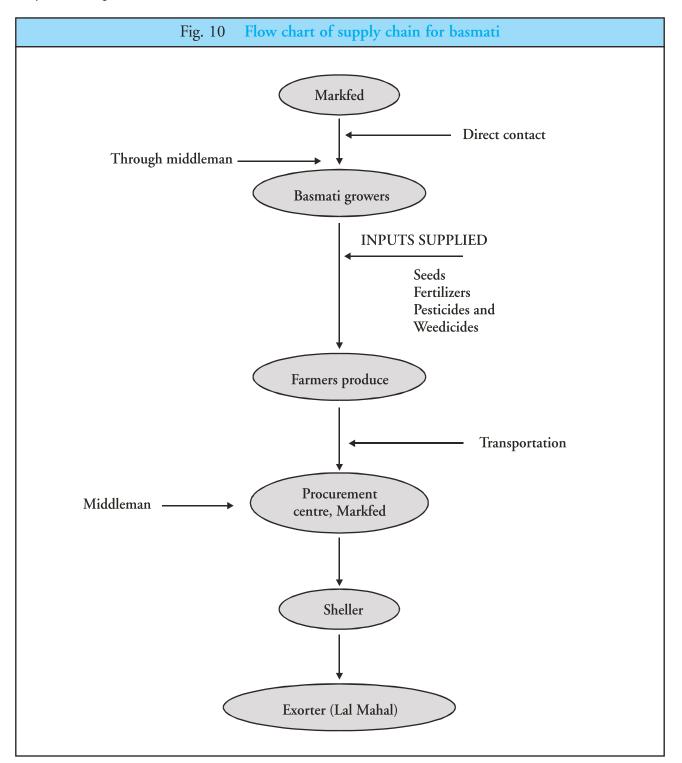
growers to shift to other crops that have a demand in the market. Contract farming system in many cases provides better marketing opportunity but the factor of uncertainty is subsisting in this system too. The marketing opportunities provided under contract farming practices benefit a particular class of the farming community.

#### Involvement of Middleman

The contract farming practice adopted by Markfed is not free from the involvement of middlemen. Markfed field personnel contact farmers either directly on one to one basis or indirectly through middlemen. As per Markfed field staff, contacting farmers through middlemen make the task easier. The supply chain of basmati by Markfed involves middlemen at several stages, the first step at which middlemen are involved is at the initiation of the contract and the second step is at the procurement stage. These middlemen are locally known as *jajmans*, who are big land lords; they give credit to the farmers for agriculture as well as other personnel purposes such as wedding and medical care. For agriculture purposes farmers take machinery on rent and take credit for fertilizers, pesticides and herbicides from them. The *jajmani* system dates back to the Vedic era. William H. Wiser in his book 'The Hindu Jajmani System' describes the jajmani system as the economic interaction between the various castes at village level. It is essentially an agriculture based system of production and distribution of goods and services. The *jajmans* enjoy a dominant position in the society due to access to resources and small farmers depend on them for these resources. The deep rooted system of economic dependence of

small cultivators on the big land lords still exist in the era of liberalization, the contract farming model by Markfed is not able to bring changes in the exploitative agrarian practices.

Dalals, brokers and commission agents are involved at the stage of procurement of produce; they sell the procured basmati rice to Markfed and individual farmers too sell their rice to Markfed. The procured rice is shelled and polished at Naswashar rice mill and sheller owned by Markfed. The polished rice is procured by the exporter (Lal Mahal). The flow diagram of supply chain of basmati shows the stages of involvement of middleman in the contract farming of basmati.



# Contract Farming System of Tomato by PepsiCo

The Pepsi project was initiated in the year 1989. The project was a joint venture amongst PepsiCo, Voltas and Punjab Agro Industries Corporation (PAIC) and its aim was to bring diversification and revolution in horticulture. Since, PepsiCo found the local varieties of fruits and vegetables unfit for processing, it wanted to promote new varieties and hence, the proposal for an agroresearch centre with an outlay of Rs.20 million was proposed and approved. PepsiCo used contract farming system to procure the raw material.

Contract farming of tomato was started by PepsiCo in the early 1990s. It was later initiated in the following districts of Punjab:

- Amritsar,
- Jalandhar,
- Hoshiarpur,
- Kapurthala.

Table	17			
Total	area	covered	by	PepsiCo

Land in acres	Name of the district	State
1,500	Amritsar,Jalandhar.Hoshiarpur, andKapurthala	Punjab
300	Sarsa	Haryana
1000	Longewal, Kappa and Sirsa	Haryana
500 - 600	Jaipur	Rajasthan

**Source**: India's Agricultural Challenges: Reflections on policy, technology and other issues by Centre for Trade and Development (Centad), 2005.

The tomato processing plant was located near Zahura village in Hoshiarpur district. Within three years of its operation, the PepsiCo project was able to raise the yield of tomato from a mere 7.5 tonnes/ acre to 20 tonnes/acre<sup>20</sup>.

The contract farming system by PepsiCo initially involved two stakeholders that is PepsiCo and farmers, later it involved three stakeholders, namely, PepsiCo, farmer and the ICICI bank. PepsiCo provided farmers with inputs and extension services and in turn farmers provided PepsiCo with farm produce and the ICICI bank provided the farmers with loans.

The agreement between the farmer and the contractor was verbally based on the mutual understanding. Extension service was provided free of cost by PepsiCo. Farmers have no stake in fixing the prices of their produce. The farmers with a minimum land holding of 25 acres or 5 acres of land holding with minimum 20 acres of land on lease were eligible to be a part of contract farming system.

<sup>1</sup> Singh, Sukhpal, 2000.

The contract growers were able to take two crops of tomato in a year. It successfully attempted the cultivation and production of winter crop. PepsiCo introduced new technology of deep chiseling, new methods of transplantation and new seed varieties. Farmers were provided with the seedlings of tomato and the variety of tomato was never reveled to the farmers.

The input cost for the production of tomato was as high as Rs.10, 000/acre with a production potential of 18-20 tonnes/acre. Payments were made on time, except for the last three consecutive seasons before PepsiCo sold the pant to Hindustan Liver Limited.

In the year 2003 PepsiCo was unable to capture international market, which affected the profits of PepsiCo and income and livelihoods of the farmers who were involved in the contract farming of tomato with company. This had a negative effect on the non-contract farmers too as PepsiCo refused to buy the produce from the contract farmers because of which the local market was flooded with tomatoes. Due to which tomatoes were sold at a maximum of 50 paisa and minimum of zero paisa. Tomato is a perishable crop, the entire crop was a loss and the farmers both contract and non-contract were hit badly.

PepsiCo sold the plant to Hindustan Liver Limited (HLL) in 1995, a Unilever subsidiary, a MNC, HLL practiced contract farming of tomato for a few years and further sold it. PepsiCo entered into contract farming of potato in the late 1990s. Recently, the plant is again bought by PepsiCo and its machinery is sold/shifted to some of its concerns in Bangalore.

The case studies in the following section throw more light on the contract farming system adopted and run by PepsiCo.

# Case Studies on Farmers' Experiences on Tomato Contract

#### Case Study 1

Sardar Paramjeet Singh, who is 64 years old is a native of Hoshiarpur town in Punjab and has been practicing commercial agriculture the for last 44 years. He is a Masters in Economics from Punjab University. He holds an agricultural land of more than 100 acres in Hoshiarpur, practiced contract farming with PepsiCo since the company entered India for contract production of tomatoes. Presently, he is cultivating potatoes under contract agreement with a Hyderabad-based firm. As per him small farmers were not a part of tomato contract and cannot be a part of contract farming system as agribusiness firms require raw produce in bulk and small farmers can neither fulfill the quantity nor quality requirements and the cost of production is very high. He affirms that "contract farming is a game that only big players can play – agriculture is now all about survival

(Case Study 1 Contd.)

# (Case Study 1 Contd.)

of the fittest". He revels that in 2003 PepsiCo faced big loss, which later led to the shutdown of the company not because their tomato paste was of inferior quality but because there was another cheaper brand available in the international market that year which was produced and marketed by China.

That year the cost of production of Indian paste was Rs.26/kg whereas the tomato paste marketed by China was Rs.23/kg in the international market. The unsold paste that was drained by PepsiCo was worth Rs.11 cores. This was the case when they breached the contract and refused to buy the produce from maximum farmers. I was amongst the lucky ones who were able to sell their produce and get the cost due to the friendly terms with the PepsiCo staff. That year the market was flooded with tomatoes; farmers sold tomatoes at throw away prices, i.e. at zero paisa. In the end he concludes that contract farming for a perishable commodity such as tomatoes is not a viable alternative and there are chances of failure but we can go for contract farming of durable/standardized products such as basmati.

# Case Study 2

Kamaljeet Singh, who is a 43-year-old Sikh belongs to Zahura village and was a part of tomato farming under contract with PepsiCo.

He is metric pass and has six members in his family, of which two are male, two female and he has two children. Two males, i.e. he and his father are the bread earners of the family and are tilling land since generations. Women are not a part of agrarian economy and take care of the household chores.

He owns 45 acres land, initially he was cultivating tomatoes in four acres and later he increased the area under tomato cultivation from 4 to 10 acres. He practiced contract farming for six seasons. The input cost per acre was Rs.10,000 and they were harvesting 18-20 tonnes tomatoes per acre. The input cost was very high compared to the cost incurred in our traditional practices of tomato because of which only medium and large farmers were a part of it. Tomato cultivation under contract was also labour intensive. According to Kamaljeet, in Punjab farmers depend primarily on migrated labour from Uttar Pradesh and Bihar, as it is cheap. Labour from Bihar includes only male members whereas, laborers from UP move with their family i.e. man, women and children work on the same field. He further adds that, "though we pay less to women and children but we do not like children working in our fields as they are less efficient and not trained."

The contract was verbal and nothing was

(Case Study 2 Contd.)

### (Case Study 1 Contd.)

written. On asking about the variety of tomato Kamaljeet smiled in sarcasm and said, "The variety of tomato was not told to the farmers as that was a trade secret of PepsiCo". They use to do trials with pesticides and provided farmers with seed, technology, extension and market support. The price was fixed by the PepsiCo, farmers do not have any stake in that but we were never under paid except for the last season. He recollected that it was a May month that the tomato harvest was very good. PepsiCo refused to buy the produce, open market was flooded with tomatoes and farmers had to sell them for free. The entire crop was spoilt as even the cattle do not eat tomatoes, storage was not possible as it being a perishable crop and heat was another major factor. It was a major setback for the farmers.

# Case Study 3

Kulvinder Singh is a small farmer; he owns five acres of land and has taken 30 acres of land on lease at the rate of Rs.10,000-12,000/acre of which 20 acres was under tomato cultivation.

He is a 45-year old Sikh from Zahura village and lived adjacent to the PepsiCo plant. He has grown tomatoes under contract with PepsiCo for 10 years. He is metric pass and has a family of four members.

PepsiCo did not disclose the varieties of tomatoes that was being planted and sold to the farmers at Rs.2000/acre. The inputs such as machinery, technology, extension and market support was provided by the corporate and no cost was charged for these inputs. He practiced contract farming for 20 seasons with PepsiCo and every third or fourth season was a slump. For some seasons he was able to make profit as high as Rs.20,000/acre. He told that he used to sell good quality produce in the open market and the inferior quality was sold to the company. On asking about the losses incurred in the contractual arrangement of tomato with PepsiCo he said that, "I am a small farmer and small framers are born to bear losses, for us profits are rare. If we start keeping records of profits and losses we will stop cultivating. We have to practice agriculture as we do not know anything else".

# **XI.** Conclusion

The study on the "Effectiveness of Contract Farming Practices for Agricultural Development and Equity" advocates that contract arrangements that are practiced in Hoshiarpur region of Punjab exclude small farmers. It implies for both, the MNC (PepsiCo) and cooperative (Markfed), as

Agricultural Development and Equity 41

they are here for profit maximization. The rights and livelihoods of small farmers are a concern in the globalized – fast growing economy, as they are the most vulnerable. They are the ones who needs to be integrated in the mainstream modern agricultural practices and should not be lagged behind.

Contract farming practices in the region are exploitative as farmers have no authority in deciding the terms and conditions of contract agreement, they have no stake in fixing the prices of the farm produce. PAFC after the shut down of the PepsiCo tomato project made it mandatory to have a written contractual agreement between the farmers and the company/concern. Farmers have no stake in deciding the prices of their produce and the terms and conditions of the contract. The terms and conditions of the contract agreement by Markfed and PepsiCo, given in the previous chapter, crystallize that the contract agreement is made to bound farmers so as to safeguard the benefits of the contractor, as none of the term supports the rights of farmers. The terms and conditions mentioned in the contract are biased and safeguard the benefits of the contracting firm, the farmer is abide to sell the produce to PepsiCo, the contract gives the company the right to penalize the farmers in case of refusal to sell his produce. It also mentions that the potato grown by the farmer is a property of PepsiCo and the plants sprouting from the seeds and all the parts will remain the exclusive property

of PepsiCo. Whereas, in case of crop loss or damages to crop the company has right to terminate the contract and farmer can sell his produce in the open market. The contract does not include any provision of 'risk sharing', even in case of shut down of tomato project and failure of the entire basmati crop due to the infested seed supplied by Markfed in the year 2006. The farmers are not paid any compensation; they are at complete loss, whereas companies and cooperatives have insurance against risk. They have nothing to loose, it is all a win-win situation for the contracting firms.

Registration fee of Rs.100 charged by Markfed seem to be a marketing strategy to withhold the farmers from breaching the contract, which seems to be an abortive effort and though the sum is small, but such efforts cannot be appreciated.

The input cost under the contract arrangement has increased tremendously in all the cases. The increase is due to high cost of seed and increased dose of fertilizers and pesticides. Besides the high prices, the fertilizers, pesticides and herbicides deteriorate the quality of soil, have negative impact on the surrounding environment, especially on water bodies and many of these pesticides are passed from crop to human being causing an unhealthy effect on the well being of man. The costs of fertilizers, pesticides and herbicides are becoming unbearable for the farmers. Considering the profits and turnovers made by these contracting firms, the incomes earned by the contract farmers are diminutive. The condition of farmer remains unchanged; he still holds the lowest strata in the hierarchy of value chain. The returns by the contract farming arrangements are comparatively more than noncontract farming. The payments made by the contracting firm are delayed most of the time by one or two months. It has introduced new varieties of tomato and potato in the region, but these new varieties are not responsible for the loss of the native varieties as they were lost much earlier.

Contract farming has provided opportunities for the creation of collection centres at local/regional levels but the major impact of it is in providing market opportunities including export markets for fruits, cereals and other cash crops and in strengthening retail chains for value added products at national level. Contract farming practices adopted by PepsiCo and Markfed include the middlemen thus there is no difference in the existing market system.

It has given an impetus to leasing of agricultural land, i.e. taking land on lease for agricultural purpose. The land is leased out by non-resident Indians (NRI), people who are in-service and by small farmers. If the same situation persists for long, it will certainly lead to a worse situation. In a land that is dominated by large farmers it might support reverse tenancy or proliterization. Contract farming system at present is gaining importance in developing countries such as India, as it is considered to be an important tool for commercialization of agriculture. Contract farming for agro-processing is the most important force that is helping development of super market chains. Global retail companies have an influence on developing countries, through foreign investments and/or through the imposition of their private standards. It impacts negatively on food security by promoting the production of cash crops and cereal crops for export to the developed countries.

The contract farming system does not bring equal opportunities for the farmer and the contractor; it holds biases towards the contracting firm. The contract farming practices in the present context does not include all the classes of farming community as it tends to exclude small farmers in the region. Thus, the present contract farming practices are unjust and unequitable.

All the systems in this world have limitations. But if limitations start serving negative consequences for the masses in general, there in arises the need to analyse, understand and make amendments in the system. This is the situation of contract farming system in the developing world and the state of contract farming in India is not an exception.

43

Table 18	
<b>Contract farming -</b>	A 'win-win' game?

Particulars	Peps	iCo	Markfed	
	Farmers	Company	Farmers	Company
Assured Market for produce	~		~	
Assured supply for raw materials		~		~
Higher incomes from contracting	~		~	
Lower transition costs per unit	~	~	~	~
Flexible terms for buyers	×	~	<b>v</b>	~
Technical support and know how	~	~	~	~
Assistance for credit	×		×	
Participation of small farmers in contract arrangement	×		V	
Level of commitment in the contract arrangement	High	High	Low	Low
Costs of breach of contract	High	Low	Equal	Equal
Terms of contract	Binding	Moderate binding	Non- binding	Non- binding
Risk sharing in the contract arrangement	High	Low	Equal	Equal

# **XII. Recommendations**

The analysis of the contract farming system suggests that the formulation and implementation of agricultural polices and Acts requires a conscious effort at both the centre and state level. Though the Central Government has come up with a "Model Act" – the State Agriculture Produce Marketing (Development and Regulation) Act, 2003, which is a modified APMC Act. Chapter VII of this Act talks about the Procedure and Form of Contract Farming Agreement. Agriculture is a Centre as well as a State subject; hence the Governments of the various states have the power to make decision over the implementation of Contract Farming Act. Only the state of Haryana has a separate Contract Farming Act; rest of the states including Punjab follow the Contract Farming Rules laid down under the APMC Act. The contract farming rules are not effective enough to deal with such a multifaceted issue.

It is an agreement between two unequal parties; one the vulnerable and powerless small holder, and the other, the all powerful and profit driven private sector. As such, contract farming will never be equitable, unless there is some external and independent intervention and protection is provided, especially for the small and marginal land holders.

We need to address the issue of contract farming at two levels in order to bring positives in the system of contract farming and safeguard the farmers from being exploited.

- I. At Policy Level and
- II. At Advocacy Level

# I. At Policy Level

It is important to act at the policy level by formulating Acts and Rules that are just and equitable, that care for the interest of the parties, i.e. the farmer and the contractor, without being biased. The policies should be in such a way that they act as a facilitator and Acts, Rules and Laws should be seen as an instrument for bringing positive changes in the society. Besides this, these cannot work in isolation; i.e. the people in general should know about the provisions in a particular Act or Law so that they can safeguard their interest without abusing the interest of others and for this advocacy is required. The policies should suggest the participation of representatives of both the parties in formulating the terms and conditions of the contract agreement.

#### II. At Advocacy Level

There is a great need of advocacy in terms of contract farming practices. Cases from field suggest that farmers irrespective of their educational status sign the contract letter without reading it. Markfed provides them with a copy of the contract but amongst 25 contract farmers of basmati only one has gone through it. They do not take it as a legal contract agreement but just as a document that is to be signed, as per them it is just a formality. Advocacy will help in bringing awareness amongst the farmers regarding contract farming arrangements. Campaigns and workshops act as the instruments of advocacy. Advocacy should always be strong so that it can create an impact on the policy making process and the system itself otherwise it will not benefit the masses in general.

# References

Abbott, J. C. 1993. Marketing, the Rural Poor and Sustainability, in J C Abbott (ed.): *Agricultural and Food Marketing in Developing Countries – Selected Readings.* Oxon: UK: CAB International, 65-92.

Agarwal, Isabella; S, Priya and S, Bhuvaneshwari. 2005. Contract Farming Venture in Cotton – A Case Study in Tamil Nadu. *Indian Journal of Agriculture Marketing (conf. Spl.)*, 19 (2) 153 – 161.

Agriculture Census, Hoshiarpur 2005 - 06.

Allen, G.R. 1972. An Appraisal of Contract Farming. *Indian Journal of Agriculture Economics* 23: 89-98.

Arnon, I. 1981. Modernization of Agriculture in Developing Countries: Resource, Potentials and Problems. New York, John Wiley.

Asokan, S. R. 2005. Contract Farming and Future Trading of Agricultural Produce in India A Perspective of Contract Farming with Special Reference to India. *Indian Journal of Agriculture Marketing (conf. Spl.)*, 19 (2) 94 – 106.

Baumann, Pari 2000. Equity and Efficiency in Contract Farming Schemes: The Experience of Agricultural Tree Crops. Overseas Development Institute, London Working Paper 139.

Beamish, P.W. 1994. Multinational Joint Ventures in Developing Countries. *International Business Series*, London, Routledge. Benziger, V. 1996. Small Fields, Big Money: Two Successful Programmes in Helping Small Farmers Make the Transition to High Value-Added Crops, 24 (11) *World Development*, 1681-1693.

Bhalla, G. S. and Singh, G. 1996. Impact of GATT on Punjab Agriculture, Delhi: Ajanta.

**Burch, D.** 1996. Globalised Agriculture and Agri-food Restructuring in South East Asia: The Thai Experience in D Burch, R E Rickson and G Lawrence (eds.): *Globalisation and Agri-Food Restructuring* – Perspective from the Australasia Region, USA: Avebury: Brookfield, 323-344.

Burch, D. and Pritchard, B. 1996. The Uneasy Transition to Globlisation: Restructuring the Australian Tomato Industry in D Burch, R E Rickson and G Lawrence (eds.): Globalisation and Agri-Food Restructuring – Perspective from the Australasia Region, USA: Avebury: Brookfield, 107-126.

Dhaliwal, H. S.; Kaur, M. and Singh, J. 2003. Evaluation of Contract Farming Scheme in the Punjab State, Department of Economics, Punjab Agriculture University, Ludhiana.

Eaton, C.S. 1998a. Contract Farming Structures and Management in Developing Nations. In D. Birch, G. Lawrence, R. Rickson, & J. Goss, eds. Australasian food and farming in a globalised economy: recent developments and future prospects. Monash Publications in Geography: No. 50, Department of Geography and Environmental Science, Monash University, Melbourne. **Erappa, S.** 2006. Contract Farming in Karnataka: A Boon or a Bane? Agriculture development and rural transformation centre, Institute for Social and Economic Change, Bangalore. Research Repaort: IX / ADRT / 113.

Ghee, L.K. and Dorell, R. 1992. Contract Farming in Malaysia. In D.J. Glover and L.K. Ghee, eds. Contract Farming in South East Asia, 71-118. Kuala Lumpur, University of Malaysia.

Glover, D. and Kusterer, K. 1990. Small Farmers, Big Business: Contract Farming and Rural Development. London, Macmillian.

Goldberg, R. and McGinty, R. eds. 1979. Agribusiness Management for Developing Countries. Ballinger.

Kalamkar, S. S. 2006. Prospects of Contract Farming in India in the Context of Globalization. Indian Journal of Agriculture Marketing (conf. Spl.), 20 (3) 18 – 34.

Kataria, P. and Chahal, S. S. 2004. Agricultural Price Policy: Implications for Punjab Agriculture. *Indian Journal of Agriculture Marketing* 18 (2) 77 – 86.

Kumar, Sunil. 2006. Agricultural Marketing Infrastructure and Policy Reforms – An Institutional Credit Purveyor's Perspective. *Indian Journal of Agriculture Marketing (conf. Spl.)*, 20 (3) 1 -10.

Kumar, Virendrer, Sharma H.R. and Sharma R. K. 2006. Market Arrivals and Price Behaviour of Potato A Study of Four Metropolitan Markets. *Indian Journal of Agriculture Marketing (conf. Spl.)*, 20 (1) 78 – 89. Kumaracharyulu D. et. al. 2005. Managing Risk through Contract Farming – A Case Study of Gherkins Cultivation. *Indian Journal of Agriculture Marketing (conf. Spl.)*, 19 (2) 147 – 152.

Little, P.D. and Watts, M.J., eds. 1994. Living under Contract: Contract Farming and Agrarian Transformation in Sub-Saharan Africa. Madison, University of Wisconsin Press.

National Bank for Agriculture and Rural Development (NABARD), 1999 News Review, Jan-March. Volume 15 No. 1: 56.

Pandit, Arun; Arora, R.K. and Sharma, H. C. 2003. Problems of Potato Marketing in India. *Indian Journal of Agriculture Marketing (conf. Spl.)*, 17 (2) 79 – 91.

**Potential Link Plan 2007 – 08.** National Bank for Agricultural and Rural Development, Hoshiarpur.

Rickson, R. E. and Burch, D. 1996. Contracting in organizational agriculture: the effects upon farmers and the environment. In D. Burch, R.E. Rickson & G.E. Lawrence, eds. Globalization and Agri-food Restructuring: Perspectives from the Australasia Region, 173-202. Aldershot, Avebury Publishing.

Sahadevan, K. G. 2005. Globalisation of Indian Commodity Futures Markets: Some Lessons from International Experiences. *Indian Journal of Agriculture Marketing (conf. Spl.)*, 19 (2) pp 107 -120.

Samal, P. and Behera D. K. 2004. Impact of WTO on Rice Exports from India and Tasks

Agricultural Development and Equity

Ahead. Indian Journal of Agriculture Marketing (conf. Spl.), 18 (2) pp 59 - 65.

SARC-TSARRD. 1998. Production and Marketing Agreement between Blue Circle Farms Corporation and Two Farmers Cooperatives in the Philippines: A project experience. Unpubl. paper presented to the FAO Regional Expert Consultation on Market-Oriented Production Systems, Chiangmai, Thailand. 27-30 October.

Singh, Gurdev. 2005. Contract Farming of Mint in Punjab. *Indian Journal of Agriculture Marketing* 19 (2) pp 121 – 129.

Singh, Gurudev and Asokan, S. R. 2003. Role and Constraints of Contract Farming in Agroprocessing Industry. *Indian Journal of Agriculture Economics.* Vol. 58, No. 3.

Singh, Sukhpal. 2005. Contract Farming for Agricultural Development Review of Theory and Practice with Special Reference to India. Center for Trade and Development, New Delhi, W.P. No. 2.

Singh, Sukhpal. 2006. Contract Farming and the State: Experiences of Thailand and India / Delhi, Kalpaz Pub., 2006, 382 p., ISBN 81-7835-511-6

Singh, Sukhpal. 2006. Corporate Farming in India: Is it must for Agricultural Development? Indian Institute of Management, Ahmedabad. W.P. No. 2006 – 11 – 06.

Singh, Sukhpal. 2007. Agribusiness in South Asia A Fact Sheet. New Concept Information Systems Pvt. Ltd., New Delhi. State Statistical Abstract, Punjab 2006 - 07.

Tamanoi, M. Asano. 1988. Farmers, Industries, and the State: The culture of Contract Farming in Spain and Japan, 30 (3) *Comparative Studies in Society and History, 432-452.* 

Umadevi, K. and Eshwaraprasad, Y. 2006. Export Competitiveness of Indian Shrimp in the World Market. Indian Journal of Agriculture Marketing (conf. Spl.), 19 (1) 90 - 99.

Village Director of District Hoshiarpur, 1991.

Watts, M. 1992.Peasants and Flexible Accumulation in the Third World – Producing under Contract, 27 (30) *Economic and Political Weekly*, 90-97.

Welsh, R. 1997. Agro-industry and Contract Farming in Upland Java, 24 (3) *The Journal of Peasant Studies*, 100 – 136.

Williams, S. And Karen, R. 1985. Agribusiness and the Small-scale Farmer: A Dynamic Partnership for Development. London, Westview Press.

Wilson, J. 1986. The Political Economy of Contract Farming, 18 (4) *Review of radical Political Economics*, 47-70.

#### Annexure I

#### Copy of Contract Form

ਬਾਸਮਤੀ/ਲੰਮੇ ਚਾਵਲਾਂ ਵਾਲੀਆਂ ਕਿਸਮਾਂ ਦੀ ਕੰਟਰੈਕਟ ਫਾਰਮਿੰਗ ਲਈ ਇਕਰਾਰਨਾਮਾ —— ਥਾਂ ————— ਨੂੰ '' ਦੀ ਪੰਜਾਬ ਸਟੇਟ ਕੋਆਪਰੇਟਿਵ ਸਪਲਾਈ ਅਤੇ ਮਾਰਕਿਟਿੰਗ ਇਕਰਾਰਨਾਮਾ ਮਿਤੀ -ਫੈਡਰੇਸ਼ਨ ਲਿਮਟਿਡ, ਜਿਸਦਾ ਮੁੱਖ ਦਫਤਰ ਪਲਾਟ ਨੰ. 4 ਸੈਕਟਰ 35-ਬੀ ਵਿਖੇ ਹੈ। ਇਹ ਕੋਆਪਰੇਟਿਵ ਅਦਾਰਾ ਸੁਸਾਇਟੀਜ਼ ਐਕਟ 1961 ਅਧੀਨ ਰਜਿਸਟਰਡ ਹੈ ਅਤੇ ਜਿਸਨੂੰ ਹੁਣ ਮਾਰਕਵੈੱਡ ਪਹਿਲੀ ਧਿਰ ਸੰਬੱਧਿਤ ਕੀਤਾ ਜਾਵੇਗਾ। ਅਰੇ H ---ਪੱਤਰ----ੳਮਰ----ਸਨਾਖਤ ਨੇ.-ณิฮ-----ਤਹਿਸੀਲ-ਜਿਲਾ---——ਜਿਸ ਨੂੰ ਹੁਣ ਤੋਂ ਬਾਅਦ ਕਿਸਾਨ/ਦੂਜੀ ਧਿਰ ਸੰਬੋਧਿਤ ਕੀਤਾ ਜਾਵੇਗਾ। ਜਦਕਿ ਪੰਜਾਬ ਸਰਕਾਰ ਦੀ ਫਸਲੀ ਵਿਭਿੰਨਤਾ ਦੀ ਮੁਹਿੰਮ ਨੂੰ ਮੁੱਖ ਰੱਖਦਿਆਂ ਹੋਇਆ ਮਾਰਕਫੈੱਡ ਨੇ ਕੰਟਰੈਕਟ ਫਾਰਮਿੰਗ ਦਾ ਬੀੜਾ ਚੁੱਕਿਆ ਹੈ। ਜਿਸ ਅਧੀਨ ਸਾਰੇ ਸਾਲ ਵਿੱਚ ਭਿੰਨ ਭਿੰਨ ਤਰ੍ਹਾਂਦੀਆਂ ਫਸਲਾਂ ਬਾਸਮਤੀ, ਲੰਮੇ ਚਾਵਲਾਂ ਵਾਲੀਆਂ ਕਿਸਮਾਂ, ਦਾਲਾਂ, ਮੱਕੀ, ਕਣਕ, ਤੇਲ ਬੀਜ ਆਦਿ ਫਸਲਾਂ ਹਨ। ਕਿਸਾਨ ਬਦਲਵੀਆਂ ਫਸਲਾਂ ਉਗਾਉਣਾ ਚਾਹੁੰਦਾ ਹੈ ਤਾਂ ਜੋ ਉਸ ਦੇ ਉਤਪਾਦਨ ਅਤੇ ਗੁਣਵੱਤਾ ਵਿੱਚ ਸੁਧਾਰ ਹੋਵੇ। ਕਿਸਾਨ ਚੰਗੀ ਸਲਾਹਕਾਰ ਸੇਵਾ ਦਾ ਚਾਹਵਾਨ ਹੈ ਤਾਂ ਜੋ ਉਸ ਨੂੰ ਨਵੀਆਂ ਫਸਲਾਂ ਅਤੇ ਫਸਲੀ ਚੱਕਰ ਅਪਨਾਉਣ ਦਾ ਮੌਕਾ ਮਿਲੇ ਜਿਸ ਨਾਲ ਉਸਨੂੰ ਫਸਲਾਂ ਦੀ ਸਾਂਭ-ਸੰਭਾਲ, ਮੰਡੀਕਰਨ ਦੀ ਬਿਹਤਰ ਜਾਣਕਾਰੀ ਹਾਸਿਲ ਹੋਵੇ ਅਤੇ ਉਸ ਦੀ ਆਰਥਿਕ ਹਾਲਤ ਵਿੱਚ ਸੁਧਾਰ ਹੋਵੇ। ਮਾਰਕਫੈਂਡ ਜੋ ਕਿ ਚਾਵਲਾਂ ਦਾ ਨਿਰਯਾਤ ਕਰਦਾ ਹੈ। ਇਹ ਬਾਸਮਤੀ ਅਤੇ ਲੰਮੇ ਚਾਵਲਾਂ ਵਾਲੀਆਂ ਕਿਸਮਾਂ ਦੀ ਸਾਉਣੀ 2007 ਦੀ ਵਸਲ ਖਰੀਦਣ ਦਾ ਚਾਹਵਾਨ ਹੈ। ਜੋ ਕਿ ਦੂਜੀ ਧਿਰ ਦੇ ਰਜਿਸਟਰਡ ਕਿਸਾਨਾਂ ਤੋਂ ਕੈਟਰੈਕਟ ਅਧੀਨ ਖਰੀਦ ਕਰੇਗਾ। ਇਸ ਲਈ ਦੋਨੋਂ ਧਿਰਾਂ ਹੇਠ ਲਿਖੀਆ ਸ਼ਰਤਾਂ ਤੋਂ ਇਕਰਾਰਨਾਮਾ ਕਰਨ ਲਈ ਰਜ਼ਾਮੰਦ ਹਨ : -1. वारतानाती : 1. ਕਿਸਾਨਾਂ ਦੇ ਪਹਿਚਾਨ ਅਤੇ ਰਜਿਸਟਰੇਸ਼ਨ ਪੱਤਰ 2. ਮਾਰਕਵੈੱਡ ਕੰਟਰੈਕਟ ਫਾਰਮਿੰਗ ਦੇ ਚਾਹਵਾਨ ਕਿਸਾਨਾਂ ਦੀ ਪਹਿਚਾਨ ਅਤੇ ਰਜਿਸਟਰੇਸ਼ਨ ਕਰੇਗੀ। 2. ਭੱਤਿਕ ਅਤੇ ਤਕਨੀਕੀ ਸੇਵਾਵਾਂ :-ਮਾਰਕਵੈੱਡ ਕਿਸਾਨਾਂ ਨੂੰ ਵਧੀਆ ਗੁਣਵਤਾ ਦੇ ਬੀਜ ਪੂਸਾ ਬਾਸ਼ਮਤੀ 1, ਪੂਸਾ 1121, ਸੁਪਰ ਬਾਸਮਤੀ, ਬਾਸਮਤੀ 386, ਐਚ ਬੀ ਸੀ 19 ਅਤੇ ਸ਼ਰਬਤੀ ਕਿਸਮਾਂ ਦੇ ਬੀਜ ਅਤੇ ਇਸ ਤੋਂ ਇਲਾਵਾ ਖਾਦਾਂ, ਬੀਜ, ਕੀਟਨਾਸ਼ਕ/ ਜੀਵਾਣੂਂਨਾਸ਼ਕ/ ਉਲੀਨਾਸ਼ਕ ਵਾਜ਼ਬ ਮੱਲ ਤੇ ਹੀ ਮਹੱਈਆ ਕਰੇਗਾ। ਮਾਰਕਵੈੱਡ ਦੀ ਤਕਨੀਕੀ ਟੀਮ ਉਚ ਪੱਧਰੀ ਖੇਤੀ ਸਬੰਧੀ ਜਾਣਕਾਰੀ ਪ੍ਰਦਾਨ ਕਰੇਗੀ ਅਤੇ ਮਾਰਕਵੈੱਡ ਕਿਸਾਨ ਸਿਖਲਾਈ ਕੈਂਪ, ਸੈਮੀਨਾਰ, ਪ੍ਰਦਰਸ਼ਨੀ ਖੇਤ ਲਗਵਾਏਗਾ ਅਤੇ ਖੇਤੀ ਸਬੰਧੀ ਸਿਫਾਰਸ਼ਾਂ, ਫਸਲ ਦਾ ਕਾਰੋਬਾਰੀ ਕੋਲੈਂਡਰ ਕਿਸ਼ਾਨਾਂ ਨੂੰ ਜੋ ਕਿ ਆਪਣੀ ਤਕਨੀਕੀ ਟੀਮ ਵੱਲੋਂ ਤਿਆਰ ਕੀਤਾ ਹੈ, ਦਿੱਤਾ ਜਾਵੇਗਾ। ਉਹ ਕਿਸਾਨ ਜਿਨਾਕੋਲ ਉੱਚ ਗੁਣਵੱਤਾ ਅਤੇ ਤਸਦੀਕ ਸ਼ੁਦਾ ਬੀਜ ਹੈ, ਉਨ੍ਹਾਂਨੂੰ ਵੀ ਕਟਰੈਕਟ ਵਾਰਮਿੰਗ ਅਧੀਨ ਰਜਿਸਟਰਡ ਕੀਤਾ ਜਾਵੇਗਾ। ਮਾਰਕਵੈੱਡ ਕਿਸਾਨ ਤੋਂ ਬਾਸਮਤੀ ਅਤੇ ਲੰਮੇ ਚਾਵਲਾਂ ਵਾਲੀਆਂ ਕਿਸਮਾਂ ਦੀ ਪੈਦਾਵਾਰ ਨਿਰਧਾਰਿਤ ਮੰਡੀਆ ਵਿੱਚ ਅਤੇ ਨਿਰਧਾਰਿਤ ਕੀਮਤ ਤੇ ਇਕਰਾਰਨਾਮੇ ਅਧੀਨ ਖਰੀਦ ਕਰੇਗਾ। ੁ. ਰਕਬਾ–ਕਿਸਾਨ ਖਰੀਫ 2007 ਵਿੱਚ ਹੇਠ ਲਿਖਿਆ ਰਕਬਾ ਕੇਟਰੈਕਟ ਫਾਰਮਿੰਗ ਤਹਿਤ ਲਾਉਣ ਜਾ ਰਿਹਾ ਹੈ। ਜਿਸ ਦੀ ਖਰੀਦ ਮਾਰਕਵੈੱਡ ਰਾਹੀਂ ਨਿਰਧਾਰਿਤ ਮੁੱਲ ਤੇ ਹੋਵੇਗੀ। ਪੀ ਬੀ 1 ਏਕੜ ਬਾਸਮਤੀ 386 प्टेवझ ਐਚ ਬੀ ਸੀ 19 ਏਰਤ

49

ਪੂਸਾ 1121	ਏਕੜ
ਸੁਪਰ ਬਾਸਮਤੀ	ਏਕੜ
ਸ਼ਰਬਤੀ	ਏਕੜ
ਕੁੱਲ	ਏਕੜ
A REAL PROPERTY AND A REAL PROPERTY AND A REAL PROPERTY.	

4. ਗੁਣਵਤਾ ਨਿਰਧਾਰਣ :

ਬਾਸਮਤੀ 386, ਐਚ ਬੀ ਸੀ 19, ਸੁਪਰ ਬਾਸਮਤੀ, ਪੀ ਸੀ 1, ਪੁਸ਼ਾ 1121 ਅਤੇ ਸ਼ਰਬਤੀ ਦੀਆਂ ਹੇਠ ਲਿਖੀਆਂ ਗੁਣਵਤਾ ਦੇ ਅਧਾਰ ਤੇ ਖਰੀਦ ਕੀਤੀ ਜਾਵੇਗੀ।

ਲੜੀ ਨੇ.	ਵੇਰਵਾ	ਗਰੇਡ-1	ਗਰੋਡ-2
1	ਨਮੀ	16%	17%
2	ਚੌਬੇ ਸਣੇ ਦੂਜੀਆ ਮਿਲਾਵਟਾਂ	3%	5%
3	ਹਰੇ ਅਤੇ ਕੇਂਦੇ ਬੀਜ	2%	4%
4	ਟੁੱਟੇ ਫੁਟੇ ਬੇਰੇਗੇ ਦਾਣੇ (bahr)	1%	2%
5	ਬਾਹਰਲੇ ਤੱਤ (foregrandle)	0.5%	1%

(ਗਰੇਡ 2 ਦਾ ਮੁੱਲ ਨਿਰਧਾਰਿਤ ਕੀਮਤ ਤੋਂ 50 ਰੁਪਏ ਘੱਟ ਹੋਵੇਗਾ)

ਖਰਾ	ਦ ਮੁਲ :		Rischan rate .	
	ਲਗ਼ੀ ਨੇ.	विमभं 3%(-	ਮੁੱਲ ਰੁ: ਪ੍ਰਤੀ ਕੁਇੰਟਲ	10 10
~	1	ਬਾਸਮਤੀ 386/ਐਚ ਬੀ ਸੀ 19 (den /Pakalon	)1400	17-18/8.
	2	UTT 1121 -> Morin Internatedonikt	1200	15-16
	3	ਸੁਪਰ ਬਾਸਮਤੀ	1100	1200-148.
	4	utati - International .	1000	B00-1400 /0.
31	5	ਸਰਬਤੀ	750	815-825

ਜੇ ਉਪਰੋਕਤ ਕਿਸਮਾਂ ਦਾ ਮੁੱਲ ਮੈਡੀਕਰਣ ਸਮੇਂ ਮੈਡੀ ਵਿੱਚ ਵੱਧ ਹੋਵੇਗਾ ਤਾਂ ਮਾਰਕਵੈਂਡ ਮੈਡੀਆਂ ਦੇ ਮੁੱਲ ਦੇ ਆਧਾਰ ਤੇ ਖਰੀਦ वर्ततागः।

6. ਕਿਸਾਨਾਂ ਨੂੰ ਵਸਲ ਦਾ ਭੁਗਤਾਨ :

ਮਾਰਕਵੈੱਡ ਕਿਸਾਨਾਂ ਨੂੰ ਫਸਲ ਦੀ ਖਰੀਦ ਤੋਂ 5 ਦਿਨਾਂ ਦੇ ਅੰਦਰ ਚੈੱਕ ਜਾਂ ਡਰਾਫਟ ਰਾਹੀਂ ਭੁਗਤਾਨ ਕਰੇਗਾ। ਜੇਕਰ ਦੋਨਾਂ ਧਿਰਾਂ ਵਿਚਾਲੇ ਇਸ ਇਕਰਾਰਨਾਮੇ ਦੀਆਂ ਸ਼ਰਤਾਂ ਦੇ ਸਬੰਧ ਵਿੱਚ ਵਿਵਾਦ ਹੋ ਜਾਵੇ ਤਾਂ ਇਹ ਮਾਮਲਾ ਮਾਰਕਵੈਂਡ ਦੇ ਮੈਨੇਜਿੰਗ ਡਾਇਰੈਕਟਰ ਜਾਂ ਉਸਦੇ (ਆਰਬੀਟਰੇਸ਼ਨ ਐਂਡ ਕੋਨਸੀਲੇਸ਼ਨ ਐਕਟ 1996 ਅਧੀਨ ਸੌਂਪ ਦਿੱਤਾ ਜਾਵੇਗਾ ਜਿਸ ਨੂੰ ਇਸ ਦੇ ਸਬੰਧ ਵਿੱਚ ਇਕਲਿਆਂ ਫੈਸਲਾ ਲੈਣ ਦਾ ਪੂਰਨ ਅਧਿਕਾਰ ਹੋਵੇਗਾ ਅਤੇ ਦੋਨਾਂ ਧਿਰਾਂ ਨੂੰ ਮਨਜੂਰ ਹੋਵੇਗਾ। ਇਸ ਸਬੰਧ ਵਿੱਚ ਕਿਸੇ ਵੀ ਤਗ੍ਰਾਂਦੀ ਕਾਨੂੰਨੀ ਕਾਰਵਾਈ ਲਈ ਚੰਡੀਗੜ੍ਹਅਦਾਲਤ ਦੇ ਅਧਿਕਾਰ ਖੇਤਰ ਅਧੀਨ ਹੈ।

ਗਵਾਹਾਂ ਦੀ ਮੌਜੂਦਗੀ ਵਿੱਚ ਦੋਨਾਂ ਧਿਰਾਂ ਇਸ ਦਿਨ-ਹਾਜਰ ਹਨ ਅਤੇ ਇਸ ਲਿਖਿਤ ਵੁਰਮਾਨ ਨੂੰ ਮਾਨਤਾ ਦਿੰਦੇ ਹਨ।

ਮਾਰਕਵੈੱਡ ਲਈ	ਕਿਸਾਨ ਦੇ ਦਸਖਤ
ਡੀ.ਐਮ./ਅਧਿਕਾਰਤ ਅਫਸਰ	ਕਿਸਾਨ ਦਾ ਨਾਂ
	ਪਿਤਾ ਦਾ ਨਾਂ
	ਪਹਿਚਾਣ ਪੱਤਰ ਨੇ

ਗਵਾਹ 2-

ਗਵਾਹ 1-

1 - Yield plas but high resis time

Centre for Trade and Development (Centad) is an autonomous, not-for-profit institution that seeks to strengthen the abilities of governments and communities in South Asia to make economic globalisation work for development. Established in 2004, it strives towards becoming a global centre of excellence in policy analysis through evidence-based policy research that, in turn, provides a platform for more informed policy-making at multilateral, regional, and national levels.



A-1/304, Safdarjung Enclave New Delhi-110029 Tel. : + 91-11-41459226 Fax : + 91-11-41459227 Email : centad@centad.org Web: www.centad.org