

Investigating The Challenges of Contract Farming Among Farmers : An Empirical Study of Punjab

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Abstract

Contract farming is the generic term that covers various types of contract between companies and farmers. Agricultural production is carried out according to a prior agreement in which the farmer commits to producing a given product in a given manner and the buyer commits to purchasing it. The vast majority of contract farming projects are out-grower schemes and the terms have become synonymous. Nowadays, it is one of the most important strategic decision domains to match demand with supply. In this paper, an attempt has been made to investigate the challenges of contract farming among farmers. A survey was conducted based on a structured questionnaire developed with the help of consultants and practitioners in this field. The data were digitized on SPSS sheet and factor analysis was done using Principal Component analysis of 497 farmer responses with stratified sampling. The results of the study reveal the challenges faced by the farmers are relating to the purchase, Inputs to crops, Agency, Facility, Credit and Processing. The findings of the study shall help the policy maker to understand the farmers' problems and developing strategies and policies for their betterment.

Key Words

Contract Farming, Farming Challenges, Punjab Farmers, Factor Analysis, PAFC

INTRODUCTION

Punjab produces almost 14% of the total cereals produced in the country. Punjab has earned the title of "Granary of India" or "Food Basket of India". (NABARD, SFP, 2015-16).

In the present day situation, it has been seen that with the advent of liberalization, pattern of agricultural development has shifted from a traditional to a market-oriented structure resulting in the emergence of new markets for the producers. But, due to the rotated cropping pattern of wheat and paddy has pushed the Punjab farmers in the dark days. It has led social environmental and economic growth related problems in the Punjab. It has been realized that under the present condition, due to the rising cost of production, production growth has become very challengeable. Over-exploitation of water and land has been observed and now either stagnant or declining growth in the production of important crops has been seen (Sidhu and Johal 2002). Fall in the income of farmers, rising costs, declining ground water table, environment pollution and soil degradation have led-discontent among farmers, which is putting the pressure on State Government to take some serious steps to find the suitable solution of this problem.

Working on the Johal Committee (2002) recommendations, the Government of Punjab visualized contract farming as a means to achieve the objectives of sustainable agriculture. Contract farming is a system where technical know-how, raw material such as seeds, pesticides, etc. and suitable marketing channel is provided to the farmers. In 2002, the State Government launched a multi-crops, multi-year scheme. PAFC was designated as a nodal agency for the smooth working of contract farming system in the state.

No doubt, contract farming is playing an important role in state agriculture reforms, but still a number of problems are there as reported by the farmers. The major problem that contract growers are facing, concerned with *manipulation of quality-related inspection standards*, burdens of costs due to any calamity put on producers only, *late payments*, out-right cheating in accounts, monopoly behavior of the companies and indebted to the companies has been discussed by Glover (1987), Singh (2000), Eaton and Shepherd (2001) in their studies on contract growers. It has also been observed by Gorsh (1994), Glover and Kusterer (1990) in their studies that firms provide the farmers, *poor extension services*, *overprice their services*, pass on the risk to the producers, offer low price for the produce, delay payment, and *do not explain the pricing methods* has also been discussed.

This study has been conducted in the four districts namely *Amritsar, Jalandhar, Hoshiarpur and Sangrur* of Punjab State, has reported the various challenges faced by the contract farmers. Lack of technical know-how, manipulated terms of the contract, unwanted quality cuts on crop produce, delayed payment for the produce, lack of credit for crop produce, low price for the produced crop etc. has been observed as the major constraints under contract farming.

REVIEW OF STUDIES ON CONTRACT FARMING

It is a universally acknowledged fact that good research cannot be made without critically studying what already exists in relationship to it in the form of general literature and specific work done by researchers. So, the review of related literature can be considered as a pre-requisite to actual planning and execution of research work. Hence, for proper understanding of the research work sincere efforts have been made to review the related literature. In the present paper, due attempt has been made to summarize the results of the studies undertaken by the various researchers on the different aspects of Contract Farming.

Contract farming is the emerging concept among the farmers of Punjab. As has already been observed by the State Government that crop diversification is the need of the day for agriculture and environment sustainability and contract farming is the only way to get rid of the monoculture of wheat and paddy as has been recommended by Johal Committee, But still somewhere gap lies between the understanding of farmers and the contract companies which needs to be sorted out for the smooth working of this concept. In the present section, attempt has been made to study the literature concerned with the problems faced by the farmers under contract farming in Punjab.

Summary of Variables Regarding Problems Faced by Farmers under Contract Farming

The contract farming concept is still on the growth stage in Punjab. In the study of contract farming in tomato in Haryana, (Dileep *et al.*, 2002) observed that the contract farming firms were biased towards large number of farmers while selecting the farmers for contract farming as the firms were giving preference to the big farmers as compared to the small and marginal farmers. He suggested that the contracting firms should be made legally obligatory on the part of contract farmers. (Singh, 2002) identified that series of problems associated with the contract vegetables production in Punjab. He observed violation of the terms of the agreements, social differentiation and environmental sustainability and imbalance of power between farmers and firms. (Warning *et al.*, 2002) in his study explained that contract farming makes the farmers over-dependent on contract crops, which leads to loss of bargaining power of the farmers. Singh Sukhpal (2002) and Rangi *et al.* (2002), revealed in their studies on contract farming that there was *no compensation* to the farmers on *crop quality failure due to natural calamity* in Punjab and Haryana. He also observed that *undue quality cut and pest attack on the crop* delayed deliveries at the factory and *low price of the produce* by the

Table 1**Classification of Variables Concerned with Problems Faced by Farmers under Contract Farming**

	Variables	Researcher (s)
1.	V5 Degradation of Fertility of Soil	Singh (2002), Rangi and Sidhu (2000)
2.	V4 Heavy use of Pesticides (Pest Attack on Crop)	Sukhpal Singh (2002), Rangi and Sidhu (2000), FAO (2006)
3.	V3 Shortage of Labor at Peak Season	NSSO, (2015), (FICCI, 2015)
4.	V16 Lack of Quality Inputs	Dev (2005), Srivastva and Seetharaman (1989)
5.	V19 Delay in Arranging Inputs	Srivastva and Seetharaman (1989)
6.	V22 Delay in Procurement of Produce	S. S. Kalamkar (2012), Bijman (2008), Parmod Kumar (2007)
7.	V2 Non-remunerative Price for the Crop under CF	Arun Kumar (2002), Shiva Kumar Gupta (2002)
8.	V10 Lack of Transparency in Price Determination	Gorsh, (1994), Glover and Kusterer (1990), Arun Kumar (2002),
9.	V20 Delayed Payment for Crop Produce	Sukhpal Singh (2002), Arun Kumar (2002)
10.	V1 Less Bargaining Power of Farmers	Warning and Key (2002), Rangi and Sidhu (2000), Kirsten and Sartorius (2002), Birthal (2008), Singh (2005)
11.	V15 Difficulty in Meeting Quality Requirements	Banarjee <i>et al.</i> (2002), Asok Gulati (2006), Dev and Rao (2005)
12.	V14 Faulty Grading by an Agency	Arun Kumar (2002)
13.	V25 Cheating by an Agency	Warning and Key (2002), Sukhpal Singh (2002), Arun Kumar (2002), Shiva Kumar Gupta (2002)
14.	V18 Poor Service Delivery by Firms	Glover and Kusterer, (1990)
15.	V7 No Compensation of Loss in Case of Natural Calamities.	Sukhpal Singh (2002)
16.	V6 Lack of Technical Know-how by the Firms.	Arun Kumar (2002), Kattimani <i>et al.</i> (2003)

Contd.

Contd. Table 1

17.	V11 No Free Extension Services by the Firm.	Minnot (1986), Glover and Kusterer, (1990), Eaton and Shepherd (2001)
18.	V21 No Compensation if Market Price Goes Higher than the Contract Price of the Crop Produce	Nivedita Sharma <i>et al.</i> (2013)
19.	V8 High Investment	Fulton and Clark (1996), Coulter <i>et al.</i> (1999)
20.	V9 Limited Access to credit	Dev (2005)
21.	V13 Lack of Credit to Buy Inputs for Crop Production	Marcus and Fredrick (1994), Dev (2005)
22.	V17 Provision of Inputs at Higher Rate	Dev (2005), Kattimani <i>et al.</i> (2003), S. S. Kalamkar (2012)
23.	V23 Contract is Written in English, which is difficult to understand	Arun Pandit <i>et al.</i> (2009), Nivedita Sharma <i>et al.</i> (2013)
24.	V24 Lack of Government control	Arun Pandit <i>et al.</i> (2009)
25.	V12 Violation of the Terms of the Contract by Companies.	Singh (2002), Warning and Key (2002)

firms has been seen. The small farmers' involvement in agricultural value chain is very limited (Barrett *et al.*, 2011). High involvement of farmers in contract farming leads to less of autonomy, i.e. farmers fell exploited and dependent on the firms (Kirsten *et al.*, 2002).

The most negative effect on contract farming is that the terms of the contract are imposed forcefully on the small and marginal farmers (Poulton *et al.*, 2008). Decreasing the bargaining power of the small farmers can be considered as the most important problem of the farmers (Birthal, 2008). *Vague terms and conditions of the contract* among farmers is the main cause of dispute among companies and farmers (Arun Pandit *et al.*, 2009). Cost access to irrigated water, *lack of extension services* for commercial crops and exploitation of the farmers in the marketing of their produce, *costly and inadequate institutional credit*, *low quality input supply* are the main problems among small and marginal farmers in India (FAO, 2006). The overexploitation of ground water, salination of soils, *decline in soil fertility* and pollution are the examples of environmental degradation due to contract farming has been discussed by Siddiqui (1998), Rickson and Burch (1996), USAID (1994) in their studies on contract farming. S. S. Kalamkar (2012) analyzed

in his paper broiler farming management and inputs provisions under contract and non-contract farming. He observed that most of the contracts are two or three years of duration and very few are of seven months' duration. He also found that the average net income, per kg, is higher in non-contract than that of contract farming. It is observed that none of the contract farmers possesses the copy of the contract. Delay in supply of inputs, delay in payment, delay in produce lifting, low price of the produce and sometimes even rejection of the produce on quality ground are the main problems faced by farmers under contract farming. Apart from this, high visiting charges, delay in providing checks and high deduction of tax at the source has also been reported by some farmers. Parmod Kumar (2007) and Nivedita Sharma *et al.* (2013) analyzed in his study on contract farming that the contract in most of the cases was written, but *without any legal obligations* both, on the part of firms as well as farmers. Only in the case of Chambal Agro-tech, all the farmers confirmed that the company provided them a copy of the contract. Further, only in their case, the contract was formally done on a 'Stamp Paper' that is considered to be a legal document. The *medium of the written contract was mostly in English* that was *beyond the understanding of the local farmers*. Only in a few cases, the contract was written in the local language, i.e., Punjabi. It has also been found by Collins (1993) that at the time of surplus produce companies quit the agreements and do not compensate to the farmers for the losses due to any natural calamities. Wilson (1986) says that the terms of the contract are usually anti-farmers, the market choices are limited and contracting tends to reinforce itself. Glover and Ghee (1992), Burch (1996) discussed in their studies that the agri-business firms also tend to practice "*Agribusiness Normalization*" over time which means they reduce the prices and other benefits offered the farmers with which they commence operations, when the procurement base is created and there are enough farmers to procure from. The contracting firms tend to aggravate the environmental crisis as most of the contracts are short-term (one or two crop cycles) and the firms tend to move on to a new grower and lands *after exhausting the natural potential of the local resources*, particularly land and water, or productivity declines due to some other reason shared by Morvaridi (1995), and Torres (1997) in their research papers. Srivastava and Seetharaman (1989) discussed while providing an overview of agro-processing industries in their study suggested that backward linkage is the key element for success of fruit processing units. They observed that larger processing units often faced the problems of severe under-utilization of capacity due to *inadequate and unsuitable supply of raw materials*. They concluded that the *uncertainty in supply* was the major reason for private processing units to forge backward linkage with the farmers for ensuring supplies. Porter and Phillips-Howard

(1997) found that most of the negative effects of contract farming resulting from the fact that the relationship between individual farmers and the contractor is uneven, the latter often in a position to exercise power and non-competitive conduct in imposing the terms of the contract and same has been revealed in his study on contract farming by Poulton *et al.* (1998). Dev (2005) observed the major problems of small and marginal farmers in India include *spurious input supply, inadequate and costly institutional credit*, lack of irrigation water and costly access to it, *lack of extension services* for commercial crops, exploited in the marketing of their produce, high health expenditures, and lack of alternative (non-farm) sources of income. Arun Kumar (2002) opined that major problems faced by the contract farmers were *low contract price* and *irregular payments*. The other problems faced were unaware of potentiality of crops, *poor technical assistance*, manipulation of norms by firms and *higher rejection rate*. He also opined that major problems faced by contract firms were land constraints and fixing of contract price. The other problems were farmers' discontent and holding up of vehicles. The contract farmers try to put a lower grade into higher grade and it was difficult to check and make sure of the grade as quantity handled surely fall under desired category was more. Farmers held up vehicles in the villages demanding that they should be paid higher prices even though the agreement does not say so. (FICCI, 2015) in their report on labor shortage identified, that in reality, the magnitude and pace of the shift away from agriculture have been substantial as has been evidenced here. It also has begun to make an impact as the *shortage in agricultural labor is currently not being compensated* by adequate measures to reduce the overall labor intensity of the sector. As a result, the primary sector in many Indian states is experiencing a severe labor shortage and escalation in farm wages which are adversely impacting the profitability of the farmer. NSSO (2015) National Sample Survey Office's periodic surveys revealed that India's agriculture labor market is in a state of continuous outflow. 34 million workers left the agriculture sector between 2004-05 and 2011-12. This is the first time in India's living memory that the sector is reporting a decline in labor participation (see 'India's Labor Crisis'). It is a worrying situation because agriculture still employs close to half of India's workforce and accounts for 64 per cent of rural employment. The dip in the agricultural labor force has been acute in India's key grain-producing states like Uttar Pradesh and Madhya Pradesh. To make matters worse, the *labor shortage* is impacting the country's five staple crops: rice, wheat, sugarcane, groundnut and cotton. Such is the impact of the shortage that laborers are now earning more than the farmers. It is a simple play-out of the change in Indian economy where people

have better-paying livelihood alternatives in non-farm sectors such as construction and service sectors.

RESEARCH METHODOLOGY

To investigate the challenges among contract farmers under contract farming in Punjab, stratified sampling technique has been used to collect the data from the farmers. The data has been collected from the farmers of *Amritsar, Hoshiarpur, Jalandhar and Sangrur* district of Punjab as these are the main districts where farmers are engaged in contract farming to a large extent. The findings of the study are based on 497 farmers, selected from the above-mentioned districts of Punjab. These farmers are having the experience of both contract farming and non-contract farming.

To get the response of the farmers (Respondents), 2 Block / Tehsil / Taluks were selected from each district mentioned above and four villages from each taluk were selected to get the data from the farmers. Sarpanch of each village was contacted to get the information for the farmers which are engaged in contract farming. Hence, 32 villages were covered to get the data from the respondents, and a total of 544 survey questionnaires had been sent out to which only 497 have been included in the main study. After due screening and error checking, it was found that remaining 47 questionnaires were not suitable as 20 questionnaires were not received back from the respondents, though phone calls were made, but they did not give any positive response and remaining questionnaires had blank answers (less than 25% of the questions).

After carrying out screening process, 497 responses were considered valid for data analysis. This represents a success rate of 91.36%, which is considered to be good in view of time and cost.

ANALYSIS

The factor analysis technique applied to the problems faced by the farmers under contract farming in Punjab, revealed specific factors, which clearly define the problems faced by the respondents (farmers). Six factors extracted from the 25 variables explained the 67.31% of variance and each factor was defined by at least three scale items. These specific extracted factors were unfair purchase practices, spurious quality of inputs, passive role of agency, lack of compensation, insufficient credit, and ineffective regulatory framework. All the problems related to the contract farming have been explained through these six factors, which were considered to be significant by the respondents.

FACTOR ANALYSIS

Extraction of Factors

Exploratory Factor Analysis (EFA) was employed to identify the underlying dimensions of contract farming. The respondents were asked to rate the twenty-five variables at three points — Likert Scale, ranging from Never to Always. All the factors having loading more than 0.5 were considered good and in the present concern, the loading ranged from .640 to .856. Items with factor loading less than 0.5 were removed. The six factors, so generated have Eigen values ranging from 1.423 to 6.249. The factor analysis results are validated as shown in Table 4.

Table 4

Factor Analysis of Problems Faced by Farmers under CF (Varimax-Rotated Results and Scale Reliability)

Table 4 (a) Factor One : Unfair Purchase Practices

Dimintions	Factor Loading	Eigen Value
V2. Non-remunerative Price for the Crop under CF	.852	6.249
V10. Lack of Transparency in Price Determination	.818	
V1. Less Bargaining Power of Farmers	.808	
V20. Delayed Payment for Crop Produce	.753	
V22. Delay in Procurement of Produce	.640	

Percentage of Variance Explained = 24.998, Scale Reliability alpha (Cronbach's Alpha) = .868

Factor One : Unfair Purchase Practices

Five variables have been loaded in factor one and this factor alone explains 24.998% of the total variance. The variables which have been included in this factor are (V2) *Non-remunerative price for the crop under CF*, (V10) *Lack of transparency in price determination*, (V1) *Less bargaining power of farmers*, (V22) *Delayed payment for crop produce*. The farmers considered that the contract farming is not meeting expectations of them as the price offered to them is not up to the level they put the efforts to produce the crop. Lack of transparency in price determination is the problem under contract farming; companies do not disclose the method of price fixing of their produce. Farmers even can't force the companies to pay the market price or prevailing price for their produce because of the dominating attitude of the companies. Delayed payment for the produce is another demotivating factor to maintain long-term relations with the companies. Companies

should ensure that there should be the timely procurement of the produced crop at a remunerative price, on a stipulated time, so that farmers can be motivated to remain in the contract with the companies in the long run. The factor loading ranges from .640 to .852 and the scale reliability alpha of this factor is .868. Non-remunerative price for the crop under CF has the highest loading under this factor. It covers 6.249 of the Eigen Values.

Table 4(b) Factor Two : Spurious Quality of Inputs

Dimentions	Factor Loading	Eigen Value
V19 Delay in Arranging Inputs	.816	3.182
V4 Heavy use of Pesticides (Pest attack on crop)	.802	
V16 Lack of Quality Inputs	.782	
V3 Shortage of Labor at Peak Season	.773	
V5 Degradation of Fertility of Soil	.729	

Percentage of Variance Explained = 12.726 Scale Reliability alpha (Cronbach's Alpha) = .841

Factor Two : Spurious Quality of Inputs

Factor two explains 12.726% of the total variance and five variables, namely, (V19) *Delay in arranging inputs*, (V4) *Heavy use of pesticides (Pest attack on crops)*, (V16) *Lack of quality inputs*, (V3) *Shortage of labor at peak season*, (V5) *Degradation of the fertility of soil* have been included in this factor. The result indicates that the major problem reported by the farmers is of delay in arranging inputs on time, which leads to the mismatching of seasons to cultivate the crop. Heavy use of pesticides and insecticides is another problem faced by the farmers which is responsible in the infertility of soil in long run. Lack of good quality seeds, pesticides, etc. is observed by the farmers under contract growing. One of the major problems reported by the respondents is a shortage of labor during peak season of crop cultivation which causes them heavy cost. In order to maintain the long relationship with the farmers, companies should provide the farmers with sufficient quantity and quality of seeds and other inputs on stipulated time so that the delayed cultivation can be avoided. The factor loading ranges from 0.776 to .816. It covers 3.182 of the Eigen values.

Table 4 (c) Factor Three : Passive Role of Agency

Dimentions	Factor Loading	Eigen Value
V14 Faulty Grading by an Agency	.837	2.253
V15 Difficulty in Meeting Quality Requirements	.801	
V18 Poor Service Delivery by Firms	.782	
V25 Cheating by an Agency	.776	

Percentage of Variance Explained = 9.010 Scale Reliability Alpha (Cronbach's Alpha) = .839

Factor Three : Passive Role of Agency

The third factor is labeled as "Passive Role of Agency". An agency is one sort of middlemen or representative, of the company, which maintains the direct link with the farmers on behalf of the company. Four variables such as (V15) *Difficulty in meeting quality requirements*, (V14) *Faulty grading by an agency*, (V25) *Cheating by an agency*, (V18) *Poor service delivery by firms have been included*. It has been reported by the farmers that the quality parameters set by the agency are very difficult to meet. Despite the due care and instructions provided by the agency, it's still very difficult to meet the quality standards set by the agency. Most of the time it has been observed by the farmers that agency rejects the crop even if there is a very minor quality gap in the crop produce, when the same crop is available in the open market at less price. Hence, farmers are cheated by the agency. Some farmers also reported that company representatives do not come for inspection of the crop on the regular basis which leads to delay in taking action in quality improvement of the cultivated crop under contract. Factor three explains 9.010% of the total variance. The factor loading ranges from 0.837 to 0.776 and it covers 2.253 of the Eigen values.

Table 4 (d) Factor Four : Lack of Compensation

Dimentions	Factor Loading	Eigen Value
V7 No Compensation of Loss in Case of Natural Calamities	.856	1.980
V6 Lack of Technical Knowhow by the Firms	.830	
V21 No Eompensation if Market Price goes Higher than the Contract Price of the Crop Produce	.782	
V11 No Free Extensions Services by the Firm	.671	

Percentage of Variance Explained = 7.922 Scale Reliability Alpha (Cronbach's Alpha) = .815

Factor Four : Lack of Compensation

The fourth factor has been labeled as "Lack of Compensation". The four variables, namely, (V7) *No compensation of loss in case of natural calamities*, (V6) *Lack of technical know-how by the firms*, (V11) *No free extension services by the firm*, (V21) *No compensation if Market Price goes higher than the contract price of the crop produce* have been included and this factor explains 7.922% of the total variance. Under this factor, it has been observed that the farmers also facing the problems related to the facilities are offered by the company as it has been reported by the farmers that no compensation is offered by the company if the crop gets spoiled due to any natural calamity such as flood, fire or heavy rain. Companies even do not provide technical know-how free of cost at village level. Farmers feel themselves deprived if the market price of the produced crop get higher than the contract price and the company in such case offers no compensation. Companies should follow the fair price policy and due compensation should be granted to the farmers as they have no other source of income except agriculture. The factor loading ranges from 0.856 to 0.671 and this factor covers 1.980 of the Eigen values.

Table 4 (e) Factor Five : Insufficient Credit

Dimintions	Factor Loading	Eigen Value
V13 Lack of Credit to Buy Inputs for Crop Production	.835	1.741
V8 Preference to Big Farmers with High Investment in Agriculture	.807	
V9 Limited Access to Credit for Small Farmers	.766	
V17 Provision of Inputs at Higher Rate	.683	

Percentage of Variance Explained = 6.963 Scale Reliability alpha (Cronbach's Alpha) = .844

Factor Five : Insufficient Credit

The fifth factor has been labeled as "Insufficient Credit". Four variables like (V8) *Preference to big farmers with High Investment in agriculture*, (V9) *Limited Access to credit for small farmers*, (V13) *Lack of credit to buy inputs for crop production*, (V17) *Provision of inputs at higher rates*. Small and medium-sized farmers have reported that they are also facing severe problem of limited access to credit as compared to big farmers. Big farmers are having their own sufficient funds to invest in agricultural equipments, so they are not bothered about credit offered by the companies. Many farmers reported that

credit offered by the companies is not sufficient for farmers to buy inputs as well as equipments or some other things for farming and if that is offered, huge amount is charged at the time of repayment of that credit (loan). Apart from this, it has also been reported that huge formalities are performed to take the advances from the companies. So they reported that contract farming is the game of big armers that is beyond the approach of small and marginal farmers. This factor explains 6.963% of the total variance and factor loading ranges from 0.683 to 0.835 with a Eigenvalue 1.741.

Table 4 (f) Factor Six : Ineffective Regulatory Framework

Dimention	Factor Loading	Eigen Value
V12 Violation in Terms of the Contract by Companies	.817	1.423
V23 Contract is Written in English, which is Difficult to Understand	.803	
V24 Lack of Government Ccontrol	.743	

Percentage of variance explained = 5.691 Scale Reliability alpha (Cronbach's Alpha) = .807

Factor Six : Ineffective Regulatory Framework

Sixth and the last factor of "*Problems faced by farmers under Contract farming in Punjab*" has been labeled as "Ineffective Regulatory Framework". Three variables, namely (V23) *Contract is written in English, which is difficult to understand*, (V24) *Lack of Government control*, (V12) *Violation of the terms of the contract by the companies*. Under this factor, it has been reported by the farmers that the contract is written in English, which seems difficult for the farmers to understand and along this it has also been discussed by the farmers that companies do not obey the terms of the contract due to lack of Government intervention which motivates the companies to manipulate the terms of the contract in their favour and farmers feel deprived and cheated by the companies in the lack of proper implementation the Contract Act. Government should clearly instruct the companies to strictly follow the terms and conditions of the contract so that any sort of dispute may not arise at later stage and maximum number of farmers can be motivated towards the campaign of crop diversification to improve the economic condition of the farmers. This factor explains 5.691% of the total variance and the factor loading of variables ranges from 0.743 to 0.817. This factor covers 1.423 of the Eigen values.

Validation of Factor Analysis Results

Taking Table 5 into account an attempt has been made to validate the factor analysis results by calculating "correlation between the summated scales" and "Correlation between representatives of factors and the summated scales".

Table 5 (a) Correlation Between the Summated Scales (Discriminant Validity) Constructs are Distinct

Factors	Unfair Purchase Practices	Spurious Quality of Inputs	Passive Role of Agency	Lack of Compensation	Insufficient credit	Ineffective Regulatory Framework
Unfair Purchase Practices	1.00					
Spurious Quality of Inputs	0.36	1.00				
Passive Role of Agency	0.39	0.24	1.00			
Lack of Compensation	0.37	0.29	0.35	1.00		
Insufficient Credit	0.31	0.30	0.37	0.25	1.00	
Ineffective Regulatory Framework	0.42	0.16	0.43	0.44	0.34	1.00

Table 5 (a) shows that the correlation among factors is $< .50$ which shows that factors are distinct from each other.

Table 5 (b) Correlation Among Factors and Leading Loading Variables of Problems Faced by Farmers under Contract Farming

Factors Variables	Unfair Purchase Practices	Spurious Quality of Inputs	Passive Role of Agency	Lack of Compensation	Insufficient credit	Ineffective Regulatory Framework
V2 Non-remunerative Price for the Crop under CF	.908**	.084	.566**	.583**	.563**	.237**
V19 Delay in Arranging Inputs	.295**	.732**	.264**	.353**	.263**	.078
V14 Faulty Grading by an Agency	.501**	.031	.903**	.492**	.424**	.255**
V7 No Compensation of Loss in case of Natural Calamities.	.506**	.116**	.507**	.902**	.485**	.282**
V13 Lack of Credit to Buy Inputs for Crop Production	.564**	.033	.548**	.587**	.889**	.160**
V12 Violation of terms of the Contract by Companies.	.352**	.076	.392**	.370**	.277**	.847**

** 0.01 Level of significance

Convergent Validity

The correlation among the summated factor scales and their leading loading variables is shown in the Table 5(b). The result shows that factor 'unfair purchase practices' has the highest correlation with its most loading variables (V2), i.e. 0.908 at 0.01 level of significance. However, the comparative loading of this factor is very low with the other variables of the other factors, Hence it validates factor analysis results as loading values are greater than 0.50 (Hair *et al.* 2009).

Table 6
Summary Table

Factors	No. of Items	AVE*	Items
Unfair Purchase Practices	5	0.60	V2,V10,V1,V20, V22
Spurious Quality of Inputs	5	0.61	V19, V4, V16, V3, V5
Passive Role of Agency	4	0.64	V14,V15,V18,V25,
Lack of Compensation	4	0.62	V7, V6, V21, V11.
Insufficient credit	4	0.60	V13, V8, V9, V17.
Ineffective Regulatory Framework	3	0.62	V12, V23, V24.

**Average Variance Explained*

It is clear from summary Table 6 that the average variance explained (AVE) by each factor is >0.50 which is suitable to validate the factors.

LIMITATION AND FURTHER RESEARCH DIRECTIONS FOR THE STUDY

As we think, this is the first ever research conducted only on the farmers of Punjab, so it sets the groundwork for the further research. "*Multistage Stratified Sampling Technique*" has been used to collect the data from villages of only four districts of Punjab. The area of study can be extended to cover the other districts of Punjab. Second, the sample size of collected data was very small and was even unable to cover even all tehsils of these four districts. Only those farmers have been covered which are engaged in both contract and non-contract farming of Wheat, Paddy, Basmati, Potatoes and Cotton crops. So apart from it, there are other number of crops which are being cultivated under contract farming and those crops can also be covered to study the pros and cons of contract farming at micro level. Hence this study can prove worthwhile to the farmers and State Government to make new policies for crop diversification while taking into consideration the interest of the farmers.

CONCLUSION

In the light of the above analysis and discussion, it has been seen that contract farming has a great impact on the farmers' life and their employment opportunities, but as it has been observed from the study that farmers are facing the number of problems under contract farming in Punjab, and that is the sole cause of declining rate of participants in contract farming in Punjab. With the intervention

of State Government some malpractices can be restricted to make the contract farming business a sustainable source of income for farmers. It is crystal clear that the monoculture of paddy and wheat has degraded the fertility of soil and pushed the farmers in their dark days of their economic instability. The only way to rescue the farmers of this vicious circle of poverty is crop diversification, which is possible only through the promotion and support of contract farming. So State Government should actively participate and make strict laws to promote contract farming venture in the state for the welfare of the stakeholders involved in contract farming. Monoculture of traditional crops can be demotivating while providing suitable alternate of these crops.

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